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Washington Apple Pi

The Journal of Washington Apple Pi, Ltd.

Volume 9 May 1987 Number 5

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- PCPI Z80 Card & WordStar Pro: A Review
- XFER.Help (TCS Upload/Download)
- AppleWorld '87—A Special Report: Part II
- Tips and Graphics
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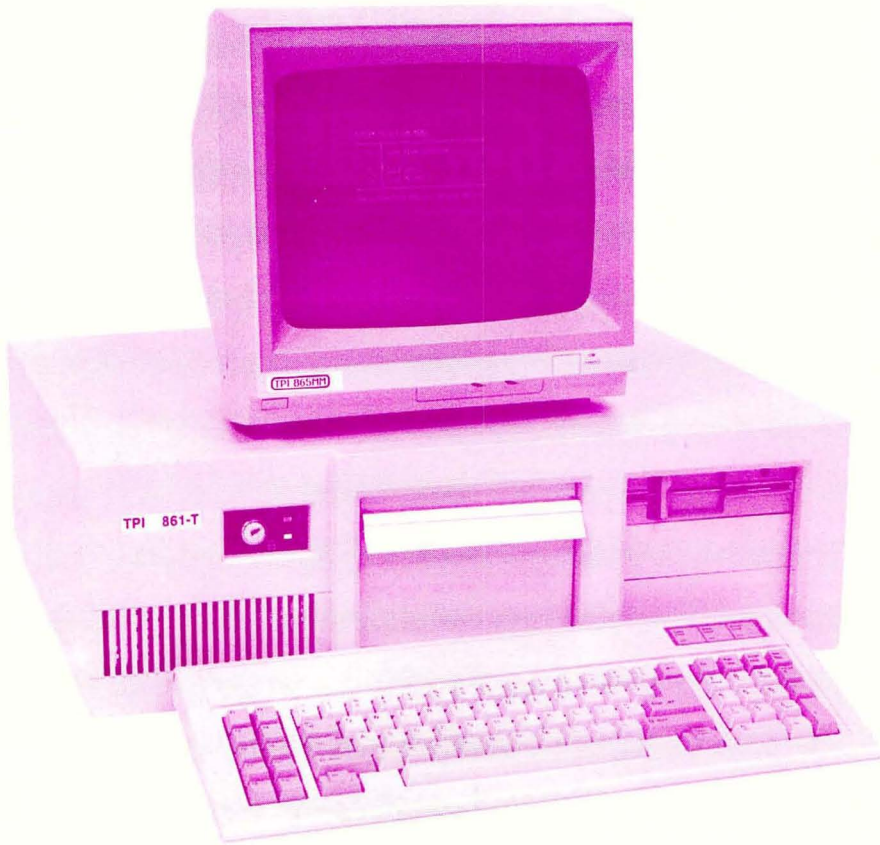

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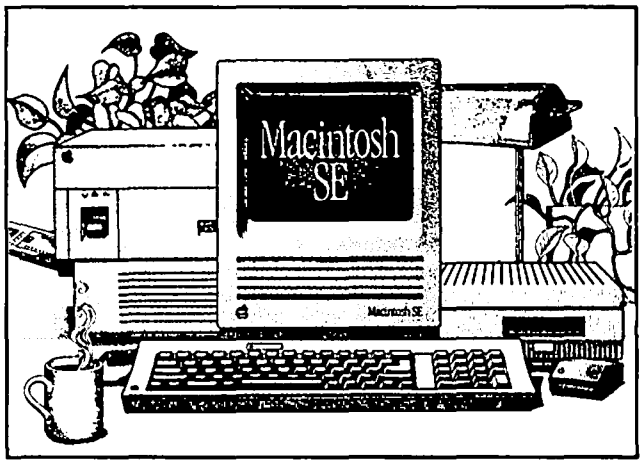

It comes fully-equipped with two internal disk drives. You get an 800K disk drive and either a second internal 800K drive or an internal 20MB Hard Disk.

Plus, a built-in expansion slot allows you to customize a system with a variety of cards to meet your needs.

What's more, since the Macintosh SE is a Macintosh, it's easy to use and learn. Besides that, it can run the large software library that has made the Macintosh a standard for business applications like desktop publishing, graphics, desktop communications, word processing, databases and spreadsheets.

Come in for a hands-on demonstration!

Free Seminars!!

Free Desktop Publishing Seminars are offered at our Alexandria and Laurel Stores. Call Alyce Neukirk at 838-9700 to register for upcoming sessions.

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EDITORIAL

Interesting times ... Last summer I attended the Midwest Users Group Conference hosted by the Northern Illinois Computer Society in Chicago, very ably run by Terry Tufts. At that conference many user group representatives expressed their pleasure for such events and the amount of significant useful information garnered from such interaction— information which could directly improve the operation of their respective organizations. They wanted such gatherings to continue, and they have continued with Apple Computer's support at each succeeding MacWorld conference, the AppleWorld conference, and most recently at the second Midwest conference sponsored by Apple Dayton in Dayton on April 10 through 12.

At each gathering, a common thread has appeared—user groups helping user groups. I chaired such a discussion and it some became evident that there is considerable interest in exploring possibilities for the creation of a new organization to be run by user groups, and charged with the responsibility of providing services to user groups. Interestingly, the general consensus was that the International Apple Core, originally created for such a purpose, is no longer the appropriate mechanism, and much revision to its current form would be required. A committee was established to prepare a survey questionnaire to identify possible components of such an organization. This survey is to be taken of all user groups currently registered with Ellen Leanse, Apple Computer's User Group Evangelist. Four representatives were chosen from each category of user groups—small (<100), medium

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PRESIDENT'S CORNER

by Tom Warrick

The Macintosh SE: Last month I wrote that the Macintosh SE would be the ideal business microcomputer (words I wrote without regard to acronym) for 1987. Since those words were written, my law firm purchased five of them for secretarial word processing and other purposes. The story of how we shopped for these is an interesting one and is worth telling in a future issue. In any event, after working with the new SE's in the last few weeks, those of us in the office who have "mere" Mac 512's and Mac Pluses have become quite jealous. I'm impressed with the noticeable speed improvement of the hard disk, which is due to an improved Small Computer Systems Interface (SCSI) driver. If you are a long-time Macintosh member, you will recall a talk given in 1985 by computer journalist Cary Lu, in which he said that the speed of a hard disk was one of the most critical aspects of microcomputer performance.

The SE mouse (the same as the mouse on the IIgs) is also a winner. Many of us old-style mouse users strongly prefer the new low-profile version. And the keyboard, which I confess I was prepared to dislike, is not bad.

We did notice something curious about the hard disk options for the SE, though. The model with the built-in 20-megabyte hard disk actually has about 642K *less* storage capacity than is on the 20-megabyte HD20SC external drive. This would suggest that the drives are different models, I suspect from different manufacturers. It will be interesting to see whether the drives perform differently over time.

Finder 5.4 and System 4.0: To accommodate the larger Read-Only Memory (ROM) chips on the SE (and AppleShare, Apple's new file server software), Apple has introduced a new version of Finder (now 5.4), System (4.0), Font/DA Mover (3.4), and the printer drivers. This raises once again for Macintosh users the question of "Should I upgrade now?" In my view, the answer for many will be "No." Users of the SE and AppleShare should use the new Finder and System. The new LaserWriter driver is different, and if you are on an AppleTalk network with an SE, you will have to upgrade your files, or else face the need to reset and re-initialize the LaserWriter every time a System 3.2 user wants to print after a System 4.0 user has. This gets to be very tedious after awhile. I will say, however, that the new LaserWriter printer driver is much faster than the old one, and many may want to upgrade for that reason alone. But the new System file is a bit buggy. When you select the new "Startup Device" portion of the Control Panel (at least, when you don't have a hard disk attached; I've not tried it any other way) and then select another portion, it bombs every time.

Also, the new Font/DA Mover refused to recognize a homemade font. To put it into a new System file, I had to cut and paste it using ResEdit—not something for the novice.

Oh, well. Apple says it's working on new versions, out any day now (perhaps by the time you read this).

Some Pi business: Washington Apple Pi is expanding its Telecommunications System. We're adding a sixth line to the TCS, which will add a second line for file downloads. I've had a peek at the budget ***Lee Raesly*** and his colleagues have developed for next year, and it promises even more.

Also, we're organizing a "group purchase" of access to the ***Twilight Clone***, a well-known bulletin board system in the Washington area that has one of the best selection of downloadable files available anywhere. The annual fee for Pi members has tentatively been set at $10, a substantial discount from the "regular" fee of $25. If you are interested, contact David Morganstein at (301) 972-4263.

Mailbag: There are a lot of nice things about being president of Washington Apple Pi. There are even occasional things that are otherwise. Then there are number of things that are...well...just *strange*. Mail is one of them.

Most of it is quite legitimate, although not particularly enlightening. We get a large number of press releases and announcements from software and hardware companies. (If you want to see any of it, stop by the WAP office—it's too much for us to track it all.) Most of these materials go to our Review Coordinators, and they follow up on the more intriguing items for product reviews.

Some things are more unexpected. For example, a few months ago I received a box from Apple Computer, Inc. with a prominent label on it saying "Nobody's Perfect." We get a lot of mail from Apple, and I thought that perhaps this was to correct something in a previous mailing. But the box was fairly large, about the size of two shoeboxes, and I couldn't think of what it could be that they would need to "correct" with a box that size. It turned out it was a letter from some people at Apple I'd not heard of before who were interested to know our views as to what software best showcased the capabilities of Apple's computers. I was happy to respond to their request. But they also enclosed copies, complete with documentation, of MacLightning by Target Software, Inc.; FullPaint by Ann Arbor Softworks, Inc.; HFS Locator Plus and HD Back-up by PBI Software, Inc.; Smart Alarms and Appointment Diary by Imagine Software; Tempo by Affinity Microsystems, Ltd.; and MicroPhone by Software Ventures. This was great stuff—but the cover letter said this software was for my personal use, a dubious ethical proposition at best, although I'm sure no offense was intended. The software is now available for use by the club for official business, but frankly I find it annoying when people in the computer industry send me unsolicited "gifts," particularly expensive ones.

contd.

Then the other day I got a call from a Genie [sic] Vallely of *MacGuide*. After a couple of episodes of telephone tag, she reached me and told me of their new publication, which she said would review Macintosh software and publish ratings of more than a thousand Mac software and hardware products. (Such product reviews are presently published by a large number of catalogs and magazines.) Ms. Vallely said she was contacting me to see if members of WAP were interested in reviewing products for their publication. Also—and this is where alarm bells started ringing in my ears—she tried to interest me in a private stock offering for the company that will publish MacGuide. She asked if she could send me information, which she did.

The informational packet was a slick promo for their stock, not their publication. The tone was set by a postscript to the cover letter, which said, "This letter was written with the Macintosh and a laser printer. How do you like it?" There were half a dozen letters from companies merely expressing interest in advertising in MacGuide (one of the letters was hand-written). I don't know if this outfit is on the level or not—if they are, I wish them luck. But let me make a suggestion to you in case someone approaches you with an offer to invest in a computer-related business. Washington Apple Pi has people who are involved in or who follow practically every aspect of the microcomputer industry. Talk to someone before you invest.

Microsoft Word 3.0 tip: There is an easy way using Microsoft Word 3.0 to convert underlining to *italics* throughout a document. Italics are easier to read, more professional-looking, and, in any event, underlining became a substitute for italics only because typewriters could not easily do both regular (roman) type and italicized type within the same document.

To convert underlined text into italicized text, do the following:

1. Open the document or, if the document is already open, make sure the insertion point is at the start of the document.

2. Select "Save As..." and use the "File Format..." button to set Word to save the file in Interchange Format (RTF). After you do so, the font of the document will probably change and a number of unusual characters will appear .

3. Select "Change" and in "Find What:" type "{\ul" (there is a regular space after the "l"; don't type the quotation marks). In the "Change To:" box type "{\i" (there is a regular space after the "i"; again, don't type the quotation marks). Then click on "Change All". (If you want to change only some underlining to italics, you can do so using the other buttons in the Change dialog.)

4. After the change is complete, select "Save As...". Next to the "File Format..." button in that dialog box should be an indication that the file will be saved as Text Only. Go ahead and save the document.

5. Close the document.

6. Open the document. A dialog box will appear that asks "Interpret RTF text?" Say "Yes". The document should appear as it did originally did, except that what was underlined will now be italic, and the document will be called Untitled. Save the document immediately.

This same technique, which takes advantage of the fact that RTF (so-called "rich text format") uses characters to do all formatting, can be used in other ways as well. Anyone interested in writing a Journal article on how to do so?

CLASSIFIEDS

WANTED: Catholic Charities USA, a non-profit organization, is seeking tax deductible donations of Macintoshes for use in the development and operation of a nationwide bulletin board to assist in the matching of hard to place children (i.e. disabled, minority, older) through adoption agencies across the country. Call Russell Strange (202) 544-0783, day or eve.

WANTED: Will pay up to $550 for 128K Mac or $725 for 512K Mac. Will pay up to $225 for Imagewriter I, or $300 for used II, and $90 for used 400K drive. Ask for Jack at (202) 287-3460, 8-4 M-F.

FOR SALE: Apple][+ computer, Disk II Drive, Disk Controller Card, Atari 800XL Computer (unopened original carton), Gamma 2000 Wide Screen TV Projection Sysem (unopened), TRAC Moped. Prices on all items are so low that I am embarrassed to list them here. Call Richard at 770-5260.

FOR SALE: 400K external drive for Mac, $115. Apple Imagewriter I, $350. Both with boxes and in excellent condition. Call Ann Seiler (301) 497-4688 (day) or (301) 757-5672 (evenings)—Annapolis.

FOR SALE: Apple][+, Language Card, Silentype Printer, Mach III Joystick, Paddles, some software. Like new condition. Package $425. Call Fred, (202) 646-2353 (work) or (703) 273-0110 (home).

FOR SALE: Never used 1986 Ashton-Tate dBase 11-86 for Rainbow 100. Available for quick sale/trade. No longer using Digital equipment. Call (202) 775-1630.

FOR SALE: Epson FX 286 (wide-body) Printer. Little used—4 months old—with new ribbon, stand, original carton and manual. $525 firm. Phone Dan at (703) 280-1984.

FOR SALE: Macintosh XL (12" screen like the Mac II) with 10 MB internal hard disk drive and 2 MB RAM (Ramstak); Imagewriter II w/cut sheet feeder. All for $2000. All equipment is in "mint" condition and will be supplied with manuals, original boxes, and any relevant software. Also, for the electronics afficionado, a Manintosh Motherboard, $300—add your own power supply, disk drive, and a Radius FPD. Call Marvin Mark at (202) 543-0095 (if I don't answer, leave a message on the machine and I will get back with you).

FOR SALE: Simulation Software for the Mac: STELLA by High Performance Systems. Retails for $200, will sell unopened package for $100. Call Hugh Pickens (301) 464-3505 (work).

FOR SALE: 128K Macintosh with MacPaint, MacWrite, Microsoft Multiplan and BASIC, $750 or best offer. Joe Bohr, 703-979-9200 (W) or 301-977-2320 (H).

FOR SALE: Apple //e 128K, AppleColor 100 RGB Monitor, Imagewriter printer and accessory kit, extended 80-column text/AppleColor RGB Adapter Card, RF Modulator, all cables, manuals, and original cartons. $1500 or best offer. Will consider selling components separately. Call Milt Goldsamt (301) 649-2768 (eve.) or 301-921-0010 (days).

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
Tues. & Thurs.	-	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 whenever possible, since only one person staffs the office during evening hours and on Saturday.

COMMERCIAL CLASSIFIEDS

FOR SALE: AppleWorks Data Disk Starter Kit for 5 1/4" AppleWorks formatted disks. $9.99. Call Richard at 231-9086.

FOR SALE: PageMaker templates for SF-171 (page 1 1979 version, other pages 1985), $35. Call Dan Adkins for information (H) 822-8052.

FOR SALE: Complete Macintosh System: Corvus 45 MB hard drive, $2800; Corvus tape backup 100MB, $850; 2 Mac transporter cards, $300; Mac Plus, $1400; Imagewriter II, $375; Apple Sheetfeeder, $145; Hayes printer buffer, $250. Excellent condtion. Prices are flexible. Call JJ (202) 293-1227 or (302) 429-9305, Wilmington DE.

JOB MART

HELP WANTED: Do you have the skills, energy and enthusiasm to help a little Macintosh software company grow into a big one? If you enjoy software demoing, sales, marketing, product design, testing, programming, writing manuals, or answering user questions—and are good at what you do—call Rich Norling in DC at (202) 547-5508, 1-6 PM any weekday.

HELP WANTED: Macintosh oriented graphics artists, desktop publishers and word processors. Part-time employment. Work out of your own home. Vienna/Reston/Herndon area. Call Mac Consultants (703) 255-0953.

HELP WANTED: Small Aviation Association in NW Washington needs part-time 'MacTalent.' Prefer knowledge of Word 3.0 and OverVUE. Flexible work hours. 10-20 hours/week, $7.50/hr. For more information, call (301) 695-1189 or (202) 347-4989.

EVENT QUEUE

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.

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:

May	23	- Apple II: Data Bases
		- Mac: To be announced
June	27	- Garage Sale - Location TBA

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—see the WAP calendar for any changes.

Disk Drive Converter

DB 19 to 20 pin Adapter

You can use the old Disk II drives with the Apple IIGS.

The Disk Drive Converter allows two Disk II drives to be connected to the daisy chain port as slot 6 drives 1 and 2.

No slot 6 controller card is required!

Send **$20.00** to:

Applied Services, Inc.
7474 Hickory Log Circle
Columbia, Maryland 21045
(301) 381-7334

Apple IIGS and Disk II: trademarks of Apple Computer, Inc.

WE'RE LOOKING FOR A FEW PIONEERS

Quantum Computer Services, the operator of QuantumLink, the premier online service for Commodore computer owners, is expanding to the Apple II market. We will provide Apple owners with a comprehensive source of information and a large and expanding library of public domain software.

PRODUCER, APPLE INFORMATION SERVICES

We are seeking an energetic and motivated Apple enthusiast to develop and manage the Apple information and software services. Responsibilities include:

- building an Apple II public domain software library
- hiring and coordinating remote staff (sysops) to maintain Apple software libraries and special interest groups
- developing information services of interest to Apple owners
- working with user groups to provide synergistic support

The ideal candidate will have excellent writing and interpersonal skills, a thorough understanding of Apple II computers (including the IIgs), knowledge of both DOS and ProDOS, familiarity with public domain software and online services, and some programming experience.

If you are interested in this position, please send a resume to:
Randy Bennett
Manager, Consumer Information Services

APPLE PROGRAMMERS

We are seeking Apple professionals to help develop the Apple II software to support our interactive services. To qualify, you should have a degree in computer science, electrical engineering (or comparable professional experience), and a thorough knowledge of Apple internals, peripherals, and add-on boards. Experience developing a commercial package for the Apple, knowledge of online systems, and experience with PL/1 or C are all major pluses.

If you are interested in this position, please send a resume to:
Jack Daggitt
Director, Software Services

Quantum Computer Services

8620 Westwood Center Drive
Vienna, Virginia 22180

WAP HOTLINE For Use by WAP Members Only

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

General - Apple //	John Day	(301) 621-7543
	Dave Harvey	(703) 578-4621
	Robert Martin	(301) 498-6074
Accounting Packages		
Accountant(Dec.Sup.)	Mark Pankin	(703) 524-0937
BPI Programs	Jaxon Brown	(301) 350-3283
	Otis Greever	(615) 638-1525
Home Accountant	Leon Raesly	(301) 439-1799
Howardsoft (Tax)	Leon Raesly	(301) 439-1799
	Otis Greever	(615) 638-1525
APPLE SSC	Bernie Benson	(301) 951-5294
Apple TechNotes	Joe Chelena	(703) 978-1816
AppleWorks	Ken DeVito	(703) 960-0787
	Charles Baumgardner	(703) 538-2316
	Ken Black	(703) 369-3366
AppleWorks Data Base	Morgan Jopling	(301) 721-7874
Communications Packages and Modems-Telecom.		
Anchor Mark 12	Jeremy Parker	(301) 229-2578
Apple Inc. Modem	John Day	(301) 621-7543
ASCII Express	Dave Harvey	(703) 578-4621
BIZCOMP Modem	Jeremy Parker	(301) 229-2578
Hayes Smartmodem	Bernie Benson	(301) 951-5294
Smartcom I	Harmon Pritchard	(301) 972-4667
XTALK CP/M Comm.	Bernie Benson	(301) 951-5294
Computers, Specific		
Apple //c	John Day	(301) 621-7543
LISA/Mac XL	John Day	(301) 621-7543
Macintosh:		
General	Michael Yourshaw	(703) 534-2077
	Terry Monks	(703) 471-4610
	Donald Schmitt	(717) 334-3265
Desktop Pub/Graphics	Jay Rohr	(301) 655-0875
Excel	David Morganstein	(301) 972-4263
	Mark Pankin	(703) 524-0937
	Jim Graham	(703) 643-1848
	Dick & Nancy Byrd	(703) 978-3440
Helix	Jim Berry *	(703) 662-0640
	Harvey Levine	(301) 299-9380
Inside Mac	Jon Hardis	(301) 330-1422
MacDraw	Tom Berilla	(301) 434-3256
	Tom Parrish	(301) 654-8784
MacLion (DBMS)	Mark Miani	(202) 333-0098
MacProject	Jay Lucas	(703) 751-3332
MacTerminal	Jon Hardis	(301) 330-1422
MS-BASIC & MS-File	John Love	(703) 569-2294
Magic	Joyce C. Little	(301) 321-2989
Multiplan	John Boblitz	(301) 356-9384
	John Love	(703) 569-2294
	Walt Francis	(202) 966-5742
Omnis 3 and 3+	Paul Tabler	(703) 278-8708
OverVue	J.T.(Tom) DeMay Jr.	(301) 779-4632
	Tom Parrish	(301) 654-8784
Programming	Michael Yourshaw	(703) 534-2077
ReadySetGo	Jim Graham	(703) 643-1848
	Marty Milrod	(301) 464-5981
Spreadsheets	David Morganstein	(301) 972-4263
Spreadsheets&Graphcs	Bob Pulgino	(202) 797-0879
Sidekick	Ray Hobbs(7:30-10)	(301) 490-7484
ThinkTank	Jim Graham	(703) 643-1848
	Tom Parrish	(301) 654-8784
Word	Marty Milrod	(301) 464-5981
Data Bases		
dBase II	Paul Bublitz	(301) 261-4124
	John Staples	(703) 255-6955
dBase II & III	Ray Hobbs(7:30-10)	(301) 490-7484
	Jim Kellock (day)	(301) 986-9522
	Leon Raesly	(301) 439-1799
Data Perfect	Leon Raesly	(301) 439-1799
PFS	Bill Etue	(703) 620-2103
	Ginny Spevak	(202) 362-3887
Q-Pro-4	John Staples	(703) 255-6955

* Calls until midnight are ok.

Games - Apple //	Charles Don Hall	(301) 864-2715
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	(615) 638-1525
IBM	Ray Hobbs (7:30-10)	(301) 490-7484
	Leon Raesly	(301) 439-1799
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	Ray Hobbs (7:30-10)	(301) 490-7484
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	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	Leon Raesly	(301) 439-1799
	John Love	(703) 569-2294
Printers		
General	Walt Francis	(202) 966-5742
	Leon Raesly	(301) 439-1799
Apple Color Plotter	John Day	(301) 621-7543
Apple Daisy Wheel	John Day	(301) 621-7543
IDS 460	Jeff Stetekluh	(703) 979-8249
Imagewriter	John Day	(301) 621-7543
MX-80	Jeff Dillon	(301) 662-2070
Okidata	Michael Proffitt	(301) 874-2270
	Dan Robrish	(301) 530-4202
Print Shop	Thomas O'Hagan	(301) 593-9683
Newsroom	Carol Thomas	(301) 424-1266
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
VisiCalc	Walt Francis	(202) 966-5742
Sprdsht. 2.0(MagicCalc)	Leon Raesly	(301) 439-1799
SuperCalc Ver. 2.0	Leon Raesly	(301) 430-1799
	Terry Prudden	(301) 933-3065
Stat. Packages	David Morganstein	(301) 972-4263
Stock Market	Robert Wood	(703) 893-9591
Time-Sharing	Dave Harvey	(703) 578-5621
Word Processors	Walt Francis	(202) 966-5742
Apple Writer II	Dianne Lorenz	(301) 530-7881
	Leon Raesly	(301) 439-1799
Gutenberg	Harris Silverstone	(301) 435-3582
Gutenberg & Jr.	Neil Muncy Can.	(416) 298-3964
Letter & Simply Perfect	Leon Raesly	(301) 439-1799
Magic Window and II	Joyce C. Little	(301) 321-2989
Apple PIE	Jim Graham	(703) 643-1848
ScreenWriter II	Peter Combes	(301) 251-6369
	Gene Carter	(202) 363-2342
Word Handler	Jon Vaupel	(301) 593-3316
Word Perfect	James Edwards	(301) 585-3002
	Henry Donahoe	(202) 298-9107
Word Star	Leon Raesly	(301) 439-1799
	Dana Riel	(301) 350-3283

* May 1987 *

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1	2 Word Tutorial Style Sheets 9 - 12 AM Office
3	4 PI-SIG 7:30 PM Office	5 Deadline for Journal Articles	6 Mac Progmrs. 7:30PM Office; dPub SIG 7:30 PM PEPCO	7 GameSIG 7:30 PM Office	Sat., May 9 --> contd.-Frederick Slice; Annapolis Slice; Music SIG	9 Word Tutorial Hidden Text, Indexes, TblCon. 9-12AM Office
10	11 Mac Beginner's Tutorial #1 7-10 PM Office	12	13 Executive Board 7:30 PM Office	14 Stock SIG 8:00 PM Office	15	16 Word Tutorial Outlining & Col 9 -12 AM Office
17	18 Mac Beginner's Tutorial #2 7-10 PM Office	19	20 FEDSIG 7:30 PM Office	21 Pascal SIG 8:00 PM Office	22	23 WAP Meeting 9:00 AM USUHS
24	25 Memorial Day Holiday Office Closed	26	27 Apple /// 7:30 PM Ch. of Com. DC	28 EDSIG 7:30 PM Office	29	30
31						

* June 1987 *

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1 PI-SIG 7:30 PM Office; Postscript Tutor. at Artform 7-9	2 Apple II Beginning Tutorial #1 7:30-9PM Office	3 Mac Progmrs. 7:30 PM Office; dPub SIG 7:30PM PEPCO	4 GamesSIG 7:30 PM Office	5	6 Intro. to Telecommunications-Apple II Tutorial 9-12 AM Office
7	8 Deadline for Journal Articles	9 Apple II Beginning Tutorial #2 7:30-9PM Office	10 Executive Board 7:30 PM Office	11 Stock SIG 8:00 PM Office	12	13 Frederick Slice; Annapolis Slice; Music SIG
14	15	16 Apple II Beginning Tutorial #3 7:30-9PM Office	17 FEDSIG 7:30 PM Office	18 Pascal SIG 8:00 PM Office	19	20 Transition from //e to IIgs Tutorial 1-4 PM Office
21	22 Mac Beginner's Tutorial #1 7-10 PM Office	23	24 Apple /// 7:30 PM Ch. of Com. DC	25 EDSIG 7:30 PM Office	26	27 WAP Meeting Garage Sale Location TBA
28	29 Mac Beginner's Tutorial #2 7-10 PM Office	30				

SIGNEWS

Apple /// SIG meets on the 4th Wednesday of the month at 7:30 PM in the Chamber of Commerce Bldg., 1615 H Street NW, DC. The next meeting will be on May 27.

AppleWorks SIG offers two meeting options: 8:00AM before the regular WAP meeting and 12 Noon after the meeting. Attend either or both.

DisabledSIG - Call Jay Thal at 344-3649 for info.

dPub SIG (Desktop Publishing) meets on the 1st Wednesday of the month at 7:30 PM in the PEPCO Auditorium at 1900 Penn. Ave., NW. The next meeting is on May 6.

EDSIG (the education special interest group) meets on the 4th Thursday of the month at 7:30 PM at the office. The next meeting will be on May 28.

Fed(eral) SIG meets on the 3rd Wednesday of the month at the office, 7:30 PM. The next meeting will be on May 20.

GameSIG meets on the 1st Thursday of the month at the office, 7:30 PM. The next meeting will be on May 7.

Mac Programmers meet on the 1st Wednesday of the month at the office, 7:30PM. The next meeting is on May 6.

MusicSIG meets on the 2nd Saturday of each month. Call Ray Hobbs 490-7484, or Gary Larson 337-4267, for details.

PIG, the Pascal Interest Group, meets on the 3rd Thursday of each month at 8:00 PM at the office. New and prospective users are welcome. The next meeting will be on May 21.

PI-SIG (Program Interface) meets on the 1st Monday of the month at 7:30 PM at the office. See their news elsewhere.

Stock SIG meetings are on the second Thursday of each month at the office, 8 PM. The next meeting is on May 14.

Telecom SIG meets after the regular meeting on the 4th Saturday of the month.

ON THE TRAIL OF THE APPLE ///

by David Ottalini, /// SIG Co-Chairman

We begin our column this month, /// SIGers, with the announcement of a new member of the Apple /// community! Daniel Guy Ottalini came into the world at 1:59 pm on March 23rd to rave reviews from Mom and Dad Ottalini and is now doing very well at home. No word yet on when he'll start trying out his luck on the Ol' Apple /// though. Stay tuned.

A big thanks also to /// SIG Co-Chairman Tom Bartkiewicz who stepped in at last month's meeting after I was unable to attend due to the arrival of our new member of the family.

/// EZ PIECES UPGRADE DIES

As many of you are aware by now, the attempt by On Three to generate enough interest in an upgrade for /// EZ Pieces to the 2.0 version of AppleWorks failed. The basic reason was a lack of interest. As we told you in past columns, the developer of both programs, Robert Lissner, agreed to do the upgrade. But only if enough owners of /// EZPs would be willing to pay a $50.00 upgrade fee.

Unfortunately, Lissner wanted to see 5000 paying customers up front. On Three sent out a mailing to 22 THOUSAND Apple /// owners (of whom an estimated 10,000 own /// EZ Pieces), telling them about the upgrade and asking owners to show their support by placing an order. Of all the letters sent out, On Three only got 13 hundred responses. Quite a statement about the Apple /// community! I know our own Charlene Ryan called every member of our SIG to let them know about the upgrade and urged that they call On Three. I don't know how many actually did but to those who called, thank you for your support.

So we are stuck with the 1.0 version of /// EZ Pieces. Despite its bugs, however, it remains one of the best programs ever written for our machine and it will continue to provide useful work for many of us in the years to come. The company that owns the rights to /// EZ Pieces, by the way, Haba/Arrays appears to have gone completely belly-up. Their telephone number has been disconnected and there is no listing for them in the greater Los Angeles area. I wonder if Robert Lissner will try to get the rights back for the program in light of this. He reportedly hasn't been paid a royalty for /// EZPs in 18 months!

ON THREE NEWS

While we're talking about On Three, the Editor of the magazine, Lynne Denicola has left after a relatively short tenure to take a position with another Southern California software producer. Her replacement is Paula Sheppard, who decided the warm climes of Ventura were much preferred to her former digs in Wyoming.

On Three's President, Bob Consorti also told me recently that the Graphics Manager will soon be offered to the Apple // and /// folks for the same price of $39. The $29 offer I mentioned last month was what is called an "introductory price." By the way, now is an excellent time to subscribe to On Three, the magazine. As I reported last month, the subscription price has been cut in half, to $19.95. The offer ends April 30th.

MEETING QUEUE

Hard disk problems will be the focus of our May meeting. Bob Shaffer Jr. has agreed to bring his tools and take a look at any sick Profiles or other hard disks you may have. Along the way, you'll learn a little bit about what's involved with keeping these useful peripherals going. If you have a hard disk other than a Profile and would like Bob to take a look at it during the meeting, please call me so that he will know what he's getting himself into. I have two Profiles lined up so far and given the constraints of time we want to get a count of what might be coming.

Please also keep in mind that Bob will be taking a look at the machines with an idea toward suggesting what might be wrong and how to go about getting the problems fixed. No effort will be made to actually repair any hard disk brought in.

OTHER /// SIG NEWS

This is also a good time to start thinking about the Garage Sale coming up in June. Start gathering your programs, hardware and software, old books and magazines. There's almost always a buyer willing to take SOMETHING off your hands. We had our own little Apple /// section last December and came away with a fairly successful day. Watch the Journal for details, as the June sale will not be at USUHS as in previous years.

On the Public Domain front, I am happy to say that we have submitted another disk to the Disketeria staff for inclusion in our library. Disk number 1006A/B is a word processing and WPL disk. It includes the never-released version of Apple Writer, called Super Apple Writer with a host of WPL tutorial files. We think it's one of our best disks yet, so watch the Journal for availability. We are also compiling a separate disk of WPL programs and would invite SIG members to contribute programs to the effort.

Also on the horizon, another games disk, with programs put together by /// SIG member Jim Salerno. This will be a self-booting disk that contains programs specifically designed for kids. It will also include two versions of Kidword ///, a very basic word processing program for kids.

Another disk now in final testing is D3.Backup by /// SIG member Al Bloom. This is a neat program that is an alternative to Backup /// and allows you to backup files as well as volumes. It will include the source code for the program and complete, detailed instructions. Also on the drawing boards, more disks containing nothing but information about the Apple ///. Watch The Trail for more updates.

Jim Salerno also reports that he has tried out some of the CP/M and Pascal programs in the WAP library on our /// at the office. Many of them apparently work without too many problems. With that in mind, we'll try to put together a couple of "Best of" disks, adjusting whatever might be needed so the programs work properly on our machines.

PHASE /// NEWS

Backing up a bit to Robert Lissner, I am told he will now be one of the main speakers at the upcoming Phase /// Conference in Chicago this October. He will be the official Keynote

contd.

Speaker and will be doing one seminar as well. Another, "bigger name" speaker is "still to come". as they say, for the Saturday night banquet.

There's still plenty of time for you to sign up for the conference (it's cheaper to do it now rather than later) and please keep in mind it's not just for /// folks (Lissner will probably be announcing a new Mac product in fact)! See previous Trail articles for more information.

In a previous Trail article, I mentioned that ///er Chris Acreman, as part of the "Future of the ///" panel during the conference, was looking for input on what users wish their machine could do that it can't now. If you'd like to make your thought's known, I have an actual address now: 13805 Windmill Circle, Pflugerville, TX. 78660.

/// SIG TCS BOARD

There's been a little more action on our Telecommunications System Board the past month or so. For those of you with a modem and $6 to burn (it's the sign-up fee) why not join us? Lee Raesly has agreed to upload some files for us into the Data Library and we hope to include a number of interesting things for you to use. Call the WAP office for more information on becoming part of the TCS. Any /// SIG member interested in becoming the Sysop of the board, please give me a call.

LAST MINUTE NOTES

Lotus Development will sell you a copy of Advanced VisiCalc for $25 if you need to replace your old disks (ask for the Advanced version even if you need the original VisiCalc replaced). No documentation, but books are still available. Their address is: P.O. Box 9123; Cambridge, MA. 02139.

The Apple Three Users of Northern California group has approached Joe Dobrowolski of Apple THREE Group International about coordinating their PD offerings so that they use the same numbers, descriptions, etc. A great idea!

AIM, the Association of Independent Microdealers has teamed up with DL Liquidators for its next product catalog to be out soon. AIM has expanded its offerings tremendously since the early days of Apple /// only products. Today it sells Macintosh, Apple //, IBM, Commodore/Vic 20 and Atari software and hardware items at what they say is 30% to 90% off list price. You can subscribe for twelve issues for $25 or order a single issue for $3. AIM's address is: 3010 N. Sterling Ave.; Peoria, IL. 61604.

If you need a top-rated Data Base Management program, Brock Software is offering a great deal on its Keystroke Database and Report Generator. Purchased directly from Brock (in Apple /// native mode) the programs are $150 total or $110 for the main program and $60 for the Report Generator. That's less than half the going price (from Pair Software and others). They also have a Macintosh version, but you'll have to check their prices for that. Service and support for the Apple /// version is still available. Brock's address is: P.O.Box 799; Crystal Lake, IL. 60014. Their phone number is: 815-459-4210.

And finally: Another vendor offering Apple /// sales and service: Omicron Electronics; 11240 Nine Mile Rd.; Warren, MI. 48089. Their phone number is: (313) 757-8192. Their ad says they have Apple /// software in stock, provide custom software applications and are the exclusive distributors for Infotory, an Inventory management program for the ///. Ask for Mike Tattan.

Smart Computer:

Our 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:

- **Easy to learn and operate.** Each Landmark PC comes with a customized start-up disk or hard disk menu system, as well as a personalized user's guide that fully explains your particular mix of hardware and software. The three-level help system with pop-up messages and explanatory graphics keeps you firmly in charge. As you cruise effortlessly from one program to another, help screens describe what's happening and tell you what you can do next. Full details on all hardware and software are integrated into the menu system, and are available by keyword search. And our help system is an open one; we tell you how to expand and further customize it.

- **Modular and upgradeable.** We custom-tailor each PC, and don't stick you with hardware or software you don't need or can't use. We can transform any of our generic PC XTs into full PC ATs (Advanced Technology computers) without using band-aid add-on boards, without giving up most existing components, and without compromising IBM compatibility. (We may be able to give your old IBM PC or compatible an AT transplant as well. Ask.)

- **Strongly supported.** We provide personal training at no charge, and offer telephone and in-person support for our clients days, evenings, and weekends. *Liberal replacement policy:* If you're unhappy with your keyboard or video system, we'll swap it out and give you full credit toward another during the warranty period. (Certain restrictions apply). *Fast on-site service:* We are the first and, we believe, the only supplier of generic PC's to have an area-wide service agreement with TRW, the nation's leading independent provider of computer maintenance and repair.

Reputable, competent vendor. Landmark Computer Labs is an established consulting firm with a long list of government and Fortune 500 clients as well as Mom and Pop businesses and individuals. Our reputation for quality, integrity, and technical savvy goes 'way back to the early days of microcomputing.

We're on your side. We are committed to our clients, not to name brand manufacturers, greedy franchise operators, or pushy sales managers. Landmark Computer Labs is a consulting firm, not a retail store. Our primary interest is in satisfying your personal computing requirements, and in giving you the greatest payback for your hard-earned buck.

So call when you're ready for a PC, and let's talk about why *a custom-tailored personal computer is the best buy you can make.*

Landmark Computer Laboratories
Suite 1506
101 South Whiting Street
Alexandria, Virginia 22304

Telephone (703) 370-2242 ☎ SourceMail TCB076

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APPLE II NEWS AND NOTES
by Walt Mossberg

This month, we're going to talk about phantom disk drives; present reviews of two new products; and offer a case study of how easy it is to overcome The Heartbreak of Incompatibility.

FASTER THAN A SPEEDING HARD DISK, MORE FLEXIBLE THAN A FLOPPY...

It's a Ram Disk.

No matter which Apple II you own, you can speed up your operations tremendously by using a Ram Disk. A Ram Disk is a specially reserved area of extra memory which the computer and operating system (especially ProDOS) can recognize and use as if it were another disk drive. Only this phantom disk drive needs no time to spin and read a physical disk, so it works at almost instantaneous speed—faster than a 5.25" floppy, a 3.5" microfloppy or even a hard disk, the fastest type of real drive.

Here's one way I use a Ram Disk on my Apple IIgs. I boot up a specially modified 3.5" microfloppy on which I have placed all the key programs and data files I use to control my modem—about 200K worth. These include the Point-to-Point telecommunications program, the PROSEL program selector, the Documax text-handling software, the CAT DOCTOR file utility, Applesoft BASIC, and about 10 other programs, including some Point-to-Point system files that let you autodial phone numbers. About 30 seconds after I turn on the IIgs, this 200K worth of programs and data files has been totally loaded into a 512K Ram Disk the IIgs automatically reserves at bootup, and is ready for me to use by simply clicking on whatever program I choose from a menu screen established by PROSEL. That 30 second setup time (from the time I turn on the IIgs) compares favorably with the total time it takes a Sider hard disk to get into the PROSEL selector menu from bootup. And, of course, after bootup, the Ram Disk is faster than the Sider, or any other real disk drive.

With the extra-memory cards available for the //e and //c, you can establish Ram Disks using special software that comes with the cards. I always found this cumbersome, but many users are doing so.

On the IIgs, however, even people like me for whom it was too much trouble before, find it almost laughably easy to set up and use a Ram Disk. All you need do on the IIgs is to enter the Control Panel and tell the computer how much Ram you want to set aside as a Ram Disk. Then you power down, and power up again. After that, (unless you change the settings), every time you switch on the IIgs, any properly written ProDOS program you run should (without any patching or modification) "see" a disk drive—your Ram Disk —in slot5, drive 2, with a volume name of /RAM5.

You can copy programs and files to it, use it as a program or data disk—do anything you would do with a real disk drive, only at lightning speeds. For people without hard disks, and especially those with just a single 3.5" drive, the Ram Disk is a Godsend. I permanently cordon off 512K of my IIgs' 1.25MB of memory as a Ram Disk. This still leaves me 637K available for the desktop in AppleWorks 2.0, even after AppleWorks has loaded itself into other parts of memory. (Pinpoint automatically creates a subdirectory in my Ram Disk into which it auto loads its desk accessories, but the majority of the Ram Disk remains free).

So if Ram Disks are so easy and fast, why aren't they the standard means of Apple II program and data storage? The big drawback to running directly from Ram, of course, is that any programs or files you have in your Ram Disk die when you turn off the computer. You can preserve them by saving any changed files to a real disk from your Ram Disk just before turning off the machine each time. But that also means that each time you boot up, you must use some file-copying utility to laboriously replace in the Ram Disk any programs you want to run from there or files you want to store there during the session.

There are a couple of ways around this. One is to just leave the computer on all the time, backing up files to a real disk, but always working just from Ram. If that's not practical, you can always buy a Ram card with built-in battery backup to keep your Ram files intact even when the Apple II is off (one example is the Applied Engineering RamFactor with battery back-up option).

An even easier and cheaper method is the one I use and described above—setting up a real disk which will quickly and automatically load all its files and programs into a Ram Disk upon bootup. This method also allows you to rapidly save the entire contents of the Ram Disk into a special type of huge disk file after each Ram Disk session, to preserve any changes you've made. The next time you boot up the disk, the Ram Disk that is automatically established will contain the files and programs exactly as they were when you backed them up to the special on-disk file.

This auto-Ram Disk method is possible with two programs, BACKUP and RESTORE, that are part of the PROSEL package by Glen Bredon (the whole package of many utilities costs $40; see last month's column for details). These two programs were designed as quick backup and restore utilities for hard disks. But they contain options that allow you to use them for auto-restoring a Ram Disk on bootup, and quickly backing a Ram Disk up to a special disk file when you want to power down. And, by the way, the programs do their thing not only on IIgs ram disks, but on the //e and //c types as well (the PROSEL package also contains utilities that set up ram disks on IIe's and IIc's).

VISUALIZER

PBI Software is a company which, in the past, has seemed to me to come up with good ideas early and then to stumble in executing them. I found its "Jeeves" desk accessory package for AppleWorks balky and poorly documented, and it was quickly overtaken by the competing Pinpoint package. Its "Graphworks" software, which drew charts from AppleWorks spreadsheets, was limited and clumsy and, in my opinion, generally a poor value. I returned "Jeeves" within days of receiving it and sold Graphworks at a loss. So it was with a skeptical eye that I opened a new PBI

contd.

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package, VISUALIZER IIgs, which promised to do sophisticated graphs and charts, in color, from AppleWorks spreadsheets.

This time, PBI has done better. The company has released a product with the power it promised, and great ease of use. There are limitations, as in all software. And there is a bug which makes it crash under some circumstances—something PBI will have to remedy. But VISUALIZER IIgs (List $99.95, Mail $65) produces handsome, bold, colorful graphs and charts at great speed, in numerous styles, from standard AppleWorks spreadsheet files. The charts can be printed in color on an ImageWriter II, or black and white printouts can be obtained by changing the colors to a variety of black-and-white patterns with the click of a mouse. (NOTE: There is also a Visualizer version for //e and //c, but this reviewer only tested the IIgs version.)

VISUALIZER uses the Mac-style mouse-drive interface that is becoming standard for much IIgs software as well. The spreadsheet containing the data to be graphed is loaded into one window and the graph itself appears in another window. By pulling down the "window" menu from the menu bar, you can alternate between the two windows.

All other commands are also entered by clicking on choices in pulldown menus. From a given set of data, which you highlight with the mouse, Visualizer will almost instantly draw a wide variety of types of graphs: bar, point/line, pie, 3-D pie, scatter, area, regression or high-low. And each graph can be altered using various formatting and display options. Lines can be displayed with or without plotting points. Bars can be plain or 3-D, separate or overlapping. Category labels can run horizontally across the bottom or appear in a separate legend box. Lines, text, bars or pie slices can be any of a wide palette of colors. Various grids, or no grid at all, can be used. Text can be added anywhere on screen and lines can be drawn to link the text and points on the graphs. The whole background can change colors, and one chart can be used as a "background" for another. You can even import pictures or graphics from another program, like paintworks plus, for use as backgrounds to your charts.

Another nice feature is that the program allows limited editing of the spreadsheet files themselves from within VISUALIZER, without having to boot up AppleWorks. You can change numbers and labels, though not formulas. And you can delete areas of the spreadsheet or copy whole ranges of data to other portions of the spreadsheet, something that may be necessary to make the graphs come out right, since column and row headings must be adjacent to the numbers you're graphing in order for them to appear correctly on the axes or legends of VISUALIZER's graphs.

Unfortunately, VISUALIZER has crashed on me 4-5 times in several sessions of use while trying to use this "copy range" feature in the spreadsheet window to better align data for graphing. That will have to be fixed.

In addition to this bug, VISUALIZER has one other major weakness, in my opinion. The manual is a pitiful piece of documentation. It hardly scratches the surface of the program's features and left me with dozens of unanswered questions, both about VISUALIZER and about graphing terms. Some menu items are virtually undocumented, they are described in such sparse terms. And if you don't know what "scatter" and "regression" and "logarithmic" mean in statistical graphics, PBI doesn't help you. The company appears to have paid much more attention to the packaging—an elaborate plastic box—than to the manual.

But, for all that, VISUALIZER IIgs is the first package I've seen which provides really easy-to-create, impressive looking business graphics based on AppleWorks spreadsheet files. It cannot be considered a top flight package now because of the range-copy problem that I ran into, and the terrible manual. But those who need spreadsheet graphics and are already knowledgeable and adventurous may want to buy it now despite these drawbacks. Others may want to wait til the bug is fixed and PBI gets out a better manual, if it ever does.

SUPERSONIC CARD

MDIdeas, Inc., a company which shares an address (and some common owners and personnel) with the aforementioned PBI Software, is offering three new hardware products for the IIgs—a power strip/fan/disk drive holder called the Conserver; an extra memory card called OctoRam; and a card which converts the superb GS sound to stereo from mono. It is the latter which will be discussed here.

The SuperSonic card costs just $59.95 list (about $45-$49 if you can find it mail order), but it offers a host of audio output options for your GS without costing a slot. True, the card occupies a slot, but it doesn't prevent other functions from being mapped to the slot it's in, via the IIgs control panel. I have the SuperSonic in slot 3, but have kept the control panel at its default setting, "built-in text display," with no ill effects.

The card doesn't supplant the IIgs' custom Ensoniq sound chip. It merely converts the output from that chip into stereo, and provides two different types of audio connectors through which you can feed that stereo sound to added speakers, amplifiers, headphones and other equipment. For Walkman-type stereo headphones and speakers, there's a combined stereo output jack that fits the plugs typical of portable stereo gear. For larger amps and stereo equipment, the card also provides at the back of the IIgs a pair of RCA jacks, one for each stereo channel. You set a jumper on the card depending on which connector you're using.

Because the GS comes with super sound, and already has a mono output jack for outside speakers and headphones, the SuperSonic card won't make the kind of sensational difference Apple //e owners notice when they replace the //e's meager sound capability with a card like the Mockingboard. Still, stereo is nice even on small powered speakers, and the card's ability to link the GS to a full-fledged stereo system holds awesome possibilities.

MDIdeas also offers a piggyback digitizer ($39.95 list, $33 mail) for the SuperSonic which allows you to import music, voice and other sounds from the outside world into your IIgs in digital form, for editing and playback.

Both of the current IIgs music programs, Music Studio and Music Construction Set/IIgs, support the SuperSonic—though on Music Studio you must use the "design instrument" module to change some of the instruments from Right Channel (the default) to Left. Another music program, the child-oriented KidsTime, also supports the card. MDIdeas says others will as well.

One other nice thing about the Supersonic Card is that it

contd.

leaves the GS' puny internal speaker operative for all the normal beeping and buzzing which non-musical computer programs do. This has two advantages over piping all these sounds through the GS' built-in headphone jack to outside speakers (which cuts off the internal speaker). First, it means the normal beeps aren't ferociously loud. Second, it doesn't leave you at the mercy of powered portable speakers, which usually shut off automatically between receiving sounds, and thus can miss the first beep after a previous power-down.

I liked the stereo effect the SuperSonic produces. It's a modestly-priced product that does what its makers claim it does.

CONQUERING INCOMPATIBILITY: A CASE STUDY

The column you are now reading was mostly written by me on an Apple IIgs using AppleWorks. Mostly, but not wholly. On its way from my fevered brain to your hands, this text was written, edited and prepared for the printer on four different "incompatible" microcomputers using four different operating systems and four different word-processing programs. The text was never retyped on its way to you, but was passed between the machines electronically and very rapidly, by average users, not skilled technicians. All this was possible, despite the great problems of "incompatibility" which IBM sales reps and others love to prattle on about.

The truth is that if your computer and software can send text through a port in standard ASCII format (as all leading microcomputers can, with commonly available software), it is compatible with any other micro, for word processing at least. And when I say "port" I mean to include a modem, or a serial port connected by cable to the other computer. Computers equipped with modems and/or serial ports can easily exchange text files even if their disk drives can't read the same disks. That's what happened in the case of this column.

I wrote most of the article, and outlined the rest, on my IIgs with AppleWorks. Then, during my lunch hour one day, I wrote some more of it on an ITT Xtra, an MS-DOS clone running XyWrite software, at my office. I used the ITT's modem to upload this added material to my electronic mailbox on CompuServe; and when I got home that evening, I downloaded the material from CompuServe into my Apple IIgs and used AppleWorks to incorporate it into the article. A day later, I went out of town with the article still unfinished. So I took along a Tandy Model 100 laptop, which isn't directly compatible with either the Apple IIgs or the ITT. I wrote the remainder of the column on the little Tandy, using its built-in word processing program, and again uploaded this text to CompuServe. Upon returning to Washington, I again fired up the Apple, downloaded the new material from CompuServe, and put everything together in final form with AppleWorks. I saved the finished article as an ASCII text file on disk, and turned it in to Bernie Urban, the intrepid editor of this distinguished Journal. Bernie loaded it into an Apple II and sent it over a cable to an adjoining Macintosh, where it was put in shape for the printer using MacWrite.

So next time somebody knocks your Apple II as "incompatible," don't buy it. The Apple II can interface with the rest of the computer world, and does so every day.

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Q & A
by Robert C. Platt

Paul Lucas wrote to respond to an item from a recent column regarding invoking an EXEC file as the startup program on a disk. In DOS 3.3, a separate Applesoft program must be stored on the disk with the following statement: 10 PRINT CHR$(4);"EXEC FILENAME". Paul notes that ProDOS offers a shortcut. If you save the text file to be EXECed on the disk under the name STARTUP, no separate Applesoft program is required. This is because ProDOS performs a smart-RUN on any file named STARTUP whenever a disk is booted. Thus, saving a binary file as STARTUP will cause a BRUN STARTUP to be executed automatically and a text file named STARTUP will cause an EXEC STARTUP to be done automatically.

Q. What is the latest version of ProDOS?

A. The latest released version of ProDOS 8 is 1.3 dated 2-DEC-86. However, it contains several new bugs which were introduced in the process of trying to fix the Track 0 bug which we discussed in last month's column. Version 1.3 accidentally uses instructions which are only available on the 65C02 chip. Therefore, Version 1.3 will crash on a][+ or unenhanced //e. Another known bug in 1.3 causes excessive polling of unused disk drives when using a disk controller card with two 5.25 " drives attached. An experimental version of 1.4 is in limited distribution, but has additional problems. Version 1.1 is the latest for ProDOS 16, and it has yet to fully support all IIgs features. The following program, written by Stephen Thomas and modified by Glen Bredon will patch ProDOS 1.1.1 through 1.4:

```
NEW
 10 REM---------------------------------
 11 REMStop ProDOS track 0 trashing
 12 REMpatches by Stephen Thomas
 13 REM  MacLagan Wright & Associates
 14 REM  West Heidelberg, VIC Australia
 15 REM
 16 REMModified by G. Bredon to patch
 17 REMPRODOS 1.2, 1.3, 1.4 as well as
 18 REMPRODOS 1.1.1. On 1.3 another bug
 19 REMwhich makes 1.3 incompatible with
 20 REMolder machines still using a 6502
 21 REMprocessor is also fixed. On 1.4
 22 REMa new bug is also fixed.
 23 REM---------------------------------
 24 REM
 150 TEXT:?:HOME:E=0
 160 VTAB12:?"Now patching ProDOS."
 170 ONERRGOTO470
 180 IFPEEK(116)<128THENE=1:GOTO470:
     REMIs mem free?
 190 ?CHR$(4)"UNLOCK PRODOS"
 200 ?CHR$(4)"BLOAD PRODOS,TSYS,
     A$2000"
 210 ADR=4*4096
 220 P=0:FORI=4TO8:IFPEEK(ADR+I)<>234
     THENP=1
 230 NEXTI
 240 IFPEEK(ADR+4)=189ANDPEEK(ADR+5)=
     156ANDPEEK(ADR+6)=192THENPOKEADR
     +5,142:GOTO440
 250 IFADR>6*4096THENE=3:GOTO470
 260 IFPTHENADR=ADR+256:GOTO220
 270 POKEADR+4,189:POKEADR+5,142:POKE
     ADR+6,192:REMLDA $C08E,X
 280 ADR=PEEK(ADR+2)+256*PEEK(ADR+3)-
     13*4096+ADR+5:IFADR>6*4096 ORADR
     <4*4096THEN E=3:GOTO470
 290 FORI=0TO9STEP3
 300 IFPEEK(ADR+I)<>157THENE=3:GOTO340
 310 POKEADR+I,189:REM4 STAs changed
     to LDAs
 320 NEXTI
 330 GOTO440
 340 FORI=0TO12
 350 READBYTE:IFPEEK(ADR+I)<>BYTE
     THEN470
 360 NEXTI
 370 FORI=0TO12
 380 READBYTE:POKEADR+I,BYTE
 390 NEXTI
 400 ADR=4*4096+12*256+12*16+13
 410 FORI=0TO3:READBYTE:IFPEEK(ADR+I)
     <>BYTETHEN470
 420 NEXTI
 430 POKEADRS,15*16
 440 ?CHR$(4)"BSAVE PRODOS,A$2000,
     TSYS"
 450 ?:?"Patches completed."
 460 END
 470 ?CHR$(7)"Error! No patches were made."
 480 ONEGOTO500,510,520
 490 ?"PRODOS file not found.":END
 500 ?"Insufficient memory to load PRODOS.":
     END
 510 ?"Patch location not found."
 520 ?"PRODOS file may have been patched"
 530 ?"already, or is not a compatible version."
 540 END
 550 DATA160,8,189,128,192,232,232,136,208,
     248,234,234,96
 560 DATA189,128,192,189,130,192,189,132,
     192,189,134,192,96
 570 DATA128,6,190,0
SAVE PATCH.PRODOS
```

You should RUN this program on the backup copies of your PRODOS disks.

Q. I am having great difficulty using the AUXMOVE routine in the //e ROM, which moves an area of memory from the primary 64K to the 64K of RAM on the memory card, or back the other way.

A. There is a typo in the *Apple //e Technical Reference Manual.* Although it says that AUXMOVE starts at location C311, it really should be called at location C312.

contd.

Q. My Laser 128 will not send control codes to my printer correctly. What am I doing wrong?

A. Many printers require 8 bits of data for control codes and bit-mapped graphics. The Laser 128 communicates with the printer through a built-in port which can be configured through a special control panel. The default is 8 data bits, 1 stop bit, no parity and 1200 baud operation.

To access the control panel, press control-P followed by Reset. You then have the option of modifying 1) the serial port, 2) the parallel port or 3) the mouse. Select the serial port and adjust the format column for 8 data bits. Also make sure that the settings on your printer (controlled by DIP switches) correspond to the settings specified on your control panel. Consult your printer manual to determine the specific settings required.

Q. How can a machine language program determine whether the motherboard of an Apple][or][+ has Applesoft or Integer Basic in ROM?

A. Add the following code:

```
STA $C080 ; to access the motherboard
LDA $E000
```

If the accumulator equals #$20, integer BASIC is in ROM; if it's #$4C, Applesoft is in ROM.

Q. I have a Titan Accelerator card //e, and WordPerfect hangs when printing on an Epson MX100 with a Grappler interface card. What's wrong?

A. The Grappler is probably the problem—try a different control card.

Q. What is BINARY2 protocol?

A. BINARY2 is a protocol for sending multiple binary ProDOS files under XMODEM. A single transmission will send several files and all of their ProDOS attributes as well. BINARY2 is used on Compuserve.

Q. I have weird pink fringing on my IIgs desktop. Should I send in my computer for an adjustment?

A. Apple is working on the problem, but no fix is available at this time. However, be sure to report the problem to your dealer before your warranty expires.

Q. Can you use Pinpoint with 3 Easy Pieces, the Apple /// version of Appleworks?

A. No, Pinpoint will only work with IIgs's with the 65816 processor chip, or enhanced //e's and //c's which have the 65C02 processor chip. The /// has the 6502 chip.

Q. Is there a public domain program that will test the RAM on the auxiliary memory of the //e or the //c?

A. Yes.Glen Bredon wrote the following program. It uses mousetext characters so its messages are legible only on a //c or enhanced //e. Enter the following to create a BRUNable program:

```
CALL-151
0803:A9 3F 85 3C A9 08 85 3D A9 CD 85 3E A9 0C 85 3F
0813:A9 00 85 42 A9 09 85 43 38 20 11 C3 38 B8 48 A9
0823:00 8D ED 03 A9 09 8D EE 03 68 4C 14 C3 20 2F FB
0833:20 93 FE 20 89 FE 8D 0F C0 6C F2 03 2C 81 C0 8D
0843:09 C0 20 89 FE 20 93 FE 20 2F FB 8D 0C C0 8D 01
0853:C0 8D 0F C0 20 D2 0C A0 C1 D5 D8 A0 D2 C1 CD A0
0863:D4 C5 D3 D4 8D 8A 56 57 56 57 56 57 56 57 56 57
0873:56 57 A0 E2 F9 A0 C7 EC E5 EE A0 C2 F2 E5 E4 EF
0883:EE A0 57 56 57 56 57 56 57 56 57 56 57 56 8D D4
0893:E8 E9 F3 A0 F0 F2 EF E7 F2 E1 ED A0 F4 E5 F3 F4
08A3:F3 A0 D2 C1 CD A0 E1 E2 EF F6 E5 A0 A4 B2 B0 B0
08B3:B0 A0 E9 EE 8D E1 F5 F8 E9 EC E9 E1 F2 F9 A0 ED
08C3:E5 ED EF F2 F9 A0 E2 F9 A0 E1 EC F4 E5 F2 EE E1
08D3:F4 E5 EC F9 A0 F3 F4 EF F2 E9 EE E7 8D A4 B0 B0
08E3:AC A0 A4 B5 B5 AC A0 A4 C6 C6 AC A0 A4 C1 C1 A0
08F3:E9 EE A0 B8 CB A0 E2 EC EF E3 EB F3 A0 E1 EE E4
0903:8D ED EF F6 E9 EE E7 A0 F4 E8 E5 F3 E5 A0 F4 EF
0913:A0 F4 E8 E5 A0 E8 E9 F2 E5 F3 A0 F3 E3 F2 E5 E5
0923:EE AE 8D C9 E6 A0 E1 EE A0 E5 F2 F2 EF F2 A0 E9
0933:F3 A0 E6 EF F5 EE E4 AC A0 E9 F4 F3 A0 EC EF E3
0943:E1 F4 E9 EF EE A0 E9 F3 8D F0 F2 E9 EE F4 E5 E4
0953:A0 E1 EE E4 A0 F4 E8 E5 A0 E2 F9 F4 E5 A0 E6 EF
0963:F5 EE E4 A0 C5 CF D2 A7 E4 A0 F7 E9 F4 E8 8D F4
0973:E8 E5 A0 E3 EF F2 F2 E5 E3 F4 A0 E2 F9 F4 E5 A0
0983:E9 F3 A0 E4 E9 F3 F0 EC E1 F9 E5 E4 AE A0 A0 CF
0993:EE EC F9 8D F4 E8 E5 A0 E6 E9 F2 F3 F4 A0 EF E6
09A3:A0 F4 E8 E5 F3 E5 A0 E9 EE A0 E1 EE F9 A0 B8 CB
09B3:A0 E2 EC EF E3 EB A0 E9 F3 8D F3 E8 EF F7 EE AE
09C3:8D 53 53 53 53 53 53 53 53 53 53 53 53 53 53 53
09D3:53 53 53 53 53 53 53 53 53 53 53 53 53 53 53 53
09E3:53 53 53 53 53 53 53 8D CB E5 F9 A0 D8 A0 F4
09F3:EF E7 E7 EC E5 F3 A0 E6 F5 EC EC AF ED E9 F8 E5
0A03:E4 A0 F3 E3 F2 E5 E5 EE AE 8D CB E5 F9 A0 AF A0
0A13:F4 EF E7 E7 EC E5 F3 A0 E4 E5 EC E1 F9 A0 A8 43
0A23:A9 A0 E2 E5 F4 F7 E5 E5 EE A0 E2 EC EF E3 EB F3
0A33:AE 8D 53 53 53 53 53 53 53 53 53 53 53 53 53 53
0A43:53 53 53 53 53 53 53 53 53 53 53 53 53 53 53 53
0A53:53 53 53 53 53 53 53 53 8D A0 A0 A0 A0 A0 A0
0A63:A0 C5 D3 C3 C1 D0 C5 A0 E5 F8 E9 F4 F3 A0 F4 E8
0A73:E5 A0 F0 F2 EF E7 F2 E1 ED AE 8D 8A 53 53 53 53
0A83:53 53 55 A0 C8 E9 F4 A0 F3 F0 E1 E3 E5 A0 E2 E1
0A93:F2 A0 F4 EF A0 F3 F4 E1 F2 F4 AE A0 48 53 53 53
0AA3:53 53 53 8D 00 AD 00 C0 C9 A0 D0 F9 2C 10 C0 2C
0AB3:83 C0 A2 01 86 E7 86 E9 A2 20 86 E1 86 E4 A0 00
0AC3:84 E8 84 E0 84 42 98 8D 04 C0 91 E0 C8 D0 FB E6
0AD3:E1 CA D0 F6 2C 57 C0 2C 53 C0 2C 50 C0 8D 05 C0
0AE3:A9 00 85 E5 20 C3 0B A9 55 85 E5 20 C3 0B A9 FF
0AF3:85 E5 20 C3 0B A9 AA 85 E5 20 C3 0B 4C A4 0B A2
0B03:00 86 E6 BD 83 C0 A9 20 85 E4 20 82 0C 20 67 0C
0B13:20 51 0C A9 40 85 E4 20 82 0C 20 67 0C 20 51 0C
0B23:A9 60 85 E4 20 82 0C 20 67 0C 20 51 0C A9 80 85
0B33:E4 20 82 0C 20 67 0C 20 51 0C A9 A0 85 E4 20 82
0B43:0C 20 67 0C 20 51 0C A9 D0 85 E4 20 82 0C 20 67
0B53:0C 20 51 0C A9 E0 85 E4 20 82 0C 20 67 0C 20 51
0B63:0C A2 08 86 E6 BD 83 C0 A9 D0 85 E4 20 82 0C 20
0B73:67 0C 20 51 0C 60 2C 82 C0 2C 51 C0 18 B8 48 A9
0B83:30 8D ED 03 A9 08 8D EE 03 68 4C 14 C3 A5 E4 85
0B93:E1 B1 E0 45 E5 F0 03 4C 5D 0D C8 D0 F4 E6 E1 CA
0BA3:D0 EF 60 A5 E4 85 E1 8D 04 C0 B1 E0 91 42 C8 D0
0BB3:F9 E6 E1 E6 43 CA D0 F2 8D 05 C0 4C 97 0C 85 E1
0BC3:A2 20 A0 00 A5 E5 91 E0 C8 D0 FB E6 E1 CA D0 F6
0BD3:20 F7 0C A0 00 24 E8 30 0E A2 04 98 18 69 01 D0
0BE3:FC C8 D0 F8 CA D0 F5 AD 00 C0 10 1D 2C 10 C0 C9
0BF3:9B F0 83 C9 AF D0 04 45 E8 85 E8 C9 D8 D0 0A A9
0C03:01 45 E7 85 E7 AA BD 52 C0 A2 20 86 43 60 20 58
0C13:FC A9 0D 85 24 68 85 E2 68 85 E3 D0 03 20 ED FD
0C23:A0 00 E6 E2 D0 02 E6 E3 B1 E2 D0 F1 A5 E3 48 A5
0C33:E2 48 60 2C 81 C0 A9 14 20 5B FB 20 8E FD 24 E8
0C43:30 05 A9 43 20 ED FD 20 D9 0C A0 8D 00 A6 E9 20
0C53:4A F9 A9 88 20 ED FD A6 E9 E0 27 08 90 04 A9 00
0C63:85 E9 E6 E9 28 B0 06 20 D9 0C 46 47 00 20 D9 0C
0C73:8D D4 E5 F3 F4 E9 EE E7 BA A0 A4 00 A5 E4 A2 00
0C83:20 41 F9 20 D9 0C AD A4 00 A5 E4 18 69 1F A2 FF
0C93:20 41 F9 A6 E6 BD 83 C0 60 2C 81 C0 2C 53 C0 48
0CA3:84 EA 20 D9 0C A0 A0 C5 F2 F2 EF F2 A0 E1 F4 A0
0CB3:A4 87 87 87 00 A5 E1 A6 EA 20 41 F9 A9 BA 20 ED
0CC3:FD 68 20 DA FD A6 E6 BD 83 C0 60
BSAVE EXT.RAM.TEST,A$0803,L$04CB
```

APPLEWORKS Q & A
by Richard M. Rowell

I receive about twenty AppleWorks questions per week. The questions come from the thousands of AppleWorks users who have found the program to be easy to learn and easy to use in starting to get their own jobs done. Of course one day the temptation to try something "fancy" appears. The answers that I have been providing are intended to meet the needs of everyday users of AppleWorks who want to add one new feature. If you already have your own set of tips, techniques and tricks I welcome you to share them with me.

You are forewarned to avoid reading my answers if the question is one over which you have never puzzled. Don't fix it if it ain't broke. But ... I know you will read the answer anyway. Thanks for you interest.

HEADLINES

QUESTION: In setting up a Custom Printer with my Imagewriter II, what is the code to turn on headline (or 4 or 5 characters per inch)? It doesn't tell in the manual and Apple won't respond to my letter. - LeRoy McMillin

ANSWER: "What we have here is a failure to communicate." Apple Computer Company probably can't respond to your letter because the popularity of AppleWorks has created an unmanageable flood of questions. The Imagewriter can't respond because these mindless, literal, yet obedient computer peripherals only respond to very limited and specific codes I, on the other hand, welcome the opportunity to respond to your question.

First set up a Custom Printer to allow the headline command to replace one of the AppleWorks printer options (such as superscript). Select #5 "Other Activities" from the Main Menu, then #7 "Specify Information about your printer(s)." Enter all of the codes that you will be using; for example enter "ESC Q" for 17 characters per inch. Finally choose the commands that you are going to redefine. For other applications I generally use superscript begin and superscript end, but in this case you should use 4 characters per inch (or 5 characters per inch). The Imagewriter code for headline is:

CONTROL-N begins headline mode
CONTROL-O returns to normal mode

There is no code dedicated for 4 (actually 4.5) or 5 characters per inch; you must use a combination of headline and 9 characters per inch or headline and 10 characters per inch. These would be:

CONTROL-N ESC n for 4.5 characters per inch
CONTROL-N ESC N for 5 characters per inch

You may use AppleWorks' printer options for 4 or 5 characters per inch directly and the Custom Printer (Imagewriter) will respond obediently. The AppleWorks sequence is:

Apple-O
CI
<RETURN>
4 (or 5)
<RETURN>

This general approach will work for setting up a Custom Printer with other model printers, however you will have to search through the manual for appropriate printer codes.

DITTO in SPREADSHEET

QUESTION: Is there any way the Apple-" (ditto) can be used the same way in the spreadsheet as in the data base? - Lynne Woomer

ANSWER: Although the Apple-" (ditto) function does not exist in the spreadsheet there are two ways to copy a cell into the cell below:

(1) Use the AppleWorks spreadsheet function Apple-C (copy) to copy one cell to the cell below. To copy a single cell to a single cell below requires five keystrokes—not as easy as Apple-", but still pretty quick after you've done it a few times. With the cursor already in the cell that you want to copy, the five keystrokes are:

Apple-C W <RETURN> <down arrow> <RETURN>

Watch the bottom of the screen prompts to see which items these five keystrokes are selecting.

(2) Use a macro program (such as the Beagle Bros. MACROWORKS) to define the five keystrokes described above as Solid-Apple-". After defining such a macro you will be able to ditto using one keystroke. You may wish to define the macro as six keystrokes:

<up arrow> Apple-C W <RETURN> <down arrow> <RETURN>

thereby allowing you to start with the cursor in the blank cell.

EXAMPLE: Figure 1 shows a portion of a spreadsheet in which you may need to do some ditto-ing. Several HOME ROOM entries have been made, but one is still blank. By placing the cursor in the cell containing "B-115 (Jacks.)" and following the five keystrokes the information will be copied to the blank cell.

See the Chapter "Working with Information in Worksheets" in your AppleWorks Reference Manual for a more complete explanation of copying.

Year.....1987
Month..... 1

						Previous Months		
ID#	Student Name	Birthday	Age	Sex	Grade Home Room	Present	Absent	Tardy
1	Last, First (student)	12/1970	16	M/F	10 B-107 (Smith)	0	0	0
2	Last, First (student)	12/1970	16	M/F	11 B-112 (Lyons)	0	0	0
3	Last, First (student)	12/1970	16	M/F	12 B-115 (Jacks.)	0	0	0
4	Last, First (student)	12/1970	16	M/F		0	0	0
5	Last, First (student)	12/1970	16	M/F	10 B-107 (Smith)	0	0	0
6	Last, First (student)	12/1970	16	M/F	10 B-107 (Smith)	0	0	0
7	Last, First (student)	12/1970	16	M/F	10 B-107 (Smith)	0	0	0
8	Last, First (student)	12/1970	16	M/F	11 B-112 (Lyons)	0	0	0
9	Last, First (student)	12/1970	16	M/F	11 B-112 (Lyons)	0	0	0

Figure 1. A section from the Pacific Technology Systems' SCHOOL ATTENDANCE MONITOR template.

WAPACROSTIC
by Dana J. Schwartz

Using the Definitions, fill in Words. Transfer each letter into the corresponding square of the grid. The resulting quotation will read across. The first letters of the Words Column spell out the Author's name and the Title of the work, reading down.

	1 B	2 S		3 L	4 Y		5 P	6 N	7 E	8 M	9 H		10 D	11 Q	12 B	13 B		14 B	15 Y	16 A						
17 U	18 U	19 B		20 L	21 Z	22 T	23 F	24 U	25 E	26 Y		27 I	28 B	29 I		30 G	31 F	32 D	33 W		34 M					
35 S		36 N	37 M	38 W	39 Z	40 Z	41 S	42 B	43 H	44 R		45 H	46 N	47 K	48 F		49 F	50 K	51 H	52 B	53 D					
54 G	55 J	56 Y	57 X	58 G	59 J	60 Q	61 M		62 X	63 E		64 R	65 Q	66 N		67 N	68 P	69 T	70 O	71 W						
72 D	73 O	74 V	75 T		76 Z	77 M	78 X		79 I	80 P	81 Q		82 V	83 X	84 Y		85 D		86 A	87 D	88 S					
89 S	90 C	91 I	92 A		93 G	94 S	95 J		96 P	97 K	98 G	99 F		100C	101L	102Q	103W	104Z	105O		106V					
107Y	108X	109Z	110F	111F	112Q		113R	114Z		115C	116G	117Q		118O	119T	120E		121L	122G	123P	124F					
125I		126C	127M	128O	129Z	130R	131Q		132J	133J	134C	135W		136Z	137Z	138E		139M	140K	141J	142I					
143P	144J	145M	146W	147J	148C	149C	150D		151I	152P	153R	154W	155T	156I	157R		158T	159B	160C	161O	162K					
	163V	164O	165V	166H		167L	168P	169I		170K	171F	172W	173A	174R		175A	176C	177V	178T	179X						
180O	181M	182R	183L	184A	185Z	186N	187W		188O	189H	190Q	191A		192U	193J	194R	195J	196K	197F	198P						

Definitions **Words**

A. Painting or Sculpture — 175 191 92 86 16 173 184

B. Spine Hog — 52 20 13 14 12 159 1 42 19

C. Agreeably — 160 134 140 90 126 100 176 149 115

D. Set Aside (2 wds) — 32 87 150 85 72 53 10

E. Uncanny — 25 120 63 7 138

F. Small Goat with Big Teeth — 49 40 111 110 99 171 23 197 31 124

G. Effluence — 116 90 54 93 58 122 30

H. Laid Back (sl) — 51 43 166 9 109 45

I. Belligerency — 79 29 125 91 156 142 151 169 27

J. Plane Cargo — 147 59 193 144 95 141 55 195 133 132

K. Hawser — 47 50 170 196 97 140 162

L. Centrally — 3 167 20 183 101 121

M. Like a Jerk — 34 77 37 181 145 139 127 0 61

Definitions **Words**

N. Whole — 46 186 66 67 36 6

O. State of Obligation — 161 73 110 100 120 70 164 105 188

P. Without Reverence — 123 198 68 143 168 80 5 152 96

Q. Crooked — 81 65 102 60 190 112 11 117 131

R. Swiss Specialty — 174 194 44 182 157 153 113 64 130

S. Fear — 2 35 41 88 94 89

T. Swimming Aid — 22 150 119 69 75 170 155

U. One of My Three Sons — 18 24 17 192

V. Cavity — 106 177 165 74 82 163

W. Omitter — 38 154 187 33 71 146 135 103 172

X. Deceive — 62 83 78 108 57 179

Y. Heartbeats — 84 15 26 107 56 4

Z. Emancipate — 40 76 114 137 136 129 39 21 185 104 109

ANSWERS TO LAST MONTH'S WAP ACROSTIC

You can use your Mac to generate Anagrams- words or phrases with their letters rearranged to spell something else. For example, did you know that the word 'dormitory' may be rearranged to spell the unlikely phrase 'dirty room'?

Author: D(ave) Weikert
Work: Mac Disketeria Notes
Source: WAP Journal, March 1987, p86

Words

A. Dragoon
B. Watchword
C. Eloper
D. Ideally
E. Kangaroos
F. Errors
G. Range
H. Thump
I. Marsh
J. Artery
K. Crematory
L. Duper
M. Idaho
N. Shares
O. Kneads
P. Eternally
Q. Toothwort
R. Europe
S. Rhymester
T. Immodesty
U. Abrupt
V. Negligent
W. Oftentimes
X. Tediously
Y. Exile
Z. Shawl

THE PCPI Z80 CARD AND WORDSTAR PROFESSIONAL: A Review

by Henry Lustig

This article is being prompted by my feelings of frustration with the lack of articles in the Apple magazines of interest to users of what lately seems to be synonymous with obsolete systems—the Apple][—and particularly to those of us using Apple CP/M (some call it a dead language but, of course, it is no language but rather an operating system).

As the owner of a]['Minus', which underwent a sex transfer operation switching chips between it and the 'Floating Point Basic Board' purchased after endless frustration in loading it from tape, I have avidly used the Microsoft CP/M card ever since it was offered. Recently I came across a bargain which was hard to refuse. For $89 (+$8 shipping), less than a third of what the Microsoft card cost me (still listed for almost $300), one can get from B.C.E., 3233 K Street NW, Washington DC, a Z80B PCPI board (StarCard) bundled with the complete MicroPro WordStar-Professional. The card can be had separately for $49. Do not be fooled by the low price—it is the real thing, complete with s/w and professionally packaged documentation! This article will deal mainly with the hardware, with only casual mention of WSP.

Since I intend to include some performance figures, I deem it appropriate to mention my sustem configuration. My system consists of an Apple][, Microsoft Language card, Epson MX-80+ FGraftrax with the Pkaso/U parallel interface (some of the products I mention are no longer available), the Videx 80-column board, Call-A.P.P.L.E.'s 1 Mb BigBoard, a VISTA 800 controller with 2 DSDD 8" drives, 2 Rana 5 1/2" drives and the StarCard. Although I have around many other boards, most obsolete, slot 2 was left empty. I have not experienced any power supply problems as yet. I am also using the System Saver fan, and the motherboard has a few bulges created by the Dan Paymar lower case adapter and the Zicor interface for their plug-in keyboard.

As for CP/M, I am using ZCPR3 which is rather a must for high capacity media for which the vanilla CP/M is an anachronism.

For your $89 B.C.E. will send you promptly (I called in my order on Monday, was told to expect delivery with 3 weeks—UPS delivered it on Friday) the following...

- StarBoard with CP/M 2.0 and utilities on a two-sided diskette. Noted in its absence is M(G)BASIC.
- CP/M Primer by Murtha & Waite (Sams).
- StarCard manual.
- WordStar 3.33 and install program on 2 disks. Manual.
- MailMerge 3.30, 1 disk and manual.
- SpellStar 3.30, 1 disk and manual.
- StarIndex 1.01, 1 disk and manual.

Of course, also included are standard legal documents, absolving the seller from any liability and binding the buyer forever.

Advantages of the PCPI StarCard

1. The Z80B's faster speed—6MHz vs the standard 2MHz.

2. Comes with its own 64K RAM. Allowing the use of the Apple's RAM (actually 34K in my case—the rest used by the various device drivers) as a print buffer. I have seen ads by other vendors for piggy-back RAM add-ons. In my opinion the prices quoted are rather unfavorable compared to other large RAM boards now available. Nor will you save a slot as it is unlikely that the slot next to the PCPI will be accessible with the additional boards plugged into it. I have found the print buffer option to be a big productivity booster.

3. The PCPI RAM can be used when running under Apple DOS as RAM disk, though I have not tried it. (1Mb is plenty!.)

4. 70-column display for those not having an 80-column card. Also providing those ASCII sysmbols not available on the standard Apple][keyboard.

5. The ability to define and save function keys.

6. For the //e a driver with faster screen update and scrolling.

7. Sensible and documented means for attaching different device drivers for harmonious operation. Not quite dissimilar to Apple Pascal's Attach BIOS but, at least to me, far more understandable. I found this to be the main attraction. With the PCPI board my CP/M is now the only operating system I use which allows the simultaneous use of the BigBoard RAM, the 8" drives and ZCPR3. The BigBoard driver was written by fellow Vermonter Steve Hirsch and is available from Call-A.P.P.L.E. The installation of drivers is highly interactive and practically done, as should be, by the provided software without the need for a PhD in computer science and electrical engineering.

Items 3-6 were of no interest to me or not compatible with my system, and were not tested.

The PCPI system was found to be compatible with most commercial and public domain software. The only notable exception being Microsoft (MBASIC, GBASIC, FORTRAN —possibly others) programs designed specifically with the Apple Microsoft CP/M in mind. Since the PCPI does not map into Apple memory space, one cannot readily access Apple ROM routines as done by the graphics and sound extensions of the above named programs. All other features of these languages seem to work properly. A driver and a protocol for passing control and communicating with the 6502 and its memory are available on bulletin boards. Hopefully hackers will soon document means of doing graphics from the PCPI (this will be a great boost for Turbo Pascal). Fixes for Microsoft M80 and F80 are also available on bulletin boards.

WordStar Professional is nothing to sneeze at either. Even for those who, like me, have used WordStar and its offspring before. While I have not yet found any significant functional or performance differences between it and version 3.0(1), besides the increased speed due to the Z80B, the installation is not only better documented but also highly

contd.

interactive and menu driven.

The only complaint—the installation menu does not include a patch for the alternate font which must be done using public domain information on correct addresses, with DDT or PATCH.COM.

Caveat, this is an integrated package. You cannot mix WordStar 3.3 and, for example, SpellStar 3.0—it will not work. A utility is provided for transferring dictionaries to the new format.

I have established that SpellStar 3.3 is about three times faster than the 3.0 version I used prior to it. It seems to stem from a much improved algorithm for dictionary search. While the old version searched by word length and thus the number of words searched when checking a document depended on the longest word in it, the new SpellStar has some improved searching independent of word length. So, do not be surprised if the statistics it prints inform you that it searched only e.g. 8,000 words in the entire 20,000 word dictionary. I have run benchmarks which indicate that for a particular word ('interdisciplinary' in this case—I added it to both dictionaries, and ran with it being the only word in the document) version 3.3 had to search only 5 words, while 3.0 searched through the entire dictionary and took an order of magnitude longer to achieve it. I tried in vain to find a pattern by using words of different length, but it never searched through more than 108 words in the dictionary, and there were no observable time differences when word length kept varying. It needed to search through about 13.5K words to proofread this 1,200 word article and took 22 seconds (using the RAM card, of course). The update of a dictionary is also slightly faster.

Since I have no use yet for either MailMerge or StarIndex, they were not tested.

To summarize, the PCPI board and the bundled WordStar Professional are a highly recommended addition to everybody's system, even those already possessing a CP/M card. The performance and functionality improvements discussed would, in my mind, justify the slightly higher cost of this board in comparison to the $40 clones flooding the market, mostly without even the CP/M operating system included.

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Z-RAM Ultra 2, 1 Meg	299.00
Z-RAM Ultra 3, 1 Meg	349.00
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RamWorks III, 1 Meg	259.00
VIP for //e or //c*	169.00
VIP for II GS*	199.00

*$10 discount with purchase of any Applied Engineering Board

PORTABLE SYSTEM

C-VUE LCD Flat Monitor	$299.00
Prairie Power System Battery Pack/UPS & Carrying Case	139.00
//c Power Cigarette Lighter Adapter	24.95
//c Power Extension Cable	16.95
//c Power Y Adapter	18.95

SOFTWARE

SwyftWare (card or software)	$ 69.95
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Copy II Plus	37.95
EDD 4	49.95

APPLE UPGRADES

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//c Detachable Keypad	125.00

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Apple Personal Modem	349.00
Mastec 1200 (1 yr guar.)	129.00

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STOCK SIG NEWS
by Andrew D. Thompson

Participants in the March Stock SIG meeting continued their discussion of members' methods for forecasting the stock market's future direction and vacillations.

1. MUTUAL FUND SUB-GROUP REPORT

The February 24th Sub-Group meeting began with discussion of information on the timing of stock market moves. Participants cited various forecasters, the majority of whom said the market was headed up (Peter Eliades, Robert Wood) while a few urged caution (Arthur Merrill, Ned Davis). No bears were cited on the horizon.

Harley Wilbur provided an update of his "Trendpoint DiskLetter" service which tracks 24 of Fidelity's Select mutual funds. Based on 4, 8 and 12 week moving averages of their price performance, his data suggested the four most promising funds were Paper, Computers, Technology and Software. For more information, call (301) 949-8131.

Andy Thompson presented the results of his price and asset-based method for calculating a short-term momentum indicator for each of the 35 Fidelity Select funds. This approach, using AppleWorks Spreadsheet calculation and geared for active trading, identified the more recent movers to be Select Property, Biotechnology, Computers, Financial Services and Health Care.

Carroll Creitz shared the results of his research and his attempt to resolve the wide variations which investors find in published lists of so-called "top-performing" mutual funds. Using a Mac and Excel software, he analyzed 5-year data from 485 mutual funds. By using weekly price data from June of 1985 through December of 1986, Creitz plotted the rate of return and level of risk for ten funds. This, in turn, resulted in developing a risk-return index which Creitz hoped would allow him to identify which mutual funds offered the best return. Creitz found no reliable relationship between risk and return. The study of mutual funds' level of risk, he concluded, could not predict which funds would perform best in the future. The Sub-Group's feedback included contrary suggestions to: refine the method by using Fourier Analysis; abandon regression analysis because it builds in artificial predictors of future price movements.

Several members then supported the position that mutual funds do not have long-term, predictable, symmetric moves which can be tracked by sine curves and cycle analysis. In a similar spirit, Troy Klein reported his research, which endorsed another contrarian position that because of sudden turn-arounds, the worst performing mutual funds were viable investment instruments and needed to be watched as closely as the best performers.

Future Mutual Fund Sub-Group meetings will be held at the Bethesda Library, 7400 Arlington Blvd., on April 21, May 28 and June 24.

2. DISCUSSION OF GENERAL MARKET TIMING

Participants at the March meeting then shared information concerning the forecasts such as those of Robert Prechter who continued to be bearish on gold (projected its decline below $200/oz.) and long-term bullish on the stock market (projected above 3000). His advice to 90% of investors seemed to be that they should buy and hold rather than worry about avoiding a 10% correction that may be coming.

Bob Wood critiqued "Trend Analysis," a market service which combines Elliott Wave theory with Gann Analysis, but does so with more ambiguity than Bob found helpful.

Ed Villas reviewed a market tracking system which describes how numerous indicators and variables seem associated with particular phases within a four year cycle researchers found present in stock market rises and declines. That system, designed by Mitchell, Morse and Schwab, Inc., and published by Investment/Indicators of San Rafael, CA (1963, 35 pp.) could be used to build an investor's confidence by identifying which variables were indicators of the "dynamic stage" (beginning) or other phase of the four-year upward move. Villas found the listing of key variables helpful for evaluating shorter (100 day) cycles as well.

3. FOLLOW-UP ON MEMBERS' FORECASTING METHODS

Peter Kasper and Steve Rinehart reviewed their January 6 and February 10 projections (see April *WAP Journal)* which fairly accurately forecast the general direction of the NYSE Index except for consistently underestimating its rapid increase. Their estimate was off by from 4 to 7 NYSE points. They shared their current research, which projects a fairly flat market from March 9 (NYSE=163+) through April 18 (NYSE=162+), followed by a slight dip (to 160) by April 24-25 and a sharp rise toward 165 by May 6. After this near term consolidation period is completed, Rinehart said their research forecasts a summer rally. For more information call Mercari, Inc. at (703) 620-4071.

Bob Wood, whose forecasts are geared toward identifying market turning points rather than specific price targets, said his work projects 2500 on the DOW by the end of April and 2750 within a year. For more information call "Stockmeister" at (703) 893-9591 or write 7616 Burford Drive, McLean, VA 22102.

Robert Popejoy shared his initial exploration into the predictive role which the "open interest" on calls may have for future market moves. By using his Apple//e and the DOW Jones Market Analyzer, Bob generated 10 graphs and drew channels to allow participants to eye-ball possible correlations between the rising open interest volume on the XMI (Major Market Index) and on the OEX (S & P 100) with index price moves and put volume. Members cautioned that rising open interest is often an indication that professional traders are hedging their investments and that this often precedes a significant market move. Some members agreed that rising open interest is a psychological indicator but there were pro and con opinions as to whether it was a leading indicator. Bob will now use daily data, from January of 1986 through early March of 1987, to supplement his current study of weekly data.

Members concluded the evening's discussion of the

contd. on pg 22

A REVIEW UPDATE: "Zany Zingers & Characters" for "Take One"

by Bob Oringel

I recently reviewed the animation graphics application program, "Take One" for the Apple II family. I was very pleased with Take One and its accompanying library of actors and actions, which is appropriately called. "Actors and Actions." The Take One program is able to convert any hi-res picture or Applesoft shape table which the user might get elsewhere for use within the program.

It was very interesting in the context of the Take One review, therefore, to get to look at "Zany Zingers & Characters." What the library of Zany Zingers & Characters adds to the Take One program is 782 additional actors (any character which can be made to move is an actor), new actions and new backgrounds, which already have the animation movements added in. Animation from scratch can be a very time consuming process, so this added movement can be very welcome.

This new library is derived from the bundling of the "Heroes and Villains" animation library, the "Business" characters animation library, and a new "Cartoon Characters" animation library. These libraries are furnished on three sides of two disks, and they are booted as data disks for Take One. Included too are two small user guides which pictorially describe the actors. I believe that this library package adds to the utility of an already useful program.

And, oh yes, something that I failed to mention in the original review: Both Take One and Zany Zingers & Characters are products of BAUDVILLE, Grand Rapids, Michigan.

Stock SIG News contd. from pg 22

validity of cycle analysis by agreeing on the critical importance of controlling input data to well beyond the third decimal point. That method accommodates the fact that the stock market often moves in a saw-tooth rather than sine wave fashion.

Future meetings will allow some time for discussion of individual stocks should participants want the group's perspective. Stock SIG meetings occur on the second Thursday of each month at the WAP office.

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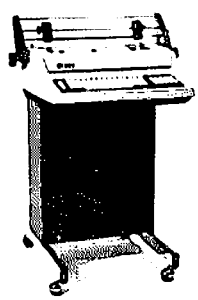

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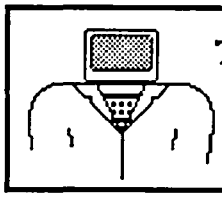

The Button-Down Guide to the Apple

by Ray Hobbs

Softswitches and Music!

The last Button-Down Guide, written before my venerable Apple][+ moved to the public school system, promised to cover the Apple][softswitches. Now, after doing some tinkering with my GS, I'm happy to report that they're still there (for the most part). In this article, I'll flip a few of those switches, just to see what they do, and I'll demonstrate how to put them to practical use from within your programs. Also, in keeping with this month's musical theme (pun acknowledged), I'll use a softswitch, CALL a Monitor subroutine, make a machine language-to-BASIC hook and use a DOS binary file SAVE, all for one program to make music on the Apple][series. Blackstone should pull so many rabbits from one hat.

The Softswitch Concept. When Steve Wozniak designed the Apple, he jumped miles ahead of the competition by including a truly stunning array of capabilities in a single box. Not only was the full 64K of memory user-accessible, but there was a workhorse operating system called the Monitor, with defined entry points for user interfacing, a BASIC interpreter, an assembler, two text pages, two pages each for LoRes and HiRes graphics, and I/O operations tied to memory-resident switches.

We have already looked at the overall architecture, the Monitor, the text and graphic areas and DOS, so now it's time to look at the softswitches. The Apple, having memory- mapped I/O, has the ability to control input and output devices by merely talking to a memory location. This can be done in assembly language with the LOAD and STORE commands, or in BASIC with the PEEK and POKE commands. These softswitches are located in ROM, on page SC0 (bank SE0 page SC0 on the GS) hex, which means that any write operations to the softswitch addresses will not change the values already stored there (Read-Only-Memory, right?). The hardware, however, can detect that the softswitch memory has been accessed, and will treat it in the following way: If the access operation was a read command (PEEK in BASIC or LOAD in assembly), then one access has occurred, and the switch is "thrown" once. If the operation was a write command (POKE or STORE), then two accesses have occurred, and the switch is "thrown" twice. If the switch is a "toggle-type", then two accesses leave it like it was before the operation. If it isn't a "toggle-type", various things can happen.

Technically, this may be quite important. For non-technical types like me, however, it is sufficient to simply learn how to access the switches properly, and leave the theoretical part of it to the engineers. The bottom line is this: since the switches are in ROM, what is passed between the switch location and the user is unimportant. It's the access itself that does the trick. Let's try it. The speaker toggle is located at address SC030 hex (49200, or -16336 decimal). So, a PEEK -16336 will cause the speaker to "beep" (actually, the thing will do little more than a "click" when accessed in this way by BASIC). But essentially, that's all there is to it.

The Softswitch Locations. Some operations are easier to deal with than others. For example, the disk drive motor controller softswitch is not a "toggle" type—instead, you use one switch to turn it on and another one to turn it off. When I discovered this switch, I only knew how to turn the drive motor on. After about a minute of POKEing around, I finally had to turn the Apple off to get the blasted contraption to stop. Later on, I found it—SC0E9 to start the motor and $C0E8 to stop it. You can try this out by typing POKE -16151,1 to start the motor (slot 6 drive 1) and POKE 16152, 1 to stop it.

Other popular softswitches are those dealing with graphics. They can be used like the BASIC HGR, HGR2, GR, GR2 and TEXT commands, but they allow much more flexibility. Here are the graphics softswitches:

FUNCTION	LOCATION		USAGE
	HEX	DEC.	
Text off - display graphics screen	$C050	-16304	POKE with 0
Graphics off - display text screen	$C051	-16303	POKE with 0
Mixed mode off - display text only or graphics only if text screen is off	$C052	-16302	POKE with 0
Mixed mode on - display mixed text and graphics if text screen is off	$C053	-16301	POKE with 0
Select screen 1	$C054	-16300	POKE with 0
Select screen 2	$C055	-16299	POKE with 0
LoRes mode if text screen is off	$C056	-16298	POKE with 0
HiRes mode if text screen is off	$C057	-16297	POKE with 0
Select double HiRes mode (][eonly)	$C05E	-16290	POKE with 0
Deselect double HiRes mode (][eonly)	$C05F	-16289	POKE with 0

Figure 1

According to the above table, the BASIC command "HGR" consists of several softswitch settings. When I enter an "HGR" command, the screen changes to a cleared HiRes screen 1 with mixed text and graphics (text appears in a window at the bottom of the graphics screen). The comparable softswitch settings are: POKE -16300,0 (select screen 1); POKE -16297,0 (select HiRes mode); POKE -16301,0 (select mixed text and graphics); and POKE -16304,0 (display the graphics screen). Using these switches, I can switch between text and graphics by turning the text screen on and off, and not disturb any graphic data already on the HiRes screen (remember that HGR clears the graphics screen, so any previous pictures are destroyed by using HGR and TEXT to switch between text and graphics modes). Similarly, I can switch between HiRes screens 1 and 2 without disturbing the graphics data displayed on them, by using the POKE -16300,0 and POKE -16299,0 soft- switches. In fact, I can select one screen while displaying another—a popular method of creating graphic animation effects on the Apple, done by selecting and displaying a picture on screen 1, selecting screen 2 and drawing on it, displaying screen 2, selecting screen 1 and drawing on it, displaying screen 1, and so forth.

Perhaps the area which creates the most confusion is that of selecting memory areas with memory bank softswitches.

contd.

The case, in a nutshell, is this: the Apple][series (except the GS) can only directly address 64K worth of memory. No matter what the salesman said, the limit of the Apple][is 64K. What happens with extra memory modules, then? The answer depends in part on whether you are using an Apple][+ or a //e. For now, I will confine my remarks to the][+, which is somewhat simpler, but keep in mind that a completely similar thing happens on the //e. Let's take the example of a][+ with a 16K RAMcard (frequently called a "Language Card"). The Apple came with 48K of RAM and 16K of ROM. In anybody's book this adds up to 64K. Add a 16K RAMcard and you come up with 80K—too much. The Apple copes with this by switching one section of memory out and switching another section in. In other words, it's like job-sharing. You occupy your desk from 9 to 5, when you get off, and Joe comes in and sits at your desk and starts to work. Two workers, one job, one desk. In the Apple, we can throw a softswitch, and one bank of memory will be switched into the address space previously occupied by another bank. Therefore, although we can use all 80K of memory, no more than 64K will be active at one time. Seems simple? Well, not quite, because we can get more flexibility than that. We can select bank 1 of memory to write on while we read from bank 2, and vice-versa. Phew! We can also add more banks of memory to the pot. Below is a table which shows (in plain English, which is more than I can say for most technical documentation) what switches will activate what bank of memory for what operation:

FUNCTION	LOCATION		USAGE
	HEX	DEC.	
Read RAM, select RAMcard bank 1	$C080	-16256	PEEK
Read ROM, write RAM, select RAMcard bank 1	$C081	-16255	PEEK twice to write
Read ROM, select RAMcard bank 1	$C082	-16254	PEEK
Read/write RAM, select RAMcard bank 1	$C083	-16253	PEEK twice to write
Read RAM, select RAMcard bank 2	$C088	-16248	PEEK
Read ROM, write RAM, select RAMcard bank 2	$C089	-16247	PEEK twice to write
Read ROM, select RAMcard bank 2	$C08A	-16246	PEEK
Read/write RAM, select RAMcard bank 2	$C08B	-16245	PEEK twice to write

Figure 2

Now that we have looked at the most common of the softswitches, let's see if we can put some of this into practice.

A Musical Softswitch Application. For this application, I wish to thank George Roher, who brought it to my attention. The application included here will allow you to program some tones into the computer and play them back through the internal speaker. Please note that in BASIC, commands are carried out so slowly that the speaker will not produce anything much more than a soft "click", so we must include a short machine language routine as a "driver" for the speaker. This driver comes from the venerable Osborne McGraw-Hill "Apple][User's Guide":

There are several ways of getting the machine language driver into the Apple. From the Monitor, the driver can be entered directly into memory, at the location from which it will eventually be run. Since this is a short driver (26 bytes), it can be safely tucked in at the beginning of page $03 in RAM. To do this, enter the Monitor and simply type in the values:

```
] CALL -151
* 0302:AC 01 03 AE 01 03 A9 04 20 A8 FC AD 30 C0
* 0310:E8 D0 FD 88 D0 EF CE 00 03 D0 E7 60
* 3D0G
```

Next, save the driver onto disk, by typing in:

```
] BSAVE SDRIVER,A$302,L$20
```

which saves 26 bytes of memory starting at location $0302 (770 decimal).

This driver takes a value which we shall place at location 768 ($300 hex) as the frequency of the note, and the value which we shall place at location 769 ($301 hex) as the duration of the note, and tweaks the speaker, pulsing it at the frequency value for the duration specified. The assembly language listing of the driver looks like this:

```
LDY $0301   ; load the frequency into the X and Y
              registers
LDX $0301   ;
LDA #$04    ; this value is pumped into the Monitor
              subroutine "WAIT",
JSR $FCA8   ; which pauses operation for about 110
              microseconds.
LDA $C030   ; this is the speaker softswitch.
INX         ; this command, which loads into location
              $0310, causes the
BNE $0310   ; pulsing of the speaker by looping for
              the frequency value.
DEY         ; this is the outer loop of the frequency
              loop, which causes
BNE $0305   ; the frequency to be re-input into the X
              register within the
DEC $0300   ; loop. The outer loop shell decrements
              the duration value
BNE #0302   ; until it reaches zero.
RTS         ; Then control is passed back to the
              BASIC program.
```

Another way of getting the driver into the BASIC program is to POKE the decimal values of the 26 bytes into memory at the beginning of the program:

```
10 POKE 770,172: POKE 771,1: POKE 772,3: POKE
   773,174: POKE 774,1
11 POKE 775,3: POKE 776,169: POKE 777,4: POKE
   778,32: POKE 779,168
12 POKE 780,252: POKE 781,173: POKE 782,48:
   POKE 783,192: POKE 784,232
13 POKE 785,208: POKE 786,253: POKE 787,136:
   POKE 788,208: POKE 789,239
14 POKE 790,206: POKE 791,0: POKE 792,3: POKE
   793,208: POKE 794,231
15 POKE 795,96
```

The results are the same. However, if you use the first method (using the Monitor), instead of the above lines 10 - 15, you should use the following in your BASIC program:

```
10 D$ = CHR$(4)
15 PRINT D$;"BLOAD SDRIVER"
```

The rest of the program consists of simply setting up the frequency and duration locations at decimal 768 and 769, and passing frequency and duration values to the driver. Here is a sample:

```
20 TEXT: HOME
30 INPUT "FREQUENCY AND DURATION"; F,D
40 GOSUB 1000
50 INPUT "ANOTHER NOTE?(Y/N)";Q
60 IF Q = "Y" THEN 30
70 END
1000 D = 0: POKE 768, D: F = 0: POKE 769,F
1001 CALL 770
1002 RETURN
```

contd.

The hooks from BASIC to the driver are in the subroutine at line 1000. This subroutine puts the frequency and duration values into locations $300 and $301 hex and then calls the driver routine which you have either BLOADed or POKEd into memory at location $302 hex. After the driver returns control to the BASIC subroutine, the subroutine immediately RETURNs to the mainline code at line 50, which checks to see if you want to input another note.

Have some fun with this one, and see if you can modify it to play some songs. If you come up with something, send it in to the Music SIG, and we'll publish the best routines in an upcoming MUSICAL APPLE column.

PI SIG NEWS
by Walter Urban

Bob Golden had to go out of town on the day after the PI SIG meeting on April 6, leaving me to report on the meeting.

At present, our major effort is to learn to program the Apple IIgs, particularly by using a construct called 'shell'. It interprets the user's commands and performs the necessary housekeeping for the user. It may be considered to be an extension of ProDOS 16. We will use a bare bones shell to create a 'plain vanilla' application, that is, one that does not use any of the advanced features of the IIgs. An example of how this can be done is illustrated in the April issue of *In-Cider*. Later with more experience, a more ambitious application using menus, windows, etc. will be attempted.

To accomplish this means that we must have a package such as the Apple Programmer's Workshop (APW) or the IIgs version of ORCA MacAssembler and a language compiler compatible with the Apple IIgs. Since it is suitable, we will use the TML Pascal compiler. Last but not least, a minimum of 512K of expansion memory is required—1024K is recommended.

The May issue of *A+* reports on various memory expansion boards available for the IIgs. Kim Brennan is intrigued by the AST Ram Stak Plus board. This board contains four sockets for EEPROMs (electrically eraseable programmable ROMS) with a capacity of up to 128K, in addition to Ram storage. Your favorite programs can be stored in the EEPROMs. Peter Combes said that this may have application in an educational environment, since once the appropriate programs have been stored, the disk drives may be dispensed with.

Kim is the SYSOP of Board 19, Conference 2, on the WAP TCS. We can use this board to exchange PI SIG technical information, discuss problems, and suggest solutions. Peter urges us to use this board.

Finally, DISK II drives may be chained to the 'smart port' of the IIgs by a suitable connector, such as the one advertised by Applied Services in Columbia. The April issue of the Computer Shopper lists the pin connections for this adaptation.

PASCAL NEWS
by Robert C. Platt

PIG Meeting. Dave Neuman gave an excellent presentation on TDI Modula 2 at the March meeting. The next PIG meeting will be Thursday, May 21 and will cover Pecan's new Modula 2 for the Macintosh. Both newcomers and old hands are welcome. Bring your questions and any programs that you want to share or to receive debugging assistance.

USUS. The UCSD p-System Users Society (USUS) promotes the p-System, including Apple Pascal, across many different makes of computer. The midyear USUS meeting will be held on June 24 at Lake Tahoe in conjunction with the Stride Fair. Contact Hays Busch, 2193 Monane Dr. E, Golden, CO 80401-9125 for details.

Pascal on the IIgs. Kyan Software, Inc. announced its ProDOS-based Pascal for the Apple IIgs. The gs version is a fully validated implementation of ISO Pascal. Kyan Pascal/gs includes a full-screen text editor, native code (65816) compiler, macro-assembler and several utilities. It includes extensions for files, object module chaining, string handling and graphics. Kyan claims to support full access to the IIgs ROM toolkit.

Kyan Pascal/gs also includes KIX, a UNIX-like environment for ProDOS-16. Kyan is not copyprotected and requires 512K of memory.

Pecan's ProDOS hosted p-System has completed beta-testing and is waiting on some IIgs specific documentation before shipping.

A third alternative is ADPA's Apple Programmer's Workshop Pascal which is being distributed in beta form.

The most recent Call-A.P.P.L.E. discusses TML Pascal for the IIgs. Apparently, there is an even better version in the works which will integrate the editor with the compiler to speed programming cycles. The Mac-based cross compiler for the IIgs, although used to implement TML on the IIgs, will not be released as a commercial product in the near future.

Modula-2. As reported last month, I decided to upgrade my Volition Modula-2 to a Pecan version for the Mac. Eli Werner took my order personally and also plugged the following new products: Pecan software is offering three companion products for their Modula-2. The Modula-2 Software Tools (list $99.95) is Dennis Cohen's adaptation of the Kerigan and Richie Pascal tools. The Modula-2 Programmer's Toolkit (list $79.95) includes a UNIX-like shell and associated programs. The Modula-2 Library Source Listings (list $99.95) is the source code for the standard Volition library units. All three can be purchased together for $199.95 or $179.95 for Volition customers.

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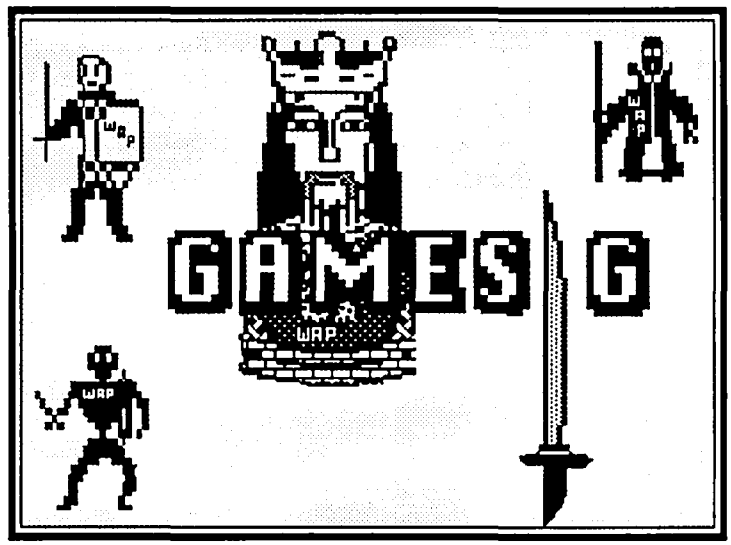
GAMESIG NEWS
by Steven Payne



The regular April GameSIG gathering was more suspenseful than usual, as we waited for Ron Wartow's "mystery guest" who (like Godot) never showed up during the meeting itself (because of travel directions from our chairman emeritus . . . but *read on).* Ron gave his customary "new and forthcoming software" report, mentioning BARD'S TALE and MUSIC CONSTRUCTION SET for the //GS, Doug Adam's BUREAUCRACY from Infocom, and what we can expect from Origin Systems and SSI. Among the packages which Chairman Thomas Johnston passed out for review were:

COMICS (Accolade, Apple // series): three disks of "interactive comics";

INDIANA JONES IN THE REVENGE OF THE ANCIENTS (Mindscape, Mac 512K): all-text adventure in the jungles of Mexico;

BATTLE CRUISER (SSI, Apple // series): recreates surface naval engagements from World Wars I and II, using the WARSHIP game system.

The meeting ended with demos of COMICS, BARD'S TALE II, and REALMS OF DARKNESS. Then came the anxious phone call from our "mystery guest," who had taken the scenic route via Walter Reed Hospital: Rob Sirotek, vice-president of Sir-Tech and member of the founding family from which the company takes its name. When he arrived a half hour later, the remaining GameSIG faithful were able to ask him all sorts of pertinent and impertinent questions (like, "When can we expect WIZARDRY IV and V?") before treating him to dinner (where the conversation turned to such deep issues as whether gamers want more graphics, whether the fantasy/role-playing games are getting too large for the mapping required, and "When can we expect WIZARDRY IV and V?"). Thomas Johnston was delighted to learn that Rob Sirotek is a "flight simulator" fan; Tom also wants you to know of Richard Sheffield's new book, *Jet Fighter School: Air Combat Simulator, Tactics and Maneuvers* (Compute! Books, 1987), which will be reviewed in a future issue. In the current issue, you will find GameSIG reviews of DARK CASTLE, DEEP SPACE, GEMSTONE HEALER, HOLLYWOOD HIJINX, MARBLE MADNESS, MOONMIST, PHM PEGASUS, RING QUEST and WORLD BUILDER. The next regular GameSIG meeting will be at 7:30 PM in the WAP Office on May 7. See you there!

DARK CASTLE: A Review
by David L. Porter

DARK CASTLE by Silicon Beach Software (Mac 512K or larger, $39.95 list): Hmmm . . . open the box . . . two disks, that's nice . . . no instructions, though—wonder if they forgot them ... no wait, here they are on this little card: (1) make a duplicate then put the originals away—I like that; (2) put the disks in and turn the Mac on. Seems a little sparse for a user's manual, but what do you expect for a bargain price . . . do step 1—no problems . . . do step 2 and

SUDDENLY,
THE ROOM SHAKES WITH
THUNDER

(my daughter left the Mac hooked to the stereo and the volume on high). Calm down, heart . . . this is only the title page . . . (meanwhile the organ plays an eerie entrance for Boris Karloff) . . . click and move on . . . ah! on-line instructions—read, read, read—select the PLAY button . . . the draw bridge creaks open, and you are entering into the world of DARK CASTLE, never to return.

DARK CASTLE is an arcade-style game. Like the best of the arcade games, it has graphics to watch, sounds to distract you, multiple levels, multiple controls, and action, action, action. The story is that the evil black knight lives in this castle and your quest is to enter and defeat him, succeeding where others have failed. To do this, you must not only survive his minions and infested castle, but also collect certain items that will be useful later. When you enter the Dark Castle you are confronted with four doors. The first two will take you to one of the first two problem areas; but you cannot tell which beforehand. The third one takes you to a harder problem and the fourth to the final confrontation with the Black Knight. You control yourself with the following command keys: Left, Right, Up, Down, Jump, Duck, Do it. This last is called the Action key. It is used to get anything or to employ some non-weapon. What happens exactly depends on where you are at the moment and what is in your possession or nearby. The mouse is used for aiming and its button for the actual employment of a weapon.

The game has many positive aspects. To quote from the box, "Dark Castle is a fast-paced, arcade-style action game in which you control the movements and actions of the hero as he battles his way through the Castle. It features Real-Sound™, which you have to hear to believe! The stunning

contd.

graphics and smooth animation will take your breath away." Coming down from that peak of advertising hype, let me say that this is not overstatement. The graphics truly are outstanding, both in the detail and the quality of the animation. The sounds are equally wonderful. Even with the Mac's small monochromatic screen, this game would be a moneymaker on the quarter circuit. There is lots of action, all going on at once. The game employs the Mac interface well. All documentation is on-line. All action command keys on the keyboard can be reprogrammed for left handers or anyone with a personal preference. The mouse movement aiming command can be interpreted from either a horizontal motion or a vertical one, at the user's option. There is much humor scattered throughout the game in its sounds and actions. For those who delight in reference-checking, the graffiti on the walls reference other arcade games. Plus, all your favorite scenes from other games seem to be there in one form or another. Additionally, the game has three levels of dificulty: beginner, Intermediate and foolhardy (innocently labeled "advanced").

On the negative (dark?) side, it did fall a bit shy of perfection. First, I found the command structure a bit awkward. The hand on the keyboard has seven functions to perform. That is two more than the number of fingers I have on that hand. Even rearranging the command keys provided no real relief. They could have saved two buttons if they had put movement control under the command of the more flexible mouse and the up/down aim point adjustments on the keys. This would have also given a better hand-brain connection because the moving hand would control the moving character. Second, the game has no pause and no save features. This may be OK for quarter eaters that are there primarily to make money, but I think the home environment has different needs which must be answered if one is to spend time on one's computer. Third, there is a perceptible lag in the key press/release and the expected action. This is probably a result of the single processor being overloaded by the large amount of action and quality animation occurring. I tested this on an upgraded-to-512K Mac. Faster chip/clock versions may not have this problem at all. These first three problems should be noted but should not prevent anyone from buying the game. The last problem bears some consideration: I was bored, amused but bored. How could I be bored with such a GREAT GAME? Simple: I'm jaded. The game was just *too much* of a revisit of other games. To be fair to the game, I showed it to other gamers and talked to other people that had played it. Out of about 25 people, I only found one other that even had a slight feeling the same way. The rest doubted my sanity. This leaves me in what is known as a "statistically insignificant" minority.

Overall, if you like arcade games, if you think you might, or if you can't rule out the possibility that you might in the future—go buy a copy of DARK CASTLE. Shop around a bit because I have seen as much as a 40% difference in the price. Unless you really get robbed though, you can't beat the price value.

RATING: (Good/Neutral/Bad)
Overall: **Good**
Mac Interface: **Good**
On-Line Help: **Good**
Documentation Content: (no external documentation)
Product Physical Quality: **Good**
Presentation: **Good**
Performance: **Neutral**
Price Value: **Good**

DEEP SPACE—OPERATION COPERNICUS:
A Review by Jeff Malka

Sir-Tech's new release **DEEP SPACE—Operation Copernicus** (Apple // series, 64K) is a shoot 'em up game set in space. The nasty insect-brained Adromedans have invaded our mining outposts and you're out there in your Katana fighter to win one for the gipper.

One of the best features of this game is the package it comes in. You get a fold-over manila pouch marked "classified," "top secret," etc., and sealed with the Presidential seal for the solarian sector. Inside you find a memo (classified Security Level, for your eyes only) from the C-in-C of Terran forces, a letter from the president (on manuscript-type paper, no less), a "background intelligence" collection of newspaper clippings (30 pages worth) bringing you up to date with the present situation and the usual docs. Through these news clippings which include interviews with ace pilots, you get hints to allow you to prevail in combat. One neat hint: if you're outnumbered and in trouble, turn tail and run. As the enemy ships pursue you, abruptly put on your retrorockets to slow down, causing them to overshoot you and exposing their unshielded rears for you to shoot them down rapidly.

The graphics are spectacular, with brilliant colors and special effects. The screen is filled with an out-of-the-windshield view similar to the one in SKYFOX, but with added features such as right and left dashboard views (as in JET), hull damage estimates, etc. For combat you have lasers or missiles. The missiles (good whoosh sound) cause the enemy ship to break into pieces on screen when hit, and the lasers make them catch fire, slowly destroying them. Various systems can break down and you get estimates for repair time. Shield power varies and you lose the shields if you run out of fuel (where's Scotty when you need him?), adding to the realism. Hyperdrive gives you warp speed to jump around the galaxy.

There are four missions to pick from. In "Outpost" you land on asteroid outposts to pick up uranium shipments while fighting off the Andromedans. In "Escort" you protect an unarmed and slower diplomatic vessel on its way to its destination. In "Plague" you destroy cannisters of deadly bacteria and return to base. In "Invasion" you're facing planet-busting Sword cruisers as well as the usual enemy fighters. You have ten minutes to destroy a cruiser before he blows up the planet.

The game is fun, but it is boringly easy to shoot down the enemy ships (must be the insect brains of their pilots). Landing on the asteroids or planets for repairs is fun. The

contd. on pg 33

GEMSTONE HEALER: A Review
by Davy Hakim

GEMSTONE HEALER (SSI, Apple // series) is a direct continuation of GEMSTONE WARRIOR. In GEMSTONE WARRIOR you had to pick up 5 pieces of the Gemstone and get out of the underground caverns where it had been hidden. But, unfortunately the Gemstone is flawed. It must be healed before it will have its powers restored. To heal it you, the adventurer, will have to reenter the caverns once more, split the Gemstone into its component pieces, heal them separately, and put them together. This is the goal of GEMSTONE HEALER.

To reach the first goal of splitting the gemstone, you must find a hammer and chisel. The pieces are then split on an altar. Once done, each piece is carried around with you and separately placed on altars distributed through the caverns. To heal each piece you need special tools. There are 25 in all; proper combinations of 5 tools each are described in a series of scrolls which you must find.

All the action takes place in a series of caverns which you generate on a blank disk. New games played from the same generated caverns have the same visible and secret entrances and exits. Cavern color and the shapes of the doorways do vary game to game. The distribution of monsters, crypts, chests and altars can vary within a room. Although there are only a few kinds of monsters, they can be quite tough to get around or to kill, especially if several come at you at once, from different directions.

I have moved the adventurer around using a joystick set to normal mode (some functions remain keyboard functions). You can also move entirely by keyboard or using a joystick in expert mode. The caves have irregular walls and internal dividers that may make it hard to maneuver, especially when you are being chased by monsters.

Items can be found in chests, or on dead monsters. As in GEMSTONE WARRIOR, these include weapons, along with various potions and protections. Unique to this game are the scrolls and the tools needed to heal the gemstone. The scrolls can be read once you have picked them up. After reading they disappear. In each game the scrolls will be in different places. However when you find them they always provide the same information in the same order. That is, the first scroll you find always has the same contents, and so on. The scroll gives you the clues necessary to win the game, such as which tools are grouped together.

This game is a real-time adventure, that in normal mode is best played with a friend (one on joystick, one on keyboard). The good points about the game include: 1) the enjoyment gotten from a real-time adventure (there is a real sense of action to this game); and 2) the sense of accomplishment you get as you progress through the caverns. Both the joystick and the keyboard based actions are well thought out and easy to accomplish. The game can be played as beginner, average and kamikaze levels, giving us all a chance to win.

There as some things about the game which can be frustrating: In each new game, objects to be found are newly hidden among chests and monsters. The balance between which objects are easily found, and which are not, always shifts. In some games scrolls are found early, and you then know what to do. However in the same game, the tools needed to heal the gemstone are tough to find. Sometimes it is the other way around. Also there is a dagger, to help you find hidden doors. Daggers only last for a short time, and I can never find enough to make the job easy. Without a dagger you can bang on walls, seemingly forever, before you get lucky.

I recommend this game for adventurers with arcade skills. Happy survivors of GEMSTONE WARRIOR, especially, will find GEMSTONE HEALER enjoyable, as it is a more comprehensive game, but one which retains the same gaming flavor.

MARBLE MADNESS: A Review
by Ian Soboroff

MARBLE MADNESS is a new game by Electronic Arts, a computer version of the arcade hit of the same name. It runs on a 128K Apple //e, //c or //GS, but will not run in 64K, since it uses double hi-res graphics. Color strongly recommended!

Rumor has it (or at least the package) that this game was inspired when an arcade version was received at Electronic Arts, and from there they licensed it for the computer version. Whether this is true or not, the computer version is a very close adaption of the original. The same screens, animation, music and sound are included. You can play with one or two players.

The Apple version has (at least) six levels, including Beginners, Aerial, and Silly mazes. The animation is very well done and smooth. The sound effects include the sounds of marbles bumping into each other, falling off walls, smashing into the ground, bumping into the walls, etc. Most of the music is very good—no surprise since the game was written by Will Harvey (a la MUSIC CONSTRUCTION SET)—but only plays at the beginning of each screen, instead of during the game as in the original.

Controls can be either joystick or keyboard, and can be a bit frustrating at times, because you are moving the controls on a two-dimensional plane, while the game is in 3-D. Nonetheless, the game very enjoyable, and extremely addicting, because each time you play, you get a little farther, and it is hard to stop.

Seeing this game played (or playing it, for that matter) in color is a real experience, because the graphics are in 16-color double hi-res graphics. MARBLE MADNESS is fun, not to mention addictive (or did I . . . ?) for both young and old, and well worth buying. I give it a 10 out of 10.

contd.

HOLLYWOOD HIJINX and MOONMIST: Two Reviews

by Charles Don Hall

HOLLYWOOD HIJINX (Mac and Apple // series, $39.95 list) is Infocom's newest text adventure, a fairly straightforward "treasure-hunt" game in the tradition of ZORK I. It seems that your uncle, Buddy Burbank, King of the B-movies, passed away several years ago. When the game opens, his widow, Aunt Hildegarde, has also died. You have a chance to inherit their entire fortune—but you must first prove yourself worthy by finding ten props from Uncle Buddy's movies in twelve hours. These props are hidden on the grounds of Uncle Buddy's Malibu estate, and needless to say you'll have to solve a puzzle or two to get them.

One thing you quickly notice is that the room descriptions often make reference to your childhood experiences on the estate, and, in particular, to your experiences with your nasty cousin Herman. It shouldn't take you long to start wondering if there's a connection between Herman and all the mysterious noises you've been hearing, such as footsteps in other rooms, muffled thuds, heavy objects being dropped . . . .

The puzzles are among the best I've seen in a long time. My favorite involves getting into the attic. I don't want to give anything away, but I can tell you that you'll *never* get into it by trying things at random. You have to sit back, think about what you want to do, what tools you have available, and what you can do with them. When you finally make it, I can guarantee that you'll feel like you've really accomplished something. Another of my favorites involves getting the treasure which is under an unbreakable dome. Also under the dome is a scale model of Tokyo, and the remote-controlled star of "Atomic Chihuahuas From Hell." There are also a few other puzzles in the game that are almost as much fun to solve as these.

Unfortunately, they're partially canceled out by some truly awful puzzles involving two locked safes. You're not going to find any slips of paper with the combinations written on them. The combinations are coded in the descriptions of objects; that means that every time you see anything that you can translate into numbers, you have to see if those numbers will open a safe. The first combination isn't too hard to find, but the second is a real killer. In the "unfortunate puzzle" category, I'll also have to mention what is easily the largest maze in any Infocom game. It takes more than 100 moves to get through it. It's so tough that you can't navigate it unless you've found the map.

Included in the packaging is a Lucky Palm Tree Swizzle Stick, *guaranteed* to find hidden valuables lost by the previous owners of your house. (It's a good thing there isn't such a swizzle stick in the game, because you could find all of the treasures with it in no time at all.) You also get an autographed photo of Uncle Buddy and a letter from Aunt Hildegarde. Don't just stuff those back in the box and start playing, because you'll never get past the front door unless you've read them. The documentation is in the form of a Hollywood gossip magazine, and contains some background information on Uncle Buddy's movies (such as "Slash 'n' Chop Sock Hop" and "Atomic Chihuahuas From Hell").

MOONMIST (Mac and Apple // series, $39.95 list) is Infocom's other new release, an introductory-level mystery game patterned after the Nancy Drew books. You're a junior detective, summoned by your friend Tamara to solve the Mystery of Tresyllian Castle. It seems that a few attempts have been made on Tamara's life, and that a ghost is haunting the castle. Moreover, it is rumored that a treasure is hidden somewhere on the castle grounds. You therefore have to arrest the murderer, identify the ghost, and find the treasure.

The game is unusual in that it has four separate plots. When you first enter the castle, the butler asks your favorite color. Which plot you get depends on what your answer is. Each plot has a different treasure, a different murderer, and a different ghost.

Now, I've never played an Infocom mystery that I liked, and this one is no exception. I gather some people enjoy them, but I find the absence of puzzles makes them dull and unchallenging. Basically, what you have to do to win MOONMIST is to go through every single room, searching for important items. If you've searched everywhere and not finished, then that means you're playing the dreaded "Red" plot, which means you have to do the other thing I hate about these mysteries: pick a location and wait, and wait, and wait, until finally something happens. At least you don't have to ask every character about every other character like in the other mysteries. You can ask them about the ghost, but there isn't much else that they'll talk about.

But an even bigger complaint is that the software is S-L-O-W. *Really* slow. Much slower than any other Info- com game. Almost every time you enter a command, the program reads the disk, and continues to read the disk for quite some time. (This is on the Apple II; it might be faster on the Macintosh, but I haven't tried it.) After a while, just walking from room to room starts to seem like some exquisite oriental torture. And there are four plots, which means you have to scour the *whole* castle, top to bottom, *four* times, because the clues are in different rooms in each plot. I found the program so slow as to be unplayable. Fortunately, some masochist sent the complete solution to QuestBusters newsletter, so I finished all four plots. My reaction was, "Thank God it's over."

Bottom Lines: HOLLYWOOD HIJINX is one of Infocom's better games. The puzzles are solveable but challenging, and unusually well designed. It isn't for novices, but anyone with a small amount of experience with Infocom's other games should enjoy it. I'd give it an 8 out of 10.

MOONMIST—well, if you don't like Infocom's other mysteries, I can promise that you'll hate this. If you like those mysteries, you might enjoy it, but be aware of how slow the software is. I'd advise booting it up in the store before you buy it, so you can see just how slow it is. Be sure to use that SEARCH ROOM command a few times, because that can take *forever*.

contd.

PHM PEGASUS: A Review
by Reid Hutchinson

You are foilborne at a crusing speed of 50 knots, the new Commanding Officer of the PHM (Patrol Hydrofoil Missilecraft). You are a top graduate from Annapolis and a member of TAG (Terrorist Action Group), part of a NATO Force which has resources to obtain one of three types of hydrofoils: the United States PEGASUS Class, the Italian SPARVIERO Class, or the Israeli FLAGSTAFF II Class.

Your present objective is to seek and destroy terrorist vessels that attacked a seaside resort. Witnesses estimate between seven to ten terrorist vessels were involved in the attack. Your FLAGSTAFF II is armed with a 76mm Oto-Melara cannon, six Harpoon surface-to-surface missiles (SSM) and two Gabriel SSM's. You radar has picked up three vessels at the range of 40 miles; the targets have been identified as two Fast Patrol Craft and one OSA Fast Attack Missile Craft. You launch a Harpoon at the OSA and decide to close within five miles to tackle the Patrol Crafts; your radar warns you that three SS-N-2A Styx SSM's (Russian-made) have been fired and have locked in on your vessel. You prepare to fire your Mark 34 Chaffroc (chaff) to deflect the SSM's. The Styx SSM's can now be seen at 2.5 miles and closing fast. You fire your chaff and hope . . . .

Such is the play of PHM PEGASUS, the hydrofoil simulation from Lucasfilm Games, distributed by Electronic Arts. From the start of the scenario to the completion of the mission (if you make it), this is an excellent *simulation*. To call this a game would be a gross error; it requires both strategic and tactical ability. The graphics are three-dimensional with solid fill-colors and full color maps of the operation area (such as the Persian Gulf, the Eastern Mediterranean and the Gulf of Sidra). You have full control of the SH-60B Seahawk and the SH-2F Seasprite search Helos and Convoy ships, and 8 real-life missions (like the one described above) to choose from.

The simulation is commanded by the use of keyboard, with or without the use of the joystick. The joystick can be toggled with the space bar to maneuver the hydrofoil or to aim and fire weapons. When firing the 76mm cannon, the fire control computer shows you how to adjust for each missed shot. You can toggle back and forth from the operations map to the Bridge of the hydrofoil. When the mission becomes tedious you can increase the simulation time rate up to 128 times (except make sure you return to normal time when in combat or you will not have time to react to the incoming fire).

On the Bridge view, you have a forward view of the ocean, your weapon selection, speed, and damage status. As you move the joystick to start a turn, the horizon tilts to give a very realistic effect. The radar can be adjusted to various ranges from 40 miles to 2.5 miles. Each target is individually selected, and seen in a Binocular View to distinguish the ship type; vessel spotter cards are included to enhance recognition skills. Damage Control is shown by the use of an outline of the hydrofoil with various systems being displayed. As damage occurs to various systems, the colors change from yellow (for light damage) to red (for heavy damage). Also the various systems will be affected. For example, on the 76mm Cannon, light damage may cause the gun to misfire, while heavy damage will disable it.

As a Navy man, I thoroughly enjoyed this simulation. The effects of over-the-horizon warfare are chilling, to say the least, since you can destroy or be destroyed by an enemy that you never see, save for the missile that is speeding towards your ship. Also--what I thought was a cute touch--the game disk was in the color of HAZE GREY.

Final evaluation: 4.0 (in lay terms, SUPERB!).

RING QUEST: A Review
by Forrest Black

Origin Systems has come out with one for devout adventurers and beginners as well. The back of the box says: *The Ring of Chaos has possessed the enchantress Lisa and threatens the very fabric of the universe! Unless it is reunited with the Ring of Order, life as we know it may come to an end. The Ring of Order has now found its way into your hands . . .*, and you better believe it.

RING QUEST (Origin Systems, Apple // series, 64K) is the sequel to THE QUEST, in which you seem to have accidently given Lisa the ring of chaos. RING QUEST is a graphic adventure with about 60 locations, not including a 99 location maze of "precarious walkways." Also, there are two optional arcade-style "skill games" to test your skill and endurance. These games, Cliff-Climber and The Flyer, may be turned off if you're not in the mood for punishment. There are over 80 beautiful color illustrations, many of which are semi-animated to add realism.

The documentation is very good; you get a player reference card, a Geographic Map of the land you will be travelling, an erasable marker to map the many paths on the Geographic Map, and a very interesting "choose your own adventure" style story book that gives you some insight into the plot of the game. The Reference Card explains how to use the features, including saving/loading, quitting, mapping, starting, communicating with the game, and some others. All this plus the double-sided game disk is contained in the remarkably colorful box that has come to be expected from Origin Systems.

Gorn is your companion, whom the writer has cleverly used to regulate your commands; what I mean is that if you typed "kick the dog," Gorn would tell you that this is not appropriate or that there may be a better way. Othan than that he serves little purpose except to drink all your water. The

contd. on pg 33

WORLD BUILDER: A Review
by Steven Payne

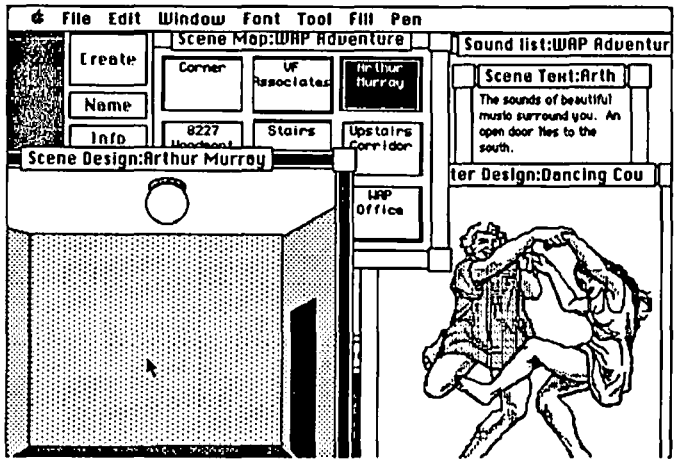
You've probably already seen the detailed and admiring reports in *The MACazine* (January 1987), *MacUser* (April 1987) and elsewhere. Now the WAP Journal adds its voice to the chorus of praise. If you've ever finished a computer adventure with the dissatisfied feeling that the game plot and graphics could have been better, or wishing that you could design one yourself, this program is for you! WORLD BUILDER (Silicon Beach, Mac 512K or better, $79.95 list) is essentially a construction set which allows you to create an almost unlimited variety of stand-alone adventure games, incorporating not only graphics and text but sound effects as well. These independent applications will run even on a 128K Mac, and can be sold, rented, shared or distributed however you wish—as has happened already with "Radical Castle," "Zoony," and the more recent "Deep Angst" (described as "the greatest Mac program ever" by our totally impartial GameSIG Chairman emeritus).

The WORLD BUILDER disk includes not only the construction program itself but also a demo "world," a blank "world template" in which to edit your masterpiece, and a utility which will convert sounds digitized by *MacNifty* for use in your application. The package comes with an 87 page manual describing how to construct or modify games, with individual scenes, characters, objects and sounds. Each of these is represented by its own set of windows on screen. The scene window, for example, allows you to create, name and map out up to 2500 locations (50 x 50). In the scene data windows you can specify which exits are open or blocked, and what sound occurs upon entering a room. In the scene design windows you can use simple and familiar graphics tools (rectangle, round rectangle, oval, polygons, freehand, bit boxes) as well as fill and pen menus, to draw the setting and even edit individual pixels; less artistic folks, like myself, can also cut and paste clip art, graphics, and digitized images from other applications.

The individuals and items populating your imaginary world can be drawn in the same way in the character and object design windows. The six "character data" dialogue boxes allow you to determine a selected character's attributes, including name, sex (he, she, it), physical and spiritual hit points and strength, the likelihood in combat that the character will fight, flee, accept or offer a bribe, the location(s) in which a character will appear and the sounds that accompany battle. Similarly, you can specify an item's name, owner, type (armor, regular or magical weapon, mobile or immobile object), damage potential, accuracy, number of uses, magical effects and so on.

With these features alone you can already create a full-fledged, if rudimentary, game, since a good deal of the standard programming is supplied automatically. What makes WORLD BUILDER such a flexible tool, however, is that you can also edit the game to respond—scene by scene or as a whole—to a vast array of special commands and actions, using a simple, easy-to-learn programming language similar to BASIC. (Thus, the code **IF{court order=PLAYER@} THEN MOVE{bureaucrat}TO{STORAGE@}** would allow a player to banish the dreaded bureaucrat once a court order is in the player's possession.) Even the menu options in the game can be easily modified, throughout or for specific locations.

To give some idea of how it works with a silly example, suppose you are designing an adventure where the object is to make it to the WAP Office at 8227 Woodmont Avenue and renew your yearly membership (after an endless search for that elusive parking space and a perilous journey over the crosswalk). Imagine further, for one of the puzzles, that you must get the necessary cash from a prominent TV evangelist or politician you happen to encounter taking Charleston lessons at Arthur Murray's while supposedly on a fact-finding mission elsewhere. We can even imagine that he will inadvertantly injure (and eventually kill) you with his wild kicking unless and until you get his attention with your camera (found in the photo shop downstairs), after which he will offer you "hush money" and disappear. Figure 1 shows what the Mac screen might look like (with a little rearranging) once you begin to construct the game; the room here was drawn using the graphics tools, the text typed in, and the dancing couple taken by "cut and paste" from CARD SHOPPE (they will appear in the room, accompanied by flute and drum sounds borrowed from ENCHANTED SCEPTERS, when you enter "Arthur Murray's"). Other scenes can be developed in a similar way. In fact, there is virtually no end to the refinements you can add (too numerous to mention in this review).



Complaints are relatively minor. You cannot create "plural" monsters, for instance (only he, she or it—not "they"). Also, the program turned out to be a bit trickier to learn than I at first suspected. I had a little trouble with the "cut and paste," for example, since WORLD BUILDER seems to divide large imported images into a series of adjoining bit boxes into which the scene's background "fill patterns" tend to bleed; maybe I just haven't perfected my skills with the graphics tools. *MacUser* argues that Silicon Beach really ought to provide support on writing actual scene code, since it is a true programming language. Ron Wartow (famed author of "Deep Angst") notes that there are no keyboard equivalents for some of the more common commands, and no way of

contd.

printing out all the game coding at once for proofreading (you have to do it scene by scene, which is tedious).

Nevertheless, WORLD BUILDER is a great program. Though it won't yet allow you to create anything as sophisticated as DEJA VU or UNINVITED, you could easily develop a rough sound-and-graphics equivalent of ZORK I or the original Adventure game. And Silicon Beach also recommends it for the construction of scene-oriented training programs (has anyone used it for this yet?). The documentation, performance and Mac interface are very good. I highly recommend it, especially if you can buy it at a reasonable price.

Deep Space contd. from pg 28

three levels of difficulty bring on more enemies before you can terminate your mission, but do not make them harder to fight, so the game gets a bit dull after a while.

In summary: graphics—excellent; docs—cute and ingenious; game playing—nice, for a while.

Ring Quest contd. from pg 31

parser is good; it can take multiple word commands and has a large vocabulary with plenty of synonyms in case you can't come up with the exact wording. Also, it can take a long string of commands separated by commas. This saves considerable time when you know exactly what you want to do.

Before I played RING QUEST, I wasn't really into this type of game, but it has awakened me with its enigmatic puzzles and intriguing plot line. I was very pleased with the quality and depth of this product. I would recommend it to anyone who feels up to a challenging adventure. On the overall scale it weighs about 8 out of 10.

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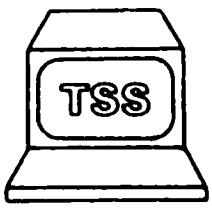

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The Musical Apple

.....by Raymond Hobbs

Putting It All Together.

In this series of articles, I have examined the various elements of computer-assisted music synthesis—the synthesizers, the computer, the MIDI interface, the sequencer, the instrument sound editing process. In this article, I will put together an imaginary music synthesis system, including a brief description and comparison of alternate choices for each component part. Dispensing with my usual rhetoric, here we go:

1. Synthesizer: This is the heart of the system—it generates the sound itself. Synthesizers come in all sizes and price ranges, but those usually found attached to home systems cost from $500 to $1500, have 8 voices and a 61-note keyboard. My choice for the person just beginning to explore music synthesis is the Casio CZ-1000, costing about $300, with 4 voices and a 61-note keyboard. Although cheaper synthesizers are available, the CZ-1000 has enough capability to allow the beginner to fully explore the possibilities of synthesis, at a very reasonable cost. In the mid-levels, I'll still stick to the Casios, this time with the CZ-1, 8 voices and a full-size keyboard, costing just under $1000. For the top end, the standard is the Yamaha DX-7, which has proven staying power and whose price is going down to about $1200, due to the introduction of the DX-7-2, a major upgrade at about $1900. For sampling synthesizers, I've heard a lot about the new ones from Roland and Casio, but all I've played around with is the Ensoniq Mirage, which has a huge following both of afficionados and software support. It still gets my vote, at about $1500.

2. Computer: The computer itself generates no music (you may think of the Apple IIGS as a computer-plus-synthesizer-less-keyboard), but rather stores and allows manipulation of musical data. Any computer will work in a MIDI environment, although most of the high-powered software seems to be written for the Macintosh Plus or extended 512. No vote cast here.

3. MIDI Interface: MIDI is like a highly specialized network. The MIDI interface controls the serving of data between the system controller (the computer) and the workstations (the synthesizers). MIDI interfaces may have single input and output, or multiple I/O ports. I recommend spending the money to support multiple I/O on this component, since the interface dictates the expandability of your system. MIDI interfaces cost about $100-$250. Check to make sure that the interface will work with your computer before plunking the money down on the table. For the Apple, I would probably go with the Passport interface at about $125, and for the Mac, I would go for the Southworks interface at $150.

4. Sequencer: The sequencer acts like a tape recorder for your songs. You play, it records. You play back, and your synthesizer acts like a player piano. Sequencers vary greatly in functionality and price. At a minimum, you should demand the ability to edit musical data that is recorded. Although, as I mentioned, prices do vary, you should expect to pay from $100 to $400 for a sequencer, depending upon the features you get. Some sequencers lack great editing capabilities, but are designed to work harmoniously with dedicated and powerful music editor programs. Mark of the Unicorn's Performer and Professional Composer packages are designed this way. Expect to pay about 50% more for such a combination. Conversely, there are pure editor packages, such as Music Construction Set and Concertware, which have no facilities for recording music, but have full editors and playback capabilities. If you opt for this less expensive (under $100) route, make sure that the package supports MIDI, or you may wind up with a full musical score and a mute synthesizer. My choices are Dr. T's Music Software for the Apple II (about $100), and Total Music (about $400) for the Mac.

5. Patch Editor: The patch editor is a side option, since virtually all synthesizers have patch editors built into them. The patch editor is a software package designed to allow you to modify waveforms, envelopes, vibrato, tuning and so forth for your instrument patches. They generally cost between $75 and $400, depending upon the complexity of editing the sound source (sampled sounds and DX-7 patches are more complex than the others). Also, Apple editors are usually cheaper than Mac editors. Here is a sampling of Computers and Synthesizers, with average prices of their respective patch editors:

Apple/Yamaha DX-7	: $145	Mac/Yamaha DX-7	: $180
Apple/Casio	: $120	Mac/Casio	: $180
Apple/Roland	: $120	Mac/Roland	: $100
Apple/Korg	: $120	Mac/Korg	: $100
Apple/Mirage	: $210	Mac/Mirage	: $400

6. Patch Librarian: If you have a patch editor, then the patch librarian is probably already built into it. The patch librarian's job is to store, organize and retrieve instrument patches and load them to or dump them from the synthesizer. Patch librarians make a lot of sense (assuming you don't have a patch editor) if you're going to do a lot of switching of instruments on your synthesizer, or if you want to create hundreds of different instrument sounds. Allow about $50-$100 for a librarian, depending upon the computer and synthesizer you have.

Hooking It Up.

Here is a step-by-step checklist for hooking up a music synthesis system:

1. DISCONNECT THE POWER FROM EVERYTHING!

2. Connect the "To Computer" port on the MIDI interface to a serial port on the computer (a serial port is any modem or serial printer port). Follow the manufacturer's instructions on slot selection. If there is no recommended slot, pick your own, but stay away from dedicated slots such as 0, 1, 3 and 6.

contd.

3. Connect the "MIDI Out" port on the synthesizer to the "MIDI In" port on the interface (some synthesizers have only a "MIDI Out/Thru" port. Use that.

4. Connect the "MIDI In" port on the synthesizer to the "MIDI Out" port on the interface.

5. Connect the "Audio Out" port on the synthesizer to an amplifier.

6. At this juncture, you may play the synthesizer.

7. Install your sequencer software on the computer. Follow the directions that come with the package. If you are asked for the clock rate on your interface (500Khz, 1Mhz or 2Mhz) pick any one. If it's wrong, no harm will be done—the system won't work, and you will just have to pick again until it works properly.

8. Install the Patch Editor or Librarian, if you purchased one.

9. Make sure that your synthesizer is turned on, then start your sequencer program (some sequencers will "hang" if they can't detect the synthesizer at startup time).

10: If something goes wrong (the system doesn't work):

a. This sounds trite, but make sure that everything is turned on, and that the synthesizer and amplifier volumes are turned up.

b. Check to make sure that "MIDI Out" on the synthesizer goes to "MIDI In" on the interface, and that "MIDI In" on the synthesizer goes to "MIDI Out"on the interface.

c. If you were asked for a clock speed by your sequencer program at startup time, try changing it by re-booting and picking another speed.

d. Make sure that your MIDI channels agree. Set both the synthesizer and the sequencer to send and receive on MIDI channel 1.

e. If all of the above fails to correct the situation, there is probably something wrong with one of the components.

Have a good time with your music system, and if you have any questions, contact the MUSIC SIG or write to the editor with your question.

WAP Tutorials contd. from pg 85

sources for hardware and software; and demonstration of communication programs including: Point-to-point, Mousetalk, and DCom 3.3 (a shareware VT100 simulator.) Do not bring your computer.

"Introduction to Postscript Programming" - *Ron Moore* - Monday, June 1, 7 p.m. - 9 p.m. Postscript is the programming language which the Macintosh uses to describe pages to the LaserWriter. Although Postscript is generated automatically by word processors and page layout programs, writing your own Postscript routines can be useful to insert special graphic effects into LaserWriter output. Unfortunately, WAP does not own a Laserwriter or other Postscript device, so we've made arrangements with Artform Communications to offer a one-evening course in Postscript programming at their offices located on Thomas Jefferson Street two blocks south of DuPont Circle. We have arranged for WAP members to take this course at the usual $15 rate. Contact Artform directly at 202-331-7423 to reserve a place in the course. (Please do not call the WAP office.)

MUSIC SIG is a special-interest group dedicated to music lovers. We use all software and synthesizers, and run on Apples, Ataris, Commodores, IBMs and Macs. Our meetings are held on the second Saturday of each month, in the early afternoon. Call me (490-7484) or Gary Larson (337-4267) for meeting place and time information.

Our April meeting was held at the Public Library at White Oak, Maryland. We inaugurated a bulletin board for exchange of music information, limited to MUSIC SIG members, and the performing team for the April WAP meeting gave us a preview of the music to be presented. The amount of music that a half a dozen synthesizers can create at once is incredible! In addition, we got to hear individual performers playing some of their favorite pieces.

The next meeting will be held on May 9 at 1:00 P.M. at the Dolly Madison Public Library in McLean, Virginia. Call for directions.

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THE BEST OF THE APPLE ITEMS FROM TCS
by Lou Pastura

Ilgs Communications
RICH MLODOCH ON 03/08
I got a cable that works at Clinton Computer ($29!!). I was assured that the cable they gave me is identical to the MAC-> Imagewriter cable. Pinouts are in the latest issue of Computer Shopper and were posted on the Ilgs Hardware board.

GREGORY KING ON 03/09
I'm presently running MouseTalk on a Ilgs with the Avatex modem (not HC) using the modem port with no problems. There are a few things you need to do. 1) Use ProDos 1.2 or higher (also known as ProDos 8). This enables the built-in ports. 2) Make sure that you are using the gs to DB25 MODEM cable (I believe that the pinouts are slightly different). 3) When using MouseTalk, I used the "Generic Smartmodem" configuration. I hope this helps you out.

Dropped Characters
TOM VIER ON 03/15
Your software is not keeping up with the incoming characters during screen scroll. It is caused by the following: •You have an un-enhanced //e. The scroll routine in the 80 col firmware is too slow and disables interrupts for too long. •Your serial card does not have interrupts enabled. Your software doesn't use handle interrupts. You can add nulls to every line with most BBSes, but to correct it at the source is better. Enhance your //e or get a program with it's own screen driver (i.e. AE Pro) for the //e. Also check to see if you have interrupts enabled on your serial card. Could be just a switch or you may need a jumper.

ALLAN LEVY ON 03/16
You may find that clear screen loses characters. I think you may change the clear screen characters to <CR> and the BBS will not clear screen and will scroll.

DCom3.3
ALLAN LEVY, ON 03/08
DCOM3.3 has been added to the library disketeria (Disk 503) and should be available to all at the next meeting. Sorry for any inconvenience. The vt100 works great. The documentation is obtained by sending the author ($25 I think) his requested donation, as it is shareware. I will give you the source at the next meeting, or you can get it out of the library. Let me know if you have any problems. I can get you started on the documentation. I have a set and will also put it in the WAP office library.

Trademarks
RICHARD ROWELL ON 03/21
I got a mild amount of flack from Apple a few months ago for not including a ™ after the name AppleWorks. I had used the word about forty times in the newsletter and did in fact superscript a ™ after it in one place. Is there a simple explanation of the requirements for noting trademark on a product name?

HARVEY KAYE ON 03/21
Don't you know better than to ask an attorney for a simple explanation? Actually, any trademark owner should constantly "police" its mark by requesting others who write about the owner's products which bear trademarks, to indicate that the mark is either federally registered or is otherwise considered by the maker of the product to be a trademark. What does this all mean you say? Just this. If a trademark is used without being designated a trademark, the trademark owner could eventually lose his rights to the mark. The word "aspirin" used to be a trademark of the Bayer company for its headache remedy. However, the term was used by the public to describe the headache remedy regardless of who produced and sold it, and Bayer lost its rights to the trademark, and the term is now generic. There are similar stories which can be told about the terms "escalator," and "linoleum." Therefore, every owner of trademarks, such as Apple, tries to police the use of its trademark so that the terms will not become generic. So, this means that any time any of us uses a trademark as a word without indicating the word is a trademark, we are weakening the owner's rights to the trademark. Each time one of us writes and says "Please make a xerox of this letter" instead of "Please make a copy of this letter on the Xerox brand copy machine" we drive one more nail into the loss by the Xerox Corp of its trademark rights in the mark "Xerox." If you think I have left anything out, please leave a message for me and I will leave you another simple explanation.

Pascal
KEN KNIGHT ON 03/20
Pascal's main plus over Basic is that it is a very structured language. Writing programs in Pascal is much easier due to this organization. Your code becomes much more organized and easier to debug and maintain. Here is a small case in point: Bubble sort:

```
Program sorter;
const       MAX=array_size = 100;
type        arraytype = array [1..100] of char;
var         array: arraytype;
            sorted: boolean;
begin
    for i:= 1 to max_array_size do
      begin
        if array [i] > array [i+1M] then
                swap (array, sorted)
      end [for do loop]
```

The above should be a procedure so put this in at the top:

```
procedure sort  (var array:arraytype;
                 var sorted:boolean);
Begin
  sorted:=false          (*data not sorted*)
  repeat
    sort (array, sorted) (*sort data*)
  until sorted = true    (*all done*)
END.
```

In Basic that would be much harder to code and a lot less coherent. We could change the sort very simply to an inser-

contd.

tion, or merge, or whatever just by changing the procedure Sort. In Basic we would have to do much more. Pascal also supports some very powerful data structures and programming strutures—I used two programming structures not in Basic—the procedure and the repeat...until loop. They make writing complex code much easier than in Basic.

KAREN RALL ON 03/21
Another big advantage of Pascal, especially from a school's point of view, is that it forces you to think about what you are doing. That is, in Basic you can very easily just start typing to develop a program. As the program grows, you just jump around, using GOTO's, add a subroutine here and there. In the end, your program runs, but takes up considerably more memory than necessary, and should you ever want to change or debug, do you remember what n5$ was? Can you follow the path of all the GOTO's? Pascal forces a logical approach to programming that applies to all programming projects, even Basic. It is not all that hard to learn, and once learned is very easy to work with, creating fast, easily modified programs.

KEN KNIGHT ON 03/21
Very very true. Basic does have its uses. It is great if you need something quick and dirty. I can write a short Basic program to do some computation, say compute an average, much faster than in Pascal (easy in Pascal too) since I don't need anything complex to do it and I don't need to bother with the declarations. If it's fast and dirty you need, Basic will do. If it is something big, complex, something you want to be flexible and easily modified, then Pascal is a much better choice.

COPY][+ Bug (Again)
KIM BRENNAN ON 03/07
While the temporary system was up I discovered (and posted) another bug discovered in Copy][+. If you try to delete a file of type $00 (the typeless file) Copy][+ will attempt to delete all files in that (sub)directory. I called type $00 a typeless file, since that is the way the ProDOS technical reference manual describes it. We return you now to your regular BBS already in progress.

MIKE UNGERMAN ON 03/07
Just received Copy][+ Ver 7.3 with the latest parameters. The usual $5.00 charge to upgrade. Do you think the $00 bug exists in 7.3? How do you create a file type of $00, just use a "T$00" command in the BSAVE string? I'll experiment and let you know what I find.

KIM BRENNAN ON 03/08
I think you will have to CREATE the file before you can BSAVE to it. But, that is easy enough to do. CREATE filename,Axxxx,Lxxxx,T$00 should work.

ProDOS File Types
KIM BRENNAN ON 03/26
Okay, all right already. It wasn't Basic.system. However, Copy][+ and Apple's own FILER DO show some of the additional ones. However, there are some new ones, now, with the advent of ProDOS 16. Therefore I present my list of ProDOS file types (including ProDOS 8, ProDOS 16, and SOS).

0	$00 ---	ProDOS Typeless File
1	$01 BAD	Bad blocks file
2	$02 PCD	Pascal code file (SOS)
3	$03 PTX	Pascal text file (SOS)
4	$04 TXT	ASCII text file
5	$05 PDA	Pascal data file (SOS)
6	$06 BIN	ProDOS 8 binary load
7	$07 FNT	Font file (SOS)
8	$08 FOT	Graphics screen file
9	$09 BA3	Business BASIC program file (SOS)
10	$0A DA3	Business BASIC data file (SOS)
11	$0B WPF	Word processor file (SOS)
12	$0C SOS	SOS system file (SOS)
13	$0D ---	SOS reserved
14	$0E ---	SOS reserved
15	$0F DIR	SubDirectory
16	$10 RPD	RPS data file (SOS)
17	$11 RPI	RPS index file (SOS)
18	$12 AFD	?
19	$13 AFM	?
20	$14 AFR	?
21	$15 SCL	?
25	$19 ADB	AppleWorks (3 Easy Pieces) data base file
26	$1A AWP	AppleWorks (3 Easy Pieces) word processor file
27	$1B ASP	AppleWorks (3 Easy Pieces) spreadsheet file
176	$B0 SRC	Source (Orca/M, Apple //gs Programmers Workshop..APW)
177	$B1 OBJ	Object (Orca/M, APW)

178	$B2 RBN	? (Orca/M ProDOS 8 assembler)
178	$B2 LIB	Library (Orca/M for the GS, APW)

179	$B3 S16	ProDOS 16 system file
180	$B4 RTL	Run-time library (Orca/M, APW)
181	$B5 EXE	Shell load file (Orca/M, APW)
182	$B6 STR	load file (Orca/M, APW)
184	$B8 NDA	New desk accessory (Orca/M, APW)
185	$B9 CDA	Classic desk accessory (Orca/M, APW)
186	$BA TOL	Tool file (Orca/M, APW)
200	$C8 FNT	Font file (Orca/M, APW)
226	$E2 DTS	Defile RAM toolset patch (Orca/M, APW)
239	$EF PAS	?
240	$F0 CMD	ProDOS CI added command file
247	$F7 IMG	>>>disk image..Copy][+<<<
249	$F9 P16	ProDOS 16 file
250	$FA INT	Integer Basic file
251	$FB IVR	Integer Basic variable file
252	$FC BAS	Applesoft Basic file
253	$FD VAR	Applesoft Basic variable file
254	$FE REL	Relocatable code file
255	$FF SYS	ProDOS 8 system load file

Comments: The main listing was generated using UTIL. SYSTEM (Copy][+). File types marked with a ? are presented as UTIL.SYSTEM lists them. I don't know necessarily what they are (I could guess, on some). Files that are used under the Orca/M assembler are marked. I included them because the Apple IIgs Programmers Workshop (APW) is

contd.

virtually identical to Orca/M for the GS. This brings up the one discrepancy. 178 ($B2) according to the Orca/M GS manual is supposed to be LIB. Orca/M v4.1 for ProDOS 8 gives RBN as the file type. I have no idea what RBN is supposed to be. The Orca/M file types are probably used in ProDOS 16 (I certainly expect several of them to be) in programs other than Orca/M or APW. 247 ($F7) is a disk image file generated under UTIL.SYSTEM. I don't know of anybody else that uses that designation.

Desktop Software

DAN HUGHES ON 03/15

I have created a monster Igor! Want to test the power of your IIGS desktop software with the 1 meg card? Sure you do! Just do as follows: Using v. 1.0 of the desktop <1.1 is too big>, boot the System.Disk. Then format /Ram5 and partition it to 800K. Then copy the files ProDOS, Desktop SYS16 and the System folder into your formatted /Ram disk. Now load up /Ram5 with as many of your favorite applications as possible —I have Appleworks with Pinpoint accessories, Pinpoint spell checker and dictionaries and Mousetalk. By deleting Mt.Help file, the /Ram5 weighs in at 771 K. Now copy the whole thing to a 3.5 backup. Now, back to the control panel and change your startup slot to Ramdisk. Now everytime yourdo a Ctrl-OA-Reset you boot the Ramdisk and land in the Launcher with all of your favorite programs ready to roll in an instant. I think you'll be truly amazed. AppleWorks loads in 3 seconds. Same of Mousetalk. To run any other ProDOS application reboot and select Disk from the Launcher. To boot DOS 3.3 alas, you must put the System.disk back in a drive and go to the Apple II Desktop and startup Slot 6. Simply amazing. One megabyte is already not enough. Where will it all end? PS--the Superdesktop does take about five minutes to set up each time your turn on the machine. Or, you could leave it on all the time!

Apple Writer 2.0

FERNANDO SALAZAR ON 3/16

Seems like most everybody uses AppleWorks, but anybody with Apple Writer 2.0 and a IIgs might find this handy. If you have a Super Serial card, Apple Writer prints fine, but doesn't work with the gs' own ports. A quick patch fixes this: 1) Get into Basic under ProDOS. Insert a backup of Apple Writer 2.0. 2) Unlock AWD.SYS, then type CALL-151 to enter the monitor. 3) Type BLOAD AWD.SYS,A$2000, TSYS, <Ret>. 4) Type 4408.440F <Ret>. You should see the bytes - 36 4C 15 4F A9 15 85 9E. 5) Type 4409:60 <Ret>, then BSAVE AWD.SYS,A$2000,E$5FFF,TSYS. Boot this patched copy, and it should print to the IIgs ports.

IIgs Disk Drives

TOM VIER ON 03/18

Hardware-wise, ALL the drives hanging off the SmartPort are attached to the IWM which is accessed through the Slot 6 soft switches. The firmware for the 3.5 drives and other Protocol Converter devices (i.e. built-in RAMdrive) is in Slot 5 and, as you said, the floppy firmware is in Slot 6. The firmware will "fall through" to other drives during scan several ways, depending on how your Control Panel is configured. PS. This all assumes you are not using any "Your Card" selections for drives.

TOM VIER ON 03/19

It's not really unreasonable. All the drives are hooked together, right? They must have a common controller. Since DOS3.3 and the ProDOS floppy driver plus other software normally accesses the controller registers directly, the IWM registers were mapped into the usual Slot 6 location for floppies. Since the Protocol Converter (aka Smartport) has to be called by software instead of manipulating the registers directly, the firmware can be Slot 5 and it can stroke the hardware in any slot. In this case, Slot 6.

Sick //c

GAIL TAIT-NOURI ON 03/16

Does anyone know a good repair shop for my 6 month old //c? It will not read certain disks and Computerland quoted $250, which is about $200 too much!

LOU PASTURA ON 03/18

Gail, add distance between the computer and the monitor OR add shielding between them (i.e., a doubled over square of aluminum foil underneath the monitor). That will work about 90% of the time on a //c with an intermittent Read or Write problem.

TOM VIER ON 03/18

The dealers have a fix for the "defective" shield. I t was totally missing from a run of //c's, and the dealer is supposed to install one for free.

Printer Problems

JOHN CONNAUGHTON ON 03/19

I heard a rumor about printer ribbons which goes like this: Quality ribbons use an ink which contains a small quantity of lubricating oil for the dot matrix printheads, and this is needed for long print head life. Cheap ribbons don't use the oil. Can anyone confirm this rumor or is this just a computer hacker's fantasy. If this is true how can one tell if the ribbon ink contains the lube oil?

BRETT PARKS ON 03/20

Yep, proper ink for a dot matrix printer ribbon does contain some lubricants of some sort in them. This is to keep the little pins from stickin' in the printhead once they get gummed up with a bit 'o ink. This brings to mind a couple of 'cheap' ways to extend the life of your ribbon cartridge. First, put a 1/2 twist in the ribbon and print on the other 1/2 (you may notice your ribbon only appears to be used on the top or bottom 1/2 of the ribbon. This 1/2 twist allows you to use both sides) Second, give the ribbon a light shot of WD-40. This will get the free but dried out ink in the cartridge moving about so you can use it. This use to work best with the older Epson 100 cartridges (the old heavy metal ones that would open) and would probably be tougher to do on the newer closed cartridges. Myself, I use a MACinker here at work. We have about 6 Epson wide carriage printers here, in use every day, the oldest being a 5 year old (or more) MX 100. The last ribbon I bought was 3 years ago. And now, I have a red and a blue ribbon to use for special purposes. Nice little machine, that inker, about $50 to buy, and about 5 cents to re-ink a wide carriage cartridge.

contd. on pg 43

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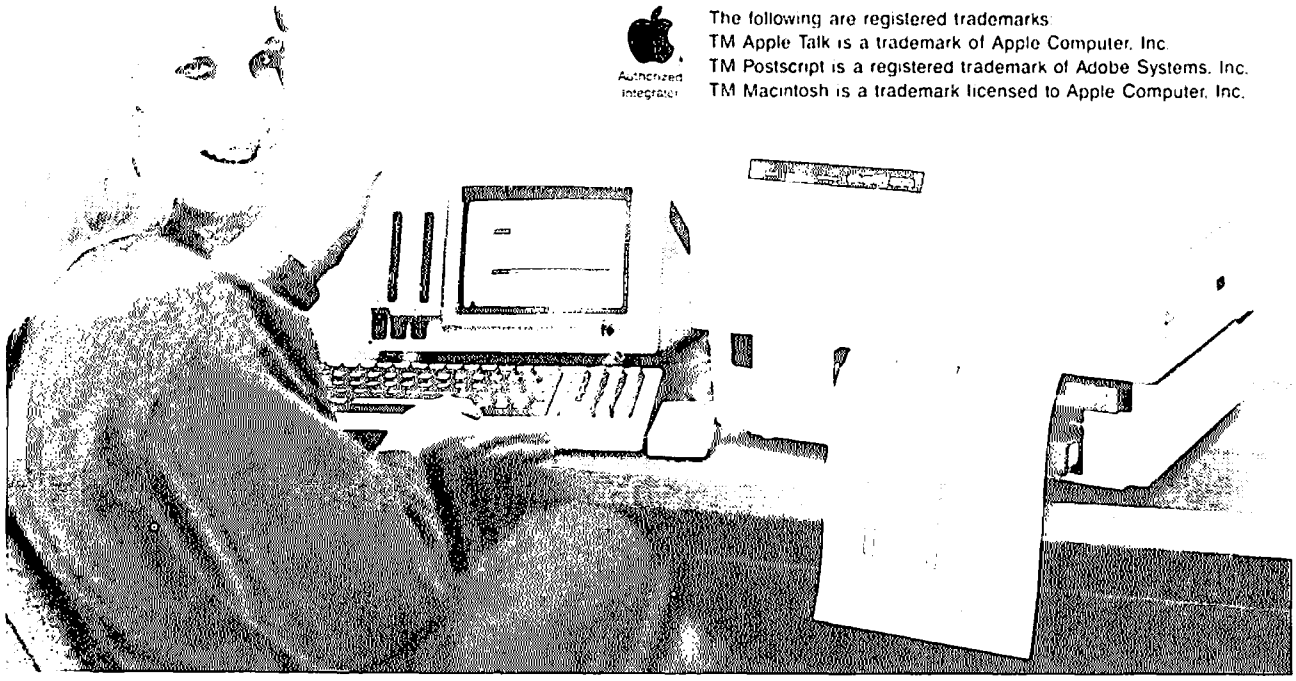

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XFER.HELP
by Leon H. Raesly, LCSW

This article will attempt to give you an overview on how to use Washington Apple Pi's Telecomunications System (TCS) Upload/Download features and provide specific explanations of commands. The phone number for this System is (202) 654-2361 for PC Pursuit users and (301) 654-2361 for all others.

DOWNLOAD OVERVIEW

First H)elp: A ? at any command level, gives you ALL the commands that you can use where you are at that moment. Second help: No matter where you are, a Q will quit that level of the program, and take you back where you came from. Third help: While reading anything, you can pause the reading with an XON (CTRL S on Apple II, and Option S on a Mac) and restart reading with an XOFF (CTRL Q on an Apple II, and Option Q on a Mac). Now on with this help file!

GETTING THE MOST FOR YOUR TIME!

To get a list of all the downloads on the SYSTEM, you have three ways to go. You can go to Area 1 (Library) in the XFER module, and there download the file called DL.LIST. This is a complete list of all the downloads on the SYSTEM, and is updated about once a week.

Second, you could go to each area by depressing C)hange, and read (or capture) the list of the available downloads for that area. By depressing C)hange, then selecting a new area, you will eventually read (or hopefully capture to your disk) all of the files on the SYSTEM.

Third, you could go to the Main Menu (the area you enter first when you log on the TCS). There you could go to the Library for the Main Menu (each Board also has its own Library as well) and read file 16 (R 16) which is the same as the download file. It is best to capture it to disk, and print it out later. Capturing this directly rather than downloading the file DL.LIST in the XFER module would save one download for that day.

Generally, to make the most use of your time, organize yourself OFF the SYSTEM, so that when you connect, you know what files you wish to download during that session, and exactly where they are. This also makes it easy for you to keep your own record of what you have (as well as what you wish in the future) and to give priority to which files you wish "soonest."

UPLOADS

Before we get to downloads, let's look at a subject near-and-dear to my heart: UPLOADS!

Uploads make the SYSTEM work, and we depend on you to provide them to us, so that we can provide them to you and others. Several things about uploads: First, any upload you make does not count against your download quota! You can upload 10 files in 1 call, and still have your regular download quota for that call (presently 3 downloads per call—3 calls per day—a possible total of 9 downloads per day!). Second, the TIME for an UPLOAD does not count against your total time for downloads! (Currently the time per call is 1 hour—which makes a potential 3 hours per day!)

Where do you get uploads? Many places. Other public Bulletin Board Systems (BBS) have many, and in this way new Public Domain (PD) and ShareWare (SW) programs are exchanged across the country! (By the way, SW programs are NOT free! If you like the program, you are honor committed to send the small amount of money requested for its use to the author. This is always explained on boot-up of the program. In exchange for this, you usually get the latest copy, placed on their mailing list for updates, and more complete documentation—usually on the disk!)

You might write some programs yourself, or a friend might give you a copy. You might belong to a specialty Users Group (UG) in another area of the country, and they might have such a program on disk, or maybe you just moved here, and still belong to the UG where you used to live, and have some PD or SW programs from their Disk Library or BBS!

One final point about uploads. Test them. Run them yourself first, and ascertain what they do, and whether you like them or not. Also, by trying one several times, and using them on your own computer, do your best to determine if it is a Trojan Horse, or contains any Worms.

It is sad to me that programs like these exist. To me, it is a very sick mind that would write such a program, then unleash it on the PD world! What are they? Well, a Trojan Horse is a program masquerading as something else. Thus, it might pretend to be a Menu program, but as soon as it is run it will delete part, or all, of your disk or files. A Worm is a program that actually runs, but over time corrupts your disk and files! So before you upload a program, test it yourself. (Use only a floppy that is disposable, of course!) Others have tested the programs here before they uploaded them.

DISCLAIMER

Of course, you knew this was coming, didn't you? Neither Washington Apple Pi, Ltd. or any of its Officers or Volunteers are in any way responsible for the performance of any of the download programs here, or for any damage, incidental or otherwise, that the programs might do.

AREAS

Let's look at the various download areas, and what you may find in them.

Name of Area	Type of Area	# of Dl's
<1>...Library	AW Templates & General TCS	19
<2>...Apple Utils & Misc.	Apple II	72
<3>...Apple Games	Apple II	15
<4>...Mac Games	Mac	12
<5>...Mac Utils & DA's	Mac	38
<6>...Mac Fonts & Accs.	Mac	8
<7>...Mac Graph. & Misc.	Mac	4
<8>...CP/M	Apple II	2
	Total	168

The count shown above was as of Feb. 21 '87 and is substantially higher now. Let's look at each area in more detail.

contd.

<1>...Library Area AW Templates & General TCS 19

This area contains AppleWorks (AW) templates. It also contains the older VisiCalc templates, which can be loaded into any spreadsheet program such as Excel on the MAC, or AW in the Apple II family. Further, it has files of a general nature to the Pi's Telecommunications System (TCS). Here you will find such things as an AW template to plan a kitchen, and the list of all downloads in each area of the XFER portion of the TCS.

<2>...Apple Utils & Misc. Apple II 72

This contains ANY Apple II program that is not a game! Such items as a program to read a disk's file into a text file (a utility) and a program to Squeeze and UnSqueeze (compress and uncompress) a file. A Print Shop graphics would be here, as well as many others!

<3>...Apple Games Apple II 15

This area contains PD or SW games to run on the Apple II family. Hopefully, it contains nothing but games!

<4>...Mac Games Area Mac 12

Like the Apple // area, this contains all of the MAC PD and SW games. Be aware that many of the MAC games are SW.

<5>...Mac Utils & DA's Mac 38

Here you will find MAC utilities and desk accessories, for all sizes of MACs. Most are PD (sometimes called FreeWare), and some are SW.

<6>...Mac Fonts & Accs. Mac 8

This is the home of many beautiful and different fonts for your MAC, both for on-screen display and printing. The Accessories here would relate to the Fonts theme, to distinguish them from Utilities. Thus, there would be various programs here to enable you to use the fonts in many different ways. One example is a font doubler, which allows you to double the size of any font.

<7>...Mac Graph. & Misc. Mac 4

Here you will find graphic programs, such as a program to project in 3-D the data from an Excel file and then print it. The Miscellaneous would be any program or file that does not fit into the other MAC categories.

<8>...CP/M Area Apple II 2

This area contains some of the many CP/M PD programs that have been developed over the years. The special provence of the CP/M SIG (and the CP/M Librarian, this area will complement the CP/M disk in the Disketeria (as will all areas, actually!)

COMMANDS

Having this general background, let's move on to specific commands, and how you would use them. First, the commands at the XFER command level:

The command level looks like this:

Xfer Menu (B/C/D/H/L/O/Q/U/?/*> : and if you depress the ? you get this:

<B>...Browse File Information
<C>...Change File Area
<D>...Download a File
<H>...Help with File Transfers
<L>...List Available Downloads
<O>...Off - Quit the System
<Q>...Quit to Main Menu
<U>...Upload files to the System
<?>...List Commands
<*>...Page the System Operator

SPECIFIC COMMANDS

<B>...Browse File Information

This command allows you to explore the descriptions of the various files within the file area you have chosen. First, it will tell you how many descriptions you can B)rowse i.e. (1-73), then ask you where to start. You do not have to start at the first one; you may start anywhere you wish. When you have read the description, you are given three choices: 1. N)ext description. 2. Download the file. 3. Q)uit reading descriptions. It looks like this: <N/D/Q> :, and you choose which you want. Notice, if you like what you have read, you can immediately download the file, without having to quit descriptions and then ask to D)ownload! Pretty neat, Huh?

<C>...Change File Area

This command allows you to switch to a new file area. When you enter it, it will show again the list of areas, and you simply enter the number of the area you wish to go to, and, Voila! you are there!

<D>...Download a File

Here is the Biggie! When you select D)ownload, you will be asked: <A/T/P/X> : which means do you wish to Abort (back to Xfer Menu), perform a text file download (which you will probably never want—even though the file type says TXT, don't use this unless the short description says it is really a Text file. Most Mac programs (and some Apple II programs) are listed as TXT files, but are really compressed or packed in a way to maintain them in as little space as possible on an Apple II. Thus, there will be few TXT files that are truly text. they should be downloaded and then unpacked and executed. Or use a P)rotocol download (ASCII Express DOS 3.3 or Prodos) or X)Modem CRC (which is what Macusers would want). Just enter your choice, tell your modem software to do its thing, and sit back and relax. A new program for your library is on the way!

<H>...Help with File Transfers

This command reads the help file. That says it all!

<L>...List Available Downloads

This gets you the list of downloads for this area. Below is an example of a partial list:

Download area: Mac Utils & DA's
Workspace: /HARD2.SID/XFER/MAC.UTILS/

Filename	Type	Count	Time	Description
038 WAYSTATION.2.6	TXT	00000	02Min.	Great Min-Finder
037 MICROFILMREADER	TXT	00000	07Min.	Reader for certain files.
036 KEYCAPS	TXT	00002	01Min.	Keycaps on Screen
035 SWITCHER5.1	TXT	00000	04Min.	New version of Switcher.Maybe
034 KEYCAPS.NEW	TXT	00000	01Min.	Not sure about this.
033 MACWEEK1.23	TXT	00000	02Min.	Mac Weekly for week shown
032 HELPDA	TXT	00001	02Min.	MakeHelp screens
031 WINDOWSDA.PIT	TXT	00000	01Min.	Adds window commands

‹FUNCTION ABORTED›

As you can see, I have shown you the top part of the Mac utilities list. Notice that it starts with the latest files first, another convenience for you. If you have kept the copy of the

contd.

list you captured and printed, you can quickly see if there are any new files. In addition, this list (like all others in the TCS) can be quickly aborted by depressing any key (the spacebar is probably the most convienent for you). In the example above, I did just that—aborted the reading of the list. So the phrase <FUNCTION ABORTED> is not something to be concerned about.

Also, note the information which it presents to you. First, the number of the file, so that when you wish to download, you know what file number to enter. Next, it tells you the file type. See the further explanation of file types below. Third, it tells you how many times it has been downloaded by other people. Thus, a more popular file will have a higher number, and indicates that this is probably a good file to consider downloading. Next, it tells you the amount of time downloading this file will take. This is automatically adjusted by the program to account for the Baud rate you are using. Thus, if you are at 2400 Baud (vs. 300 or 1200) the time is much less. The last bit of information on each line is a short, quick description of the file. Longer descriptions can be obtained by B)rowsing the Description file (more about that later).

<O>...Off - Quit the System

<Q>...Quit to Main Menu

Both of these commands function the same on the Download SYSTEM as on the messages TCS. A quick way to sign O)ff. You do not have to return to Main Menu to quit the SYSTEM. Incidentally, as always, the program will confirm that you really wish to do this by asking for a Y or N. Any other key except Y and y will bring you back to the Xfer Menu. So it is hard to lose a call by mistake.

<U>...Upload files to the system

Here is another Biggie! Please use it now and then so we can keep the latest files here. It will ask: <A/T/P> for:

A)bort (ie. STOP)

T)ext (don't use this unless you know for sure)

P)rotocol (this is it!)

<?>...List Commands

This is our familiar ? that lists a quick definition of the anonymous letter that always appears at any Command level. At this level, it prints the list that this section first started with.

<*>...Page the System Operator

Unless you have reason to know that a SYSOP is there, don't use this. Most BBS's are run from someone's house, so there would be a good chance of getting a response. The TCS, however, is 5 machines (with five telephone lines), located in a special room of Washington Apple Pi's office in Bethesda, MD. So the odds are that no one is there (and even if there is someone there doing maintenance tasks, it is much better to call by telephone, since so much more can be said (or clarified) in a lot less time.)

PUTTING IT IN OPERATION

A note about downloading. There are two steps that MUST be done in the following order. The order IS critical to successful downloading (but if you reverse the order, it won't hurt anything—it just won't work!).

FIRST: You must tell the other System to prepare to SEND you a file. This is usually menu controlled, and usually rather strightforward.

SECOND: You must tell your telecommunications software to prepare to RECEIVE. Check your software manual for detailed directions on how to do it.

Let's now look at the four possible ways to download from the TCS DownLoad SYSTEM. The current labels may be confusing, but they will be changed in the future.

TEXT: This is to download text files, and is just a stream of data, which you would capture in your software buffer, and save to disk. This is not the preferred way to download files, as it takes longer; there is no accuracy check for data, and should only be used for files that are truly text. Most files on any non-commercial download system typed as: TXT are usually not text, but simply stored that way by the Host System.

XMODEM: This is the original Ward Christensen's CheckSum XMODEM. On the TCS, this is called AE ProDOS 3.3, and is reached by entering the A (for AE Pro) at the download menu, then choosing option #1.

XMODEM CRC: This is also the Ward Cristensen's protocol, but the error checking is by Cyclical Redundancy Check, rather than by Checksum. This is located at two levels on the TCS. At the download menu, it is the X)MODEM command. You would use this if you have a MAC. At the next command level, it is the AE Pro: ProDOS option (# 2). Sounds confusing—let's look at it in chart form at the download menu:

```
(Menu)
Xfer:
  T --------> Text for any computer.
  X --------> XMODEM CRC for MACs.
  A --------> (ASCII EXPRESS)
              |---------->DOS 3.3 (XMODEM
              |                    ChkSum)
              |---------->ProDOS (XMODEM CRC for
                                  ProDOS
```

O.K., now lets look at an actual download session. I will leave out the process of signing on, and will just show the actual commands, etc. as they happened. I will mark the commands to my telecommunications software by delineating that area of this article with {{{'s at the begining, and }}}'s at the end. Here goes!

AN ACTUAL SESSION!

(Numbers to the right margin are used for later explanation)

```
Commands: B/C/D/H/L/O/Q/*                                    1.
Xfer? D                                                      2.
Download (1-72)? 44
044 CR.REMOVER   BAS  00001  01Min.  Basic program to strip c/r's.  3.
(A/T/Q/X/?)? X
Xmodem Protocol                                              4.
Sending CR.REMOVER                                           5.
Use Ctrl-X to Abort
```

({{{'s Below are all commands to or from my software.)

Here I give the necessary commands to my software to prepare to receive a file, and to store it on disk. Since commands differ between software, I will not list the actual commands. Check your software manual.

```
}}}                                                          9.
```

contd.

Commands: B/C/D/H/L/O/Q/*
Xfer? D
Download (1-72)? 43
043 CR.REMOVER.OBJ BIN 00001 01Min. BIN file needed by CR.REMOVER.
(A/T/Q/X/?)? A
Ascii Express:Pro ™ Protocol 10.
<1>...Dos 3.3 Ascii Express ™
<2>...ProDOS Ascii Express ™
? 2 11.
Ascii Express is a registered trademark of United Software Industries
Sending CR.REMOVER.OBJ 12.
Use Ctrl-X to Abort
({{{'s Below are all commands to or from my software.)
Again, I told my software to receive a file, and place it on the disk.
}}}
Commands: B/C/D/H/L/O/Q/*
Xfer?

HERE'S WHAT HAPPENED!

1. This is the TCS quick command reminder prompt.
2. XFER module is waiting for my command. I chose D for download. It asked me what file number I wished to download? I chose file number 44.
3. It then told me what file that was (so that if I had not selected the file I wanted, I could Q)uit at the next prompt.
4. I chose X and the program responded telling me the type of download I had selected.
5. The program then told me it was ready to send, and how I could abort at any time.
6. These are commands to my software (ASCII Express) to get ready to receive. My commands here meant "Hey, ASCII Express, get a file."
7. My software asked me what to name it, and told me it was ready.
8. While actually downloading, AE tells me a count of how many Ward Christensen Protocol blocks (128K each) have been received.
9. A successful transfer, AE gives me the CRC value.
10. Starting over, this time I chose option A.
11. Given two choices, I wanted # 2.
12. From here on, a repeat of steps 5 to 9

Well, that's it. All you ever wanted to know about TCS downloads—**AND MORE!** You're now ready, so call the Pi office, get yourself a Password—**AND GO FOR IT!**

Take Care, Now! Lee...

Best of Apple Items from TCS contd. from pg 38

AE Ultra Z-RAM

MOHAN PAUL ON 03/30

I plan to buy AE Ultra Z-Ram III with 256K. In the future I plan to expand to 1 meg. Can I do this without going through AE, by buying the ram chips from elsewhere. If I can, what chips would I have to buy.

ALLAN LEVY ON 03/30

You can expand with 256K 150ns chips. Cost is less than 3 apiece. I usually have some.

2400 bps 2400bps 2400 bps 2400 bps 2400 bps 2400 bps

The AJ 2412-STH — Not just another Hayes "AT" compatible 2400 bps modem!

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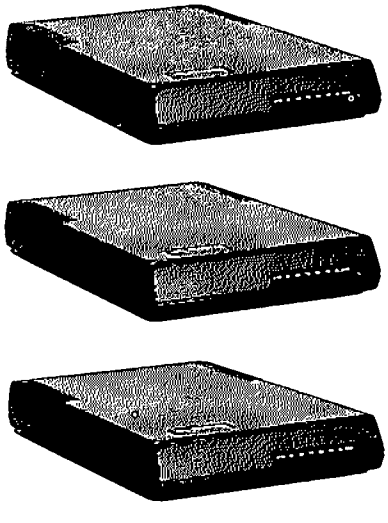

But, the AJ 2412-STH offers more — including:

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2400 bps 2400bps 2400 bps 2400 bps 2400 bps 2400 bps

YOU BE THE JUDGE

by Harvey Kaye © 1987 H. Kaye

This is the first of a series of articles which will follow the same general format. The articles will discuss actual situations (all the facts are taken from actual reported decisions, but all names have been changed) which are connected with the computer field. After reading the facts consider how you would decide the case. The judge's decision will be presented in the same Journal in which the facts appear, but on a different page, so that you cannot see his decision accidentally.

OK, here is the first fact situation for "You Be TheJudge."

It seems there was a non-profit cotton cooperative called "Farmers' Coop" which was an association of about 20,000 cotton farmers in Texas and Oklahoma. The cooperative provided information about growing and marketing cotton including prices and cotton availability, as well as accounting services.

The Farmers' Coop, in striving for efficiency, developed and marketed, beginning in 1975, a software system called "Cotel", for which the cooperative registered its copyright. Cotel was used to provide members of the cooperative with all the services which the Farmers' Coop had been providing to the cotton farmers previously, but added a capability to consummate actual sales electronically.

The system is used by cotton farmers, ginners, and buyers who have terminals connected by modem to the cooperative's mainframe computer. While the terminals allow the system's users to retrieve the desired cotton market information from the Farmers' Coop, they provide no access to the documentation, programming, design or functional specifications of the Cotel system. Since entering the market in 1975, the use of the Cotel system has been widespread among the members of the cooperative and the program has been continuously updated. The Farmers' Coop owned the copyright to this Cotel system which was designed to be used on a mainframe computer.

The cooperative's general manager, Dan Daley, was heavily involved in the creation of the Cotel system. He worked with a team of programmers who were employees of the cooperative. The programmers, Mssrs. Cushing, Fishman, Goodall, and Jones, worked together and developed the system. None of the programmers ever signed a contract with the Farmers' Coop agreeing to keep the information confidential.

Dan Daley left the Farmer's Coop in 1979, in order to start a new business called CIR. His intention was to expand the capabilities of Cotel by adapting it for use on personal computers. His newly formed company agreed with the Farmers' Coop to develop and market a personal computer version of Cotel. Any modifications developed by Daley and CIR in its efforts were to be owned jointly by the cooperative and CIR.

In 1984, when the modification to run on personal computers had still not been developed at CIR, it hired the developers of Cotel, that is, Cushing, Fishman, Goodall and Jones, from the Farmers' Coop. All four were assigned to the Cotel personal computer project. Before Goodall left the cooperative, however, he copied and kept a complete tape record of the Cotel source code. Five days later, the Farmers' Coop gave CIR written notice that it intended to terminate their contract and the parties agreed that the contract would terminate in April 1985. Further, on that day the cooperative was to have an irrevocable option through April 1986, to purchase CIR's interest in various programs. However, the cooperative never exercised the option.

After about a year, the four developers of Cotel were successful in designing a personal computer version of Cotel and put the design specs of the new software to paper. However, no programming was actually written for the new software, and there was never agreement on the preliminary nature of the design or the comprehensiveness of the design documents.

In March of 1985, CIR initiated bankruptcy proceedings thereby forcing, the four developers to seek new employment. They were hired by Goodhope Computer Inc. Goodhope was an ethical company and, therefore, signed employment agreements with the four developers in which the developers agreed not to breach any confidences of their former employers. Fishman, however, had previously copied the Cotel programming designs onto a diskette and brought it with him to Goodhope. The four developers worked diligently and, after only twenty days at Goodhope, they completed a design for a personal computer version of the cotton exchange program which Goodhope called "GAMS," but the software was not fully operational.

GAMS is similar to Cotel on the functionaspecifications, programming, and documentation levels and several pages of the GAMS design manual are direct copies of pages from the design manual the developers created at CIR. There was no line for line similarity in the two programs. The main difference is that while Cotel was designed to operate on a mainframe computer, the GAMS program was designed for a personal computer.

In January of 1986, the Farmers' Coop filed this legal action against Goodhope and the four developers seeking an order from the judge enjoining Goodhope and the developers from continuing their alleged copyright infringement, misappropriation of its trade secrets, breach of confidential relationship and damages. The developers argue that with but one exception, they did not copy programs used for Cotel, but rather drew on their knowledge of the cotton industry and expertise in computer programming and design gained over a number of years. The one exception admitted by the developers is Fishman having copied one Cotel subroutine when programming GAMS. Goodhope tried to avoid problems of this type and therefore it insisted that the developers agree not to use any prior employers' information in their work at Goodhope. When Goodhope discovered Fishman's copying, he was discharged and the subroutine was replaced.

The cooperative has asked the judge to issue a preliminary injunction based on copyright infringement and trade secret

contd. on pg 47

INTELLECTUAL PROPERTY RIGHTS: Software Copyrights

by Joseph A. Hasson

Three major and several subsidiary bills have been introduced into the 100th U.S.Congress to deal with U.S. foreign trade and trade policy. Each of the three major bills—S.490, S.539 and HR 3l—contains either a Title or a Chapter on intellectual property rights. In addition, several international agreements deal with this broad subject: the Paris Convention of 1883; the Berne Convention, originally adopted in 1886, and its several subsequent revisions; the Paris Universal Copyright Convention of 1971; and the Convention Establishing the World Intellectual Property Organization of 1967. The United States, not a signatory of the Berne Convention, is a party to each of the other international agreements.

The subject of intellectual property rights is receiving the close attention of the U.S. Congress because important sectors of the U.S. economy, including the computer industry —both hardware and software—are affected by them. It will also become a major subject of discussion during the Uruguay Round of Multilateral Trade Negotiations now in process. Numerous countries are violating American intellectual property rights at a heavy cost of billions of dollars to American industry. These violations constitute a very serious threat to the continued viability and even existence of these industries in both the short— and long-term. In the words of H.R. 3, "foreign barriers .. seriously impede the ability of U.S. persons that rely on intellectual property rights to operate overseas thereby harming the economic intersts of the United States." Or, as noted in S.490, "unfair methods of competition (threaten) to destroy or substantially injure. . industry in the U.S." The Ministerial Declaration on the Uruguay Round observes that there is a "need to promote effective and adequate protection of intellectual property rights." Technological developments may affect the way of looking at these rights and require new definitions, new concepts and, perhaps, new international conventions.

In this essay, I want to examine, in a very preliminary way, this broad and involved subject in order to raise the level of consciousness among WAP members to developments occurring in an economic sector that has serious implications for the American standard of living, the position of the U.S. in the world economy and, even, American national security. The subject is complex and has numerous ramifications. Hence, the limited focus here is on some of the basic issues that arise in the software industry.

Intellectual property rights are protected in several ways, including the granting of copyright privileges, the issuance of patents and trademarks, trade names, trade secrets, etc. We focus on copyrights because they are most important in the area of computer software. In addition to the several international conventions alluded to above, there is domestic legislation, namely the Copyright Acts of 1909 and 1976, respectively. The Act of 1909 recognized the right of copyright only for materials that were intelligible to persons; it did not allow copyrights for machine-readable materials. Hence, only the written expression of a computer program was copyrightable material.

The U.S. Copyright Office first announced it would accept computer programs for copyright registration in 1964. The first official definition of software is found in a 1980 amendment to the Copyright Act of 1976; it is defined as a computer program, or "a set of statements or instructions to be used directly or indirectly in a computer in order to bring about certain results." The instructions, recorded on a floppy disk, are read into the memory of the computer where they are activated to perform the specified tasks for which the instructions were designed. Software also includes the instruction books and manuals that accompany the floppy disk. While the disks are physical, the instructions are not visible; one knows they are there because they cause the computer hardware to perform the designated tasks. The software program is visible only in the case of the original program written by the programmer in source code—i.e. a higher level programming language such as BASIC. Beyond that point, the program on the diskette or in the computer becomes invisible. This concept of "invisibility" causes certain complications in the realm of the law. It has been commented on by some that the copyright system, a means of protecting intellectual property rights will breakdown and fail to function in the environment of electronic impulses—e.g the computer. Nevertheless, the latter Act avoided the "machine-readable problem" by granting copyright protection to any work that is "fixed in any tangible medium of expression."

Hence, there are two fundamental properties that materials eligible for copyright protection must satisfy: (1) they must be the original work of the creators; (2) that original work must be imbedded in tangible objects—i.e. "fixed in any tangible medium of expression, now known or later developed, from which they can be perceived, reproduced or otherwise communicated, entered, either directly or with the aid of machine or device." (Secton 102, Copyright Act, 1976) Only when these two attributes are merged are there legal grounds for the granting of copyright protection. With respect to the concept of "originality," it is recognized that many software programs contain subroutines, algorithms, and many repetitive procedures that are widely used. If they were to stand alone, they would not be copyrightable; but when they are combined in special ways to obtain original results, then, they may satisfy the prerequisites of copyright eligibility and protection.

The basic issue that creates copyright complications in software programs occurs when the software is entered into the computer; the original work of the author or creator is altered from SUBJECT CODE to various levels of OBJECT CODE. At what point in this transformation process does the material cease to constitute "the original work" of the creator and, hence, to be protected by copyright laws. The question is one that has been adjudicated by numerous Court cases. In one case, for instance, (JS&A Group vs. Data Cash Co.) the question raised was whether or not the copying by JS&A, the defendant, of the ROM chip in a chess game created and marketed by Data Cash constituted a violation of the 1909

contd.

Copyright Act. The Court ruled that no copying had taken place and no copyright violation had occurred because the ROM chip was "a mechanical embodiment" of a writing rather than a true copy of it. Mechanical processes can be patented, a different form of protection of shorter duration under alternative circumstances than copyrighting.

In fact, in a 1981 case involving Diamond vs. Dieke, it had been decided that "patent protection may be available to computer programs when used in conjunction with 'a machine' or 'invention'." In general, however, computer software comes within the purview of copyright laws. The relationship between author, programs and computer can be described as follows:

(i) The author—the writer of a computer program—initially gets an Idea which remains in indeterminate form and state of flux so long as it is in the mind of the author; hence, it is not copyrightable.

(ii) The author translates his Idea onto paper, say, in the form of BASIC—a high level programming language, referred to as SOURCE CODE. When the Idea is translated into this form it becomes human-readable and tangible; it, therefore, becomes copyrightable.

(iii) The program in SOURCE CODE can be keyed into the computer—i.e. compiled—where it is converted into OBJECT CODE. In the process of conversion, it becomes not-human readable but it does not, cannot run as it is.

(iv) For the SOURCE CODE to be run by the computer, it must be converted into EXECUTE CODE. It is in the computer but is not readable by a human.

There may be several possible conversions from SOURCE to OBJECT CODE. One conversion may be from BASIC to ASCII Code; the concept of reverse engineering can be invoked, implying thereby that if one were to go back from ASCII to BASIC one would get exactly the original result. Hence, a computer program can be expressed in BASIC or ASCII; the results are equivalent and there would be no copyright infringement. A different conclusion is reached, however, if a program in BASIC is translated into ASSEMBLY LANGUAGE. In this case, the translation of a program from one computer language—BASIC—to another computer language is equivalent to translating an author's copyrighted novel from English into French. Such a foreign language translation is protected by copyright laws; and if it is done without consent of the author, constitutes a violation of copyright conventions.

The issue is resolved in similar fashion if a BASIC program were converted into Machine Language through the expedient of a Compiler Program—say, in order to expedite program execution. In this case, the CP follows a specific set of rules for the translation to occur. There is a conversion from one language into another. If this were done without permission of the original program creator, it would constitute a violation of copyright law. There are two other codes in which the BASIC program can be expressed: (i) as a hexadecimal dump; or (ii) in binary code. In the former, the results look like a formula—mathematical formulae are not subject to copyright protection. In the latter, the binary code is a physical representation of switches being "on" or "off". The switches are patentable but not copyrightable. Hence, it appears that at these "lower" or more primitive levels, software programs are not protected by the provisions of copyright laws.

We have sought to indicate where in this rather complex process, software becomes copyrightable? This is the critical legal question that the courts must confront and decide. No case has yet to reach the U.S. Supreme Court for final judicial review; we have indicated that lower courts have handed down decisions. Cases have been appealed. The issue is critical not only in general, given the primary functions of copyrighting—i.e. of protecting the property right of an "author" so he can derive some benefit from his work and be motivated to engage in creative intellectual activity, but also because this activity is socially useful. The Founders of the U.S. Constitution recognized the value of such activities when they wrote, "The Congress shall have Power to promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries." (Article I, Section 8, U.S.Constitution) The copyrighted materials should, therefore, be made available to the public for their enjoyment, use or benefit. On these grounds, the reward or remuneration accruing to the "creator" should occur without, at the same time, generating a monopolistic condition. If it were generated, the "creator" would be able to exploit society and accumulate unmerited monopoly rents. Copyright privileges, therefore, are extended for a stated or defined period of time—in the United States for the lifetime of the "creator" plus 50 years after his (her) death.

What the consumer (user-purchaser) obtains when he acquires software is a program expressed in OBJECT CODE, a machine-language or machine-translated version of the program. The courts have decided that even as the program was in the machine, but in not-human readable form, it had been authored by a human and initiated in SOURCE CODE that was human readable. Under those conditions, therefore, the software could—should—be protected under copyright laws.

A computer program, the written expression of a programmer's Ideas, derives value because the Idea behind it has value. An Idea per se has no tangible form; rather, it is a mental representation of an objective process with no object or physical source connected with it. The Idea is separate from its ultimate physical embodiment; hence, it is not copyrightable. The legal right associated with a computer program arises from the fact that it is regarded as the physical expression of the Idea. This is the genesis of the intellectual property right, a special form of property subject to protection in state, federal and foreign statutes, including treaties and conventions. The courts have decided that the OBJECT CODE starting out as a human-readable computer program, authored by a human should be protected even though what the consumer gets is a machine translation and machine-processed version of that human-readable computer program. The ultimate legal problem that has faced the courts is whether or not the unintelligible binary code is sufficient human authorship that can be justifiably protected under copyright, patents or trademark laws of the country where it originated.

While we have been relating the notion of Ideas to software, the same principles apply to a music score, a play, a book or an architectural plan. They all involve (i) an Idea and (ii) a tangible expression of the Idea. As one Judge, in a

contd.

landmark case, expressed it, "A man's property in an Idea is limited to the physical property which embodies the invention." Note that a legal distinction is drawn between the Idea, the physical property and the physical property as an embodiment of the Idea. It is the last of these that is copyrightable! The concept of intellectual property rights is a broader concept; hence, there are distinct and separate bodies of law to deal with different aspects of those rights: (i) trade secret laws; (ii) copyright laws; (iii) patent laws; and (iv) trade market laws.

We have briefly alluded to the third and focused on the second of these, because computer software comes under the primary purview of copyright law. The general protection of intellectual property rights—through copyright or other forms—are of considerable importance, in part because they are connected with the generation of large incomes and are susceptible to a high incidence of piracy which denies to the creators their rightful earnings. The full extent of piracy is not known. It is occurring on a national and international scale and is capable of inducing much harm, particularly to the U.S. computer industry which has been at the cutting edge of technological developments. Certain measures that can be taken to limit it, both in the domestic and international markets, will be discussed in a later essay. To underscore the importance attached to intellectual property rights, I refer you back to the numerous Bills and Conventions that already deal with the subject. In H.R.3 it is specifically stated that in future international negotiations on matters of internatonal trade, a principal U.S. objecive is to push for the adoption of an "anti-counterfeiting code and to evolve within the World Intellectual Property Organization (WIPO) substantive norms and standards for the protection and enforcement of intellectual property", particularly in "new and emerging technologies and elimination of discrimination or unreasonable exceptions or pre-conditions to protection." S. 539, Administration-proposed legislation, indicates that within the framework of the Uruguay Round of Multilateral Trade Negotiations, an objective is to "develop a multilateral framework of principles, rules and disciplines." Finally, the U.S. Special Trade Representative has observed that, "There is a need for increased protection for intellectual property rights. The world soon may be in danger of losing the benefits of major research and development which will not be undertaken if theft of the work product prevents companies from justifying the research expenditure."

You Be the Judge contd. from pg 44

misappropriation. You as the judge have conducted a brief trial and the testimony has developed the facts set forth above.

You are now to decide whether or not to issue an injunction. What is your decision?

You are aware that one of the elements which must be proven to obtain the preliminary injunction is that there is a substantial likelihood that, in the subsequent full trial on the merits, the requesting party will be successful in proving copyright infringement.

After you have arrived at your decision, go to page 66 to see how the judge actually decided the case.

Harvey Kaye is an attorney whose private practice includes computer and intellectual property law.

TWILIGHT CLONE GROUP PURCHASE OFFER

Many of our members have participated in the Twilight Clone bulletin board operated by Paul and Diane Heller. Serving primarily Macintosh owners, Clone participants offer ready assistance with problems and an interesting exchange of information on a variety of topics. The Clone has served computer owners in the DC area for almost two years and has accumulated over 40 Megabytes of public domain software available to its members for downloading. The Clone has a license from Apple Computer to distribute Apple's public domain software, such as the most current Finder, System, FontDA Mover, etc.

The current hardware configuration includes 2400 baud access into a two-line system. Paul and Diane have kindly offered to work together with the Pi to expand the Clone's telecommunications capabilities and offer access to WAP members for a nominal fee. If the Pi will purchase (and own) the $900 worth of equipment needed to increase the Clone's capacity to three lines, WAP members can obtain download privileges on the Clone board. WAP would pay for one phone line while having access through all three lines.

For many Macintosh telecommunication buffs, this is a excellent opportunity. The cost will be a $10 annual fee. As with most group purchases, if sufficient numbers express interest through their ten dollars, an agreement will be made with Paul and Diane and the interested WAP members added to the Clone's membership list. If you would like access to the Clone board, mail in to the office or drop off, a check for $10 made out to Washington Apple Pi. Please note write "Twilight Clone" on the check. If the interest is not sufficient to pay for this offer, you will be notified and your $10 will be returned. If you have any questions about the Clone board or this offer, contact David Morganstein 972-4263 or Marty Milrod 464-2154.

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APPLEWORLD '87—A Special Report: Part II

by Tom Warrick

AppleWorld '87 was more than just the new products discussed in last month's issue. There were two days' worth of activities of interest to user groups. Ellen Leanse, Apple's Chief User Group Evangelist and head of the User Group Connection, and no stranger to Washington Apple Pi members, gave a kickoff speech that touched upon Apple's roots in one of the first computer user groups, the Homebrew Computer Club. Ellen spoke also of many new user groups being formed within businesses and government agencies. (Any that would like to work with Washington Apple Pi, such as by having your meeting announcements in the WAP Journal, please let us know.)

Ellen also spoke of Apple's desire to see better relations between user groups and dealers. She said that Apple was looking to user groups to take the first step, and Washington Apple Pi will be making an effort in that direction over the next few months.

One of the most interesting sessions, and one that left many participants frustrated because it was so short, was a discussion among user group leaders on how user groups could better cooperate with each other. Kent Fillmore of a San Francisco user group said that he was revitalizing (if that is the word) the International Apple Core, which used to be a group of user groups until it became overpoliticized and, sadly, became no different from any other membership-based user group. It remains to be seen what will come of any of these discussions, but WAP plans on continuing its active role in the national user group community. (WAP officers Bernie Urban and Lee Raesly participated in a national user group conference in Dayton, Ohio on April 10-12.)

Following this was an extremely interesting panel of four dealers, among them Art Lundquist of Clinton Computer, who discussed dealer-user group relations. Some user group representatives felt that it might have been better to have a few user group leaders meet with the dealers (reflecting a subjective assessment of who is "responsible" for strained dealer-user group relations), but this will probably occur at next year's AppleWorld if not before then. I took careful notes of everything Art said—heh, heh, heh—but, quite frankly, the four dealers there were among the country's most enlightened with regard to user groups, and were all eager to foster better relationships. Indeed, Art was positively effusive about his desire to cooperate more extensively with Washington Apple Pi, so much so that I wanted to tell him, as I am sure he knows, that a user group such as ours would be doing its members an injustice if it were seen as too closely involved with any one dealer.

Next was a presentation by Alan Kay on some of the things he has been working on in the last year or so. Alan has one of these jobs that most of us can only dream about—he is an Apple Fellow, with a charter to think great thoughts about computers. Some of what he showed at AppleWorld he had shared with WAP last year, but there have been some new developments. The Vivarium project has moved forward, but slowly and with no quantum leaps. (It would take the rest of the Journal to explain what the Vivarium is if you weren't at last February's meeting, so my apologies to some of you.) Alan said that his "Dynabook," a computer that would be so useful to you that you would keep your grocery list on it and so portable that you could carry both it and two bags of groceries, seems to be getting closer to technological feasibility, although he wouldn't, and of course couldn't say when someone would make one. The limiting factor, it appears, is the weight of the power supply.

The other thing that stuck in my mind from Alan's talk—which was delivered with the lights out so we could see his computer graphics demos, and which had the side-effect of preventing most note-taking—was his comment that if you ask computer users what they want in the next computer, they will tell you just more of the same, only better and faster with this and that little thing changed. Most users, he said, aren't able to conceive of the revolutionary leaps that make the big gains in computers or anything else. This is true, for the most part, but this statement was interesting in light of the announcements of the SE and the Mac II, the former of which is clearly the computer that answers users' small requests and the latter of which answers the big ones. But the next revolutionary computer will likely be something that few of us have asked for.

That night at dinner, Ellen and the Woz hosted what Ellen called "Wheel We Make a Fortune," an Apple trivia contest in which panelists had to answer some very tough questions about Apple and the computer industry. If you think you know something about Apple, you will test your knowledge on these questions—which we will be printing in the WAP Journal.

The contest was run using the public domain "Wheel" program available on WAP Mac disk 46, and Ellen and the Woz were assisted by letter-turner Vanna Byte. (You will have to see the videotape to believe this—assuming that they made one, and assuming further that Ellen releases it!)

That, believe it or not, was only Monday's session. On Tuesday, Jean-Louis Gassée, Apple's Vice President for Product Development led off with a discussion about Apple products. Jean-Louis is one of those people who uses language so beautifully that you want a shorthand reporter to transcribe everything he says, particularly when, as here, the information is important to users. According to my notes he said that Apple is committed to common peripherals for the Apple II and Mac families, including a common keyboard. (The new keyboard has one key labelled with the Open-Apple and the command symbol. I predict Apple will phase out the Cmd-symbol over the next few years in favor of the Open-Apple symbol—which is what the Cmd-key should have been all along.) The IIe still sells well, even with the IIgs selling for only a little more. The Mac Plus doubled Macintosh sales from their previous levels. Jean-Louis took a lot of heat for the incompatibility between the Mac Plus and the SE. He said that Apple gave the matter careful thought and opted for power rather than cripple the machine by making it upgrade-

contd.

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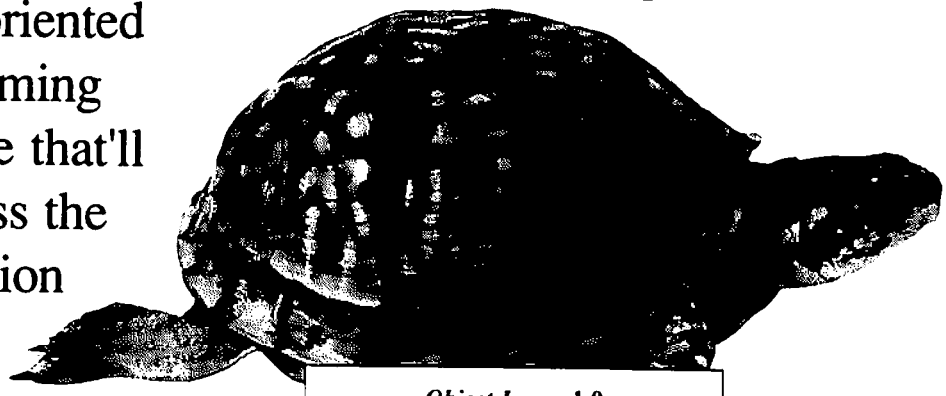

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able. The only component in a Plus that could be reused after an "upgrade" to an SE, he said, was the CRT. Everything else—the digital board, the power supply, the front and back cases, the mouse and the keyboard—are all different. He described Apple's decision aptly as "the least worst possible decision."

Jean-Louis was pleased with the way color was implemented on the Mac II. He said that existing programs written in accordance with Apple's guidelines work with color. For example, you can paste color pictures into the Acta outlining desk accessory. He said that the strategy session on the Mac II was in August of 1985. (Go back to your old InfoWorlds and I think you will see hints of this.)

He admitted and apologized for the problems with the Mac Plus analog board, which contains the power supply and video circuitry. The SE has a new power supply of a different design. (I was able to talk with the engineer in charge of the SE power supply and got a more detailed explanation from him. He said that the analog board on the SE is now two boards, one with the power supply proper and one with the video and related circuitry. Thus, a need to replace one may not necessitate replacing both, as in the Plus, where they are on the same circuit board.) Mac Pluses also now have a redesigned power supply that makes problems less likely and, of course, service technicians in the dealerships—viewed by many as the cause of many problems suffered by some Macintosh owners—have received new, detailed instructions how to replace one boards without damaging other parts of the computer.

I have a note at this point that says "Really portable Apple II," and I remember Jean-Louis joking about the IIc power supply, but I don't recall anything beyond that. Apple, as you may know, has a policy against discussing unannounced products.

Jean-Louis then turned the podium over to Hardware Product Manager Randy Battat. Randy and three of his colleagues from other groups within Apple answered a number of questions about specific design decisions on the SE and the Mac II. Randy said that the decision to use the Motorola 68000 in the SE, rather than the more powerful 68020, was made because the 68020 was more costly and the engineering would have taken too long. The built-in hard disk and the expansion slot were easy decisions, however. Someone on the panel made a comment (according to my notes) that AppleShare, Apple's file server software, will run in background on the SE and the Mac II. This would be good if true, but I have not seen anything further on this, and I may have misunderstood what was said.

There have been a number of rumors since AppleWorld that Apple is working on a multitasking capability for Macintosh. The panel said that the most important issues in multitasking were fast context switching (Switcher does this, for the most part, but obviously not as neatly as Apple would like) and background printing. We were told to expect an evolutionary set of tools to do limited forms of multitasking.

Printers were discussed only briefly during the session, although a couple of us cornered Randy after the meeting to ask about a fix for the ImageWriter II's problem handling single-sheet paper. No news yet, but Apple is working on it.

The limit of 15 desk accessories is still present in the new System file. This announcement was not popular.

Randy talked about the new versions of Finder and System that Apple will be releasing in fairly short order. Finder 5.4 was released to work with AppleShare. System 4.0 is out now, and System 4.1 will be out soon, to work with the Mac SE. Apple is also working on a "Universal System disk" to be released at about the time that the Mac II becomes available, i.e., May or so. Randy said that people who want to upgrade only once during this period should wait until that version becomes available, but that otherwise people should use the latest versions.

Next was a panel on "Software Solutions," chaired by Guy Kawasaki and also "starring" Dave Winer of Living Videotext, Charlie Jackson of Silicon Beach Software, Bill Holt of Activision and Carl Mishana of Apple Computer. Some random thoughts from the panel: Carl said, quite apologetically, that Apple is the only software company with no phone support and no marketing. Dave Winer said that the Mac has "no serious databases," and that the Mac needs dBase III. Charlie admitted quite candidly that Silicon Beach (which made its reputation on several high-quality packages it sold for very low prices) had gone through some difficult times during the last year but that things had turned around. He described how difficult it is to run a medium-sized software company in an increasingly competitive market. Carl confessed that he was one of the people who decided a few years ago that Apple should raise the prices for MacProject and MacDraw—and that sales of those products went up.

The last panel of the day was Larry Tessler, Vice President for Product Development. The job of his group is not to make actual products, but to come up with new ideas that can be incorporated into future products. (Alan Kay works with Larry, it appears.) One of the areas in which Apple said it was interested was color printing. (No one asked about compact disks, which is another area Apple is supposed to be interested in.) Alan Kay, who participated in this panel, was asked when the Dynabook (see above) would be feasible. To the surprise of many, he said the technology exists or is in the laboratory today, but that there was one remaining problem—the weight and size of the power supply. He predicted a Dynabook could be done before 1990.

The final speaker was Apple Chief Executive Officer John Sculley, who fielded questions from the floor for about forty-five minutes. Some of the questions were very strange—one person asked about a problem his mother was having with her Apple modem. This drove many of us to look for a quick exit, but John handled it with considerable aplomb.

The next day, Wednesday, March 4, was devoted to "User Group University," a series of presentations and discussions to help user group leaders run their groups better. Ellen began with an overview of the user group program. I gave a presentation on how user groups can qualify for tax-exempt status under Federal income tax law.

Fred Showker gave a talk on how to improve the quality of user group newsletters. Among his ideas: Keep line lengths short, i.e., 1.5 times the width of a string consisting of all the lower-case letters ("abcdefg...xyz"); remember that 60% of all readers are browsers, and help them find those

articles of interest to them; create departments so that articles on a common subject are grouped together; do not succumb to "Mac fever," i.e., the desire to do everything on a Mac rather than resort to real cut-and-paste; and in the production of a newsletter, remember that the editor is always boss.

John McWade, a graphics consultant from Sacramento, California who, among other things, writes books for Aldus, the publishers of PageMaker, offered a couple of tips for newsletter editors. Many regarded his talk as the single best presentation of the entire three-day event. When we get the videotape, everyone who does desktop publishing should take the time to see it—it was that good. He said that Adobe's new Illustrator program will be a landmark program of a kind not previously available on any computer at any price. He also recommended that anyone who does newsletters using Times (the font the WAP Journal uses) should get Helvetica Black, a very bold-looking version of the Helvetica font, as their first downloadable (i.e., non-standard) font. John also advised that editors should never leave line spacing on Auto, because it spaces lines too close together. Instead, he said, line spacing should always be one to two points more than the character size.

John also gave an excellent critique of the newsletter of the Apple Corps of Dallas, including their newsletter logo. John criticized their layout and their logo, and showed how they could do better. He used about a dozen overhead transparencies to show how they could make their logo more attractive. At the end, Andy Reese, the president of the Apple Corps of Dallas, asked whether they could have copies of this splendid logo John did for them—he said Yes.

John talked about the typesetting characters available on the Macintosh, such as " and ". But he also pointed out that properly typeset books and magazines used only one space after the period at the end of a sentence or after a colon, rather than the two customarily used in typewriting—this surprised many people, but I checked it out in a number of places and he is correct.

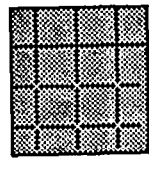
We are going to try to get John to speak at an upcoming show WAP is co-sponsoring on desktop publishing, but his schedule may not permit it. If you ever get a chance to hear John speak, by all means do so.

After lunch, Dave Lingwood of the Apple Programmers and Developers Association (APDA) spoke about APDA's role as a clearinghouse of technical information. He said that surveys of their members indicated that they preferred low price over a wide selection of products, which in turn was ranked higher than speedy delivery.

Other speakers included Jonathan Rotenberg, president of the Boston Computer Society, who spoke on how to recruit and motivate volunteers; Steirling Speirn, from Apple's Corporate Grants group, who discussed how some tax-exempt groups could qualify for grants from Apple; Trev Griffiths, who discussed AppleLink; Toni Tomacci, of Apple's Customer Relations group; and, finally, Bob Hall of Apple's Government Marketing group. Bob had many kind things to say about Washington Apple Pi, which he described as having an excellent relationship with Apple.

* * *

A personal note: I always come back from these conferences a few inches off the ground. Washington Apple Pi is one of the country's best-known and respected user groups, not only because of our size but because of the high quality of what we do. We are proud to have a number of people in our group with a truly national reputation in the user group community. Foremost among these is Bernie Urban, our Journal editor. The Journal, which we exchange with more than a hundred other user groups, is read by many leaders of other user groups, as well as by leaders in the computer industry. Jon Hardis, who writes the Mac Q&A column and is our CompuServe coordinator, is another person of national renown. So is Walt Mossberg, who writes a column on the Apple II and is our representative on the Apple II forums on CompuServe. We are very fortunate to have these talented and dedicated people, and the many other talented and dedicated people who help out in other capacities in the Pi, as part of our group.



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TIPS AND GRAPHICS: From the Simple to the Sublime

by Jay Rohr

Want some practice on your Mac? A printer will give you all the work you can handle. A printer's main function is to print: that's where he or she makes money. They would rather have all the work come into them "camera ready." Typesetting, graphics, layout and design are areas they would rather not concern themselves with. Every time they do, most of them lose money on both personnel and equipment they'd rather not have. Often, it is just a convenience for them to have this equipment on their site.

If you have a Mac, access to a LaserWriter, a slew of fonts, and some graphics ability, money can be made with the Mac. Printers are demanding and require quick service: once having begun with one, expect to be relied upon to produce on deadlines. The prerequisite is a willingness to work in the business of manufacturing type and graphics. Printers are a fine group of people, often overworked because of their desire to service their customers in a very competitive market. In working with them, therefore, productivity is a must. Short circuit them, and your name and reputation is suddenly mud.

It is a great truth that the quickest way to learn graphics and typography on the Mac is by doing it under the pressure of the jobwork environment. It should also be mentioned that one never knows what kind of work a printer will hand one to produce for him: one job may be a simple letterhead, another a complicated letterhead, or it may be an involved menu, or simple changes to existing work, or simple or complex forms work, a business card, brochure, mailer, flier, graphics and art work, page or layout design, material to be scanned or digitized, original logos and logo design, newsletters, bulletins, catalogs—just about anything you can think of.

Often, the kind of printer approached will determine the kind of pay received. None of them will pay for experimental work, or for the trials and tribulations of learning time involved in the many graphics programs available to the Mac user. They pay only for actual production results.

The second great truth is that the more work produced, the more proficient one becomes. Monetarily, this means that the start is slow, but the finished, polished, accomplished Mac user can begin to realize that the end result entail handsome rewards for that service and dedication. Prepare to start at the bottom and work up: a Mac and a printing company will not allow cheating. It rests solely on ability and competence in the work at hand.

Since printers are usually very familiar with type, graphics, and overall appearance, these observations are offered to anyone who wishes to produce outstanding work on the Macintosh.

PageMaker (current version 1.2) does an excellent job with "reverse" type. Aldus calls this "white" type in their menu. It prints white on black, and it cannot be seen until there is a black or shaded background to print it on. Therefore, design the approximate area for the background first. The background parameters can be changed later to conform with the type area used. (Cricket Draw also has this ability: these "reverse" type blocks can then be embedded into ReadySetGo3 documents, but not in the 1.2 version of PM, which does not accept Cricket's PICT files.)

Be finicky about what you are doing—not only for yourself, but for the overall appearance of your masterpiece. In reading articles and books on page layout programs and graphics, such as James Cavuoto's informative "LaserWrite It!", Terry Ulick's "Personal Publishing With The Macintosh", the manuals on SuperPaint, PageMaker, ReadySetGo3, JustText, various Journals, and almost all the popular Mac magazines, so much of the real work to be performed is so glossed over as to be almost unusable—if not glossed over, then ignored entirely. Ulick, however, mentions "kerning" in his book, but does not deal with it at all. He shows us that he is familiar with the term but does not attack the problem by offering solutions in his book edifying PageMaker 1.2.

In the real world, if you are dealing with folks who notice such things as oddly spaced letters (particularly caps), and you are working in PageMaker, you simply MUST come to grips with this problem and solve it. In a recent job done for a printer was the word "AVAILABLE" in Helvetica Bold caps. The spacing in PageMaker between the "AVA" was atrocious on the print out. (See Figure 1.) Had to cope with it, though. Had to solve it. Was too far into the job to switch to ReadySetGo3 which does have kerning abilities, but only in one point increments (as opposed to "relative" points).

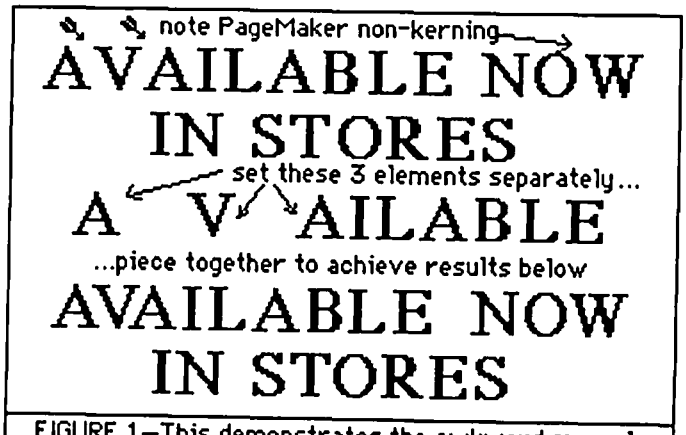

FIGURE 1—This demonstrates the awkward manual kerning in PageMaker 1.2: a necessary step in order to produce marketable type for printers.

Set a narrow column and type the cap "A" by itself. Then the cap "V", and then the rest of the word, "AILABLE". Since the original word was centered in the type, I left it there, in black type. What I did, however, was to select the original word, called up the menu, and asked for white type, which had the effect of not showing up on the screen, but did keep the line centered. Then, select the "AILABLE" and place it on the line where the original was. Once placed, select the "V" and tuck it in there nicely, and do the same for the "A". Tedious? Yes. But the desired results were evident.

Does PageMaker 1.2 have problems with imported PICT graphics and formats? Oh yes indeedy! But they're "working

contd.

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on it," they said. Does PageMaker 1.2 have problems with scanned images? Sure: hey, everyone knows that! But they're "working on it." In the meanwhile, we have the option of twiddling our thumbs or going out on a quest for another program whilst expensive scanner sits idle. Does that make sense, or what? Hire a consultant! OK . How much more is that going to be? And will he have the answers?

If you have ever dickered with the importing of PICT formatted files into PM1.2, then you may have noticed some rather peculiar things happening in PM with your graphic—such as half of it missing! Is THAT fun! Until they get the bug out of their program, you have to throw a white box behind the graphic, and larger than the graphic, to compensate for what PM does not pick up. This does not always work. There is yet another quirk in PM: if you cut a very wide graphic or line of type and attempt to place it into your Scrapbook, you will most likely end up with an entire corrupted Scrapbook. There is an overflow problem here in both HFS and MFS that may surprise you when you go to call up a Scrapbook file that looks good on screen. When you go to paste it in, you DO NOT get the graphic you selected at all. Often we encountered the infamous BOMB!

ReadySetGo3 does a bad job on reverse type because it uses only the Outline mode. If the word INVOICE is done in Helvetica or Bookman Bold Outline and placed over a shaded area, you have the effect of reverse type, but not true reverse type. On printout, the letters are too spaced out and sickly. They may look fine on screen, but that ain't what you get. (See Figure 2.) To correct this deficiency in this program that has not come to grips with this oddity at all, kern each letter by -1 or -2 manually. It wasn't perfect, but the results were much more pleasing than the first printout.

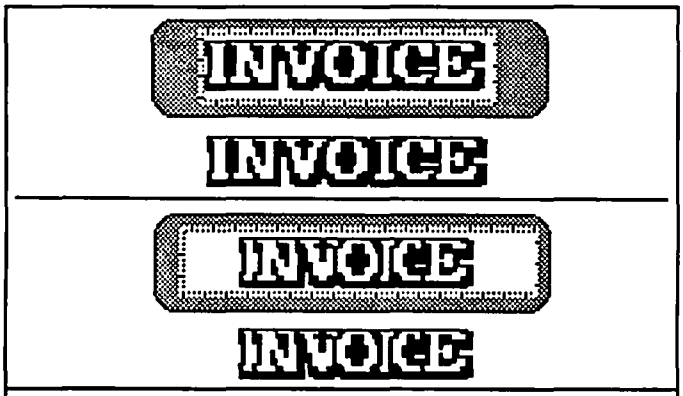

FIGURE 2—The top two reveal the unkerned type as it appears in RSG3. Looks great on the screen, but.. The bottom two Bookman Bold Outline reverses have a kern on each letter. Looks terrible on screen but prints out nicely on the LaserWriter.

ReadySetGo3 imports MacPaint and digitized MacPaint/FullPaint graphics at 96%, and that is one reason why the printout does not match what is seen on the screen. Either a mathematical compensation has to be made for this, or trial and error with the placement as well as several run-outs are the answer. The modification block parameters and measurements assure you that everything is hunky-dory, but a surprise awaits you when you print out the graphic.

I've been waiting for a week for the technician at RSG to call me back on this oddity, among others. If the program was written in the C language, is there an IF-THEN routine that would alert RSG that IF it sees an imported MacPaint anything, that a translation from 96% to 100% should THEN automatically take place to conform to the RSG measurement dialog boxes? That IF it sees a user dialog selecting REVERSE, that it reverses the pixel arrangement forming letters?

A further surprise may await you when it is discovered that the graphic did not print out at all in some cases in RSG3. In talking with Ms. Lisa Gray of Manhattan Graphics, she advised making use of Art Grabber, and selecting the graphic with this accessory as close to trim as possible—particularly if the graphic appears near the upper lefthand corner of the page. The reason cited for this oddity is "that there is a problem with the printer driver," she said.

Fun with SuperPaint! If you have the program, have read the manual, have worked with it, this program is a major breakthrough in resolving bit-mapped images with object-oriented images. There's a plethora of praises in all the magazines on this program. But using it is a wee bit different than what you may have read. Scan through any of these articles on the powerful attributes in this program, but the voices are strangely silent on the LaserBits capabilities, for instance. And it is precisely in this LaserBits area where the most important and powerful feature of this program resides!

I'm certainly not negative about these well-written articles except to shout that they are incomplete in their expositions. And this causes great aggravation. There are so many what-ifs that crop up when using SuperPaint that aren't touched by the writers or within the pages of the manual itself. A major problem using LaserBits is the size of the image you can select: 2 x 2-1/2" maximum size. WHAT IF you have a graphic larger than that size to clean up in LaserBits? No answer. Okay, so you select several bits of the graphic and work on them one at a time. So you work diligently in sections. Now you want to place these LaserBit masterpieces back into the original (or make a new) graphic. No one, including Silicon Beach, has told me how to fit the pieces in this puzzle of LaserBit images to line up the complete graphic. Maybe they can't.

But this is another case of us working in the real world in real time trying to solve real problems, isn't it? There are real jobs and real work at hand in which the proper functioning of an application is important. So into the mail to Silicon Beach went my disk asking for answers to these galactic impositions on events unforeseen (translate: "overlooked"?). We know what the problem is: the screen resolution is 72 dots per inch, and we're working in LaserBits at 300 dpi. So betwixt the two, we've got problems viewing the GENUINE finished product on our non-LaserWriter screens. It is also not so great a thing to suggest we make trial runs on the LaserWriter to see the results and to correct them, since SuperPaint graphics (no matter what size) takes an average of 20 minutes to figure out just what in the devil is going on before you get a printout. Now I have a lot of patience, but this kind of time-taxing isn't affordable or available.

Silicon Beach's reply to my queries was a test version 1.0s disk of SuperPaint correcting problems with LaserBits for those using 300 dpi scanners. "The problems were: white lines appearing between adjacent LaserBits objects, and

contd.

sections of LaserBits objects shifting horizontally by one LaserWriter pixel," Linda Wardlaw, Technical Operations Manager, informed me in a 3/17/87 letter. Also, with smoothing no longer affecting LaserBits printing, documents will print out much faster; and it will print with a transparent background corresponding to the way the image appears on the screen. Ms. Wardlaw suggested using the grid snap feature when creating LaserBits documents, and warned not to delete these documents which are linked to the main printing document. These should be all reside in one folder.

In a recent conversation with Douglas Seward at Cricket-Draw, the problems cited were with the polygon and the inability to form a second vertex (cusping function), the disappearance of the horizontal scroll bar, most of the tools defaulting to the left margin no matter where the cursor was placed, and imported Paint documents dropping into C-Draw in sections rather than as one grouped object that could be controlled with effects and resizing. Cricket Draw does not yet support FullPaint (which was the Paint document I imported) because, as Douglas stated, FullPaint programmers did not adhere to some of the Mac standards, causing these bitmaps to import into C-Draw as sections. This was being corrected, he said. Meanwhile, he advised two solutions: 1) edit each section of the bitmap graphic (because one cannot edit them at all by grouping in C-Draw), and then piece them together very carefully; 2) use SuperPaint, and import any bitmap from that program, which is 100% compatible. Also he strongly advised reading (and subscribing—$25 yr.) to Cricket Draw's Technical Notes. I've been scribbling these addendums and corrections into the main manual because they are so important. And the reason for the cursor defaulting to the left margin and no horizontal scroll bar? The program went bananas when I did something with the polygon and corrupted. LUCKILY I HAD A BACK-UP! Please, please, make a backup of this valuable program! Just in case.

It would be most beneficial if the promoters of programs, as well as the psyched-up journalists extolling the virtues of same, would be honest enough to include in their articles the full picture of what is being reviewed. It's not so much what is said about any given product that is at fault, but what is NOT said about these products that mislead us. Honesty is the best policy all around: OK, we have a potientially good product here with some limitations, so let's work with it and try to solve them. I mean, is it just me, or do I have the impression that those reviewing and writing about specific applications aren't writing about the ones I'm using? Or are they writing about stuff they are not qualified to write about? Or, heaven forbid, haven't they really used the product themselves, and are just relying on press releases to fake through their reviews? I can understand retailers and wholesale houses doing this in order to hype up the market for potential sales. But when I subscribe to Mac publications, I want some nitty-gritty, hands-on, objective reporting. Don't you?

Thus, a lot could be said for the virtues of the rental libraries out there—mainly in Texas—who let you rent a program to try out before you decide to buy them. Taking them up on some of these offers has saved some bucks. For example, as fast as SlideShow Magician was received, it was shipped right back, and the cost was minimal. "Here! You're the guinea pig: have some bugs on your time and money and patience, and don't hesitate to give us a call if you happen to have any problems, hear? Our number is area code ---," etc. Yes, in many cases the rental libraries for applications is very handy indeed.

If you have been frustrated by the ability of the $20 shareware program, "Disk Librarian" to perform on HFS files (and even some MFS documents) in version 1.82 without bombing out, take heart. Version 1.82a was sent to me by Little Bit Software after inquiries. They responded very well, and so far so good. The version seems to work fine, and is now available on WAP Mac Utilities XII, Disk 81.

Now, about Marcus' negatively-slanted review of ReadySetGo3 in April's "Publish!" (a lot of IBM & IBM-compatible stuff in that publication!)... Now about the wonderful mazes, surprise menus, automatic functions, and calculation capabilities of the powerful Microsoft Word 3! And some of the Word manual inconsistencies and "left-outs"... Now some more about Cricket Draw... Now something on Micro Dynamics' PostHaste... Now about why Graphidex is superior to PictureBase... Now about that hands-on publication, "The Page"... LATER.

Jay Rohr has a private practice as a Macintosh consultant and tutor, and has set up Mac systems in newspaper offices and graphics studios for 2 years. His specialty is graphics, commercial art and typography.

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IMAGEWRITER PRINT-FADING PROBLEM FIX

by Richard J. Byrd

Sorrow is having your Imagewriter develop a habit of skipping and fading; happiness is finding a simple cure! For months I have had occasions of print fading with my Imagewriter II, which seemed to be worse with inexpensive ribbon cartridges but only occasionally a problem with the Apple ribbons. At first glance, the cheaper ribbons seemed to require more torque to advance the ribbon, and I suspected that the Imagewriter II had a weaker drive to the ribbon advance gear, especially since my Imagewriter I's had never given me this problem.

In desperation I took the Imagewriter II ribbon drive deck assembly apart and studied it carefully. Everything seemed to look proper internally, but when I reassembled it, put the ribbon in and operated it manually, the ribbon would stop advancing as the printhead neared the right margin of the page. Then I noticed that a slight pressure down on the cartridge would stop the ribbon from advancing at all and a slight pull upward would eliminate the problem. On the bottom of the ribbon cartridge are two tapered locating pegs that fit in two corresponding holes in the ribbon cartridge deck. Just below the rightmost hole, you can see the drive wheel that is rotated by the small cable as the deck moves across the carrier rod. Now wait—if the locating peg were to touch the drive wheel—**Eureka!** I put a small piece of cardboard under the right part of the ribbon cartridge, keeping the peg from penetrating as far in to the drive deck, and the problem was eliminated. A more permanent fix was effected by taking a few strokes with a file across the point of the locating peg so that it could not penetrate deeply enough to touch the drive wheel.

That was the simple answer—and I've never had the problem since. If you have experienced this difficulty with your Imagewriter II, expecially when using non-Apple ribbons, just file a tenth inch or so off the right locating peg (right as looking down on the ribbon in the as-installed position). The cheaper ribbon cartridges are generally for C.Itoh printers and definitely have slightly longer locating pegs, but I file my Apple ones also just to be safe. It only takes about thirty seconds to file five ribbons. By the way, the Imagewriter I does not have the problem, because the drive wheel is not located under the locating peg and hence the problem is not experienced with this earlier machine.

FASTER PRINTING WITH THE IMAGEWRITER II

by John J. Boren

Although the Imagewriter II normally prints bidirectionaly in "Draft" and "Best" quality, "Faster" quality printing is unidirectional. This is curious since "Faster" printing is none too fast, at least in my opinion. In "Mac Q & A" in the January issue, Jonathan Hardis briefly described a change that would make "Faster" quality printing bidirectional. After choosing "Faster" in the print dialog box, one must simultaneously hold down the Caps Lock, Shift, and Option keys while clicking on the OK button. That's it. Hardis warned that the change was permanent and that he did not know how to undo it.

I tried this "fix" and it worked! The one-time change was permanent and did not need to be redone. Printing time was noticeably decreased. With a one-page MacWrite document, the unidirectional printout (before the change) required 90 seconds, while the bidirectional printout (after the change) required only 68 seconds. This is a 24% decrease. In another document the decrease was about 20%. The bidirectional printing was faster—not a lot faster but certainly enough to make the change worthwhile, assuming one does not have to pay some unforeseen price.

"Permanent" changes like this make me uncomfortable. What if the change causes a problem next month and then there is no way to get back to the standard unidirectional printing. I found one way to recover. If you want to undo the change, trash the modified Imagewriter document (which is in the System Folder) and replace it with a copy of the unmodified document—assuming, of course, that you previously saved it on another disk. In spite of my worries, I have encountered no difficulties in a month and a half of printing various documents, and a friend reports a similar experience. Therefore, the "fix" appears to be a good one. Thank you, Jonathan Hardis.

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dPubSIG NEWS
by Steven Payne

The April Desktop Publishing Special Interest Group meeting began at 7:30 PM on April 1 (with only a brief reference to its coincidence with April Fool's Day!). We opened with questions and answers about the new Macintosh SE, LaserWriter connections, and possible bugs in Microsoft's WORD 3.0. Chairman Thomas Piwowar announced that ACCESS Recharging (800-426-2466) is offering to refill LaserWriter toner cartridges at a discount to WAP members ($62.50 as opposed to $69), and that Aldus will now be distributing *PageMaker* more widely, through Microamerica (with a possible reduction in price resulting). Tom also thanked our equipment coordinator Hersh Cousin, and asked for additional volunteers to help with transportation and publicity. There was a brief discussion of *MacProof*, of the problems of importing reduced columns from EXCEL into *PageMaker*, of the new IBMs, and the danger of using System 4.0 and Finder 5.4 with a Dataframe hard disk. Once again Tom noted that all 1987 meetings are to be held on the first Wednesday of each month, with a demo of the new *GraphicWorks* scheduled for May. *PostScript* and Microsoft *Word* tutorials will be offered soon through the WAP by Ron Moore and Hank Taylor, respectively.

In the demos segment, Richard Moss presented and discussed *Guide* (OWL International, $135 list), a Macintosh hypertext tool, which allows you to develop relational links between different parts of an electronic document. Ron Moore demonstrated Adobe's *Illustrator* and briefly alluded to POSTHASTE from Microdynamics; as Ron pointed out, though *Illustrator* enables you to produce beautiful object-oriented graphics relatively easily by tracing over bit-mapped pictures, it does not provide for programming in raw *PostScript*, and won't do color for the Macintosh II. Hank Taylor demonstrated WORD 3.0, with different printed samples, while Carol Karsch and Tom Piwowar ended with a demo of *PageMaker* 2.0. The next regular dPubSIG meeting will be held at 7:30 PM on May 6 in the PEPCO Building at 19th and Pennsylvania, NW. We hope to see you there.

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A POWER USER PRIMER
by Fred Seelig

If I hear one more person call himself a power user, I'm going to take my McCullough 20" power chainsaw and power through his Macintosh.

The Power User Defined

Let's get a few things straight. Andy Hertzfeld is a power user. Bill Atkinson is a power user. Roger Fidler, the guy at Knight-Ridder newspaper with the legendary 1500 item MacDraw documents, he's a power user. But let's face it: you and I, we're not power users. We will, in all likelihood, never be power users.

Do you know how you can tell if you're a power user or not? Here's a checklist.

1. Do your middle fingers have little reverse indentations in them from the Mac+ keyboard dimples on the D and K keys?
2. Are your wrists permantly locked up from using the horrible Mac keyboards with the tilt on them?
3. How fast can you do a picture of the American flag waving in the breeze in MacDraw? 40-50 minutes? Pshaw! Not even close! Try 2 minutes.
4. How long does it take your document to print on a LaserWriter? Three to five minutes? Hah! If it doesn't take an hour, it just can't be very complicated. Bonus tenths of a point awarded if you know and understand PostScript, and have ever written a program that directly drives the LaserWriter.
5. Can you hum the exact note of the bing that you hear turning off the Mac? Exact note, exact volume, exact duration. If five judges don't give you a perfect 10, you're not a power user, and bear in mind that even the judge from Russia has to give you a ten.
6. Download time. Downloading anything under 15 minutes is extremely bush league. Downloading something over 24 hours, now that's good. Like the complete listing of Inside Macintosh, all four volumes. Also, a barebones minimum of membership on 45 bulletin boards, frequent quoting in Byte whenever you're on the BIXnet, and a monthly phone bill in excess of the GNPs of small African nations.
7. Do you take lunch? A real PU doesn't. Do you take breaks every few hours or so? A real PU doesn't. A real PU can work hours in a row, and frequently does. Do you eat things like meat and vegetables and bread? Excise these nonessential items from your diet immediately. A real PU defines warm food as Twinkies that accidentally got sat on two hours ago. The only recently living thing that gets near a PU's digestive tract is the mold growing on the two week old Wendy's Thick and Formerly Frosty.
8. Are you really, seriously thinking about buying a flat Mac for $7000 with your own money?
9. If you can't wait for CD-ROM disks to come out because your 40-Meg Dataframe 40-XP is just too gosh darn small for your storage requirements, award yourself a point.
10. Have you ever used ResEdit? One-tenth of a point will be awarded if you've created a startup screen, or customized an icon. Up to one-half point if you've customized pulldown menus of most of your favorite applications. A full point will be awarded if you've completely rewritten the Macintosh operating system.

Score: 3 or higher and you're in the power user category. Any lower and you're pond slime just like the Rest of Us.

So now it's safe to say that most of us have flunked the test. True power users are really creatures from other planets. They're single-minded software purists. They would never waste one CPU second on trivial things like showers and text processing. They would no more type letters to Aunt Bess on their Macs than they would use a Ferrari to get a loaf of bread at the 7-11.

Profession doesn't count. Education doesn't count. Salary, clothing, none of those peripheral things count when that threshold is set. It's the total number of hours you spend before your Mac. That's it. This is a brutally curt standard, to be sure. And don't think an intense bit-filled weekend will do it, either. Nope. We're talking thousands of hours here. But then, hey, you didn't expect this to be easy, did you? Do airlines give four-engine jet ratings to teeny-boppers who play Flight Simulator?

Powerful Users vs. Power Users

Now then, let's look at a misconception of the term in our Capital City. Washington, the city of power, does not understand what the rest of the world calls a power user. Washingtonians think that all you have to do to be a power user is to own a Mac Plus, have an American Express Gold card and work on the Hill. Nothing could be further from the truth. Power users do not concern themselves with what they use the Macintosh for, but how much they use it.

But the power-lifestyle image burns e'er brightly in the breast of a Washington Yuppie. Filofacts notebooks. Quiche for lunch. Power suits. Yellow power ties. Florsheim power shoes. Power jogging outfits. Power plastic cards. Kids in Advanced Placement classes, or ones with high SAT scores. Power kids. Summer computer camps. (Hmmm... an interesting topic for future articles.) Small but very expensive cars. Power transportation. If you don't have these things, then you're, ipso facto, not powerful. So you get these things to become more powerful. If you have a computer, then you are a power user. It would not do to be an ordinary user. No, no, no, girls would never marry just ordinary computer users. No, you have to be something special in Hackdom nowadays.

Seen in this light, the Mac is just an extension of a person's quest for a progressive image. It's a pity that Ikea isn't an Apple/Volvo dealer, since if it were, it would be

almost too convenient: buy your station wagon there, toot over to the main store and pick up a few Macs, pay for it all with the AmEx Gold, and buzz home. One stop Yuppie shopping. The concept boggles the fragile mind.

The Poseurs

Let's talk about power user poseurs. Posing as a power user isn't hard. First you buy a Macintosh. Then you find out what kilobytes really means. Then you start telling all of your impressionable friends that you have a million bytes of RAM (That's Random Access Memory, pal, you whisper knowingly) in your Mac Plus. Actually it's *more* than a million, it's 1028-some thousand bytes, 'cause they count it digitally, and that's why they call it a Mac Plus, because it holds a million *plus* bytes of RAM. And their eyes glaze over at the wonder of modern technology. And they think to themselves, hey, isn't this Joe the Exxon mechanic that used to have grease all the way up to his armpits? And now he talks tech talk? Can computers do this to people? While they're dumbstricken at your new-found electronic knowledge, you look at your cuticles real closely, and you drop the bomb. Yeah, I'm a *power user* now, you say quietly. They can hear the italics.

Mr. Seelig is a power user, and don't you forget it. He claims to have an unstained power white shirt somewhere, but his daughter is becoming somewhat of a power regurgitater. His lawn is a powerful lawn in the summertime, and his crabgrass is much greener than the neighbors'. Mr. Seelig is the president of Mac Consultants, an organization dedicated to helping small businesses with Macintoshes.

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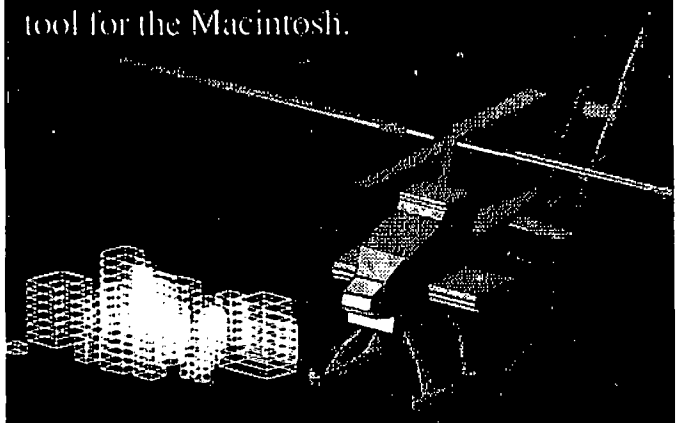

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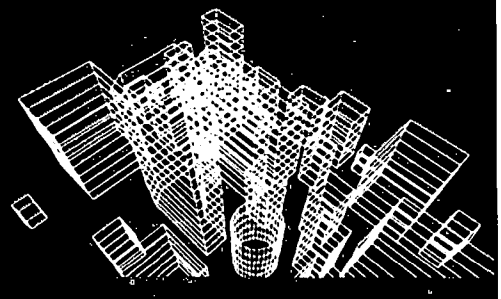

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MacNovice Column

by Ralph J. Begleiter

"The Slow Boat"

A recent call from a MacNovice wondering why her Mac seems to be slowing down as the size of her manuscript increases prompted an explanation of something the computer whizzes call "fragmentation." It's one of those arcane "features" which users of the Macintosh Plus are learning to cope with.

You'll recognize the symptoms: As the size of your book manuscript grows, it seems to take your word processor (MacWrite or any other) longer and longer to open the file initially—and maybe longer even to scroll from one part of the document to another. MacNovices still working on 128K or 512K machines which have not been "enhanced" to the Macintosh Plus system don't experience this problem. You'll see why in a minute.

Fragmentation is a problem not just with word processing, but with the documents created by many other kinds of software, too. Presentation software such as MORE is susceptible to it; spreadsheets can experience it. And fragmentation can be a truly noticeable annoyance in large MacPaint or desktop publishing documents, too.

I did say "annoyance" because it's not really a difficult problem. The slow boat just means you take a little longer to get your work started when you open a document, or when you skip to a distant section of it. Even MacNovices by now have discovered that when you're working with a computer as fast as the Mac, a small slowdown can seem an eternity.

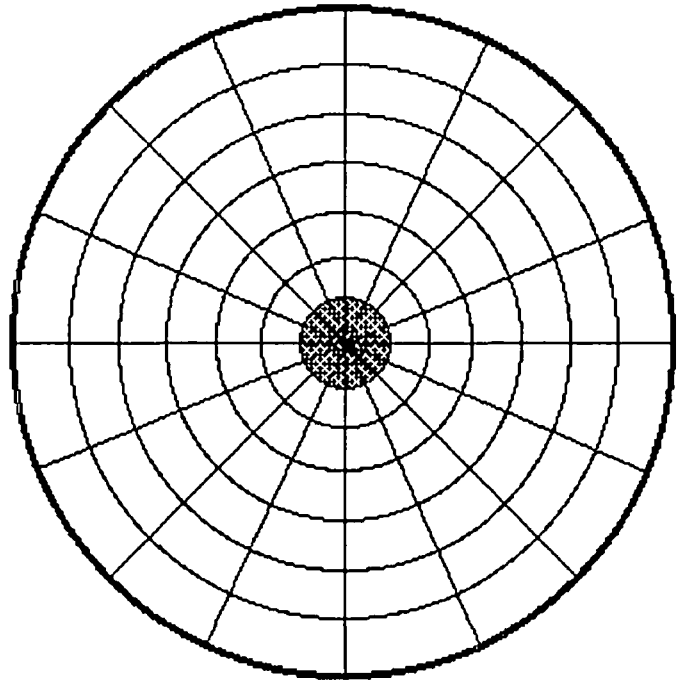
So, what is fragmentation, why does it slow you down, and how can it be fixed? Actually, the fix is simpler than the explanation! But it's interesting to understand why fragmentation happens and how it affects your work.

Let's say you create a new MacWrite document, the beginning of a book. You open a NEW document from the FILE menu. You give it a title and start writing. The juices are flowing, so you type furiously until you've filled twenty pages! As you go, of course, you SAVE your document frequently, using the FILE menu. (Of course you save frequently; you wouldn't want to lose all twenty pages of inspiration when your foot kicks the power supply plug from the wall by mistake.)

The first time you SAVE your untitled document, Mac asks you for a name. When you give it one, Mac automatically takes care of a few little filing chores, unseen by you. The computer notes the name, the time and date of creation, and the type of document it is (in this case, a MacWrite document). Mac also decides where to store the document on your disk. If you're working under the MacPlus HFS system, your Macintosh asks you which DISK to store the document on, and which FOLDER to place it in. That infomation is stored, invisibly, with your document. Next time you open the document, Mac refers to these notes, locates the file on your disk and opens it quickly.

After the first SAVE of your document, Macintosh simply appends whatever changes you make to it. The file gets bigger and bigger, of course, each time you SAVE. Once you've churned out your first 20 pages, you mind runs dry. No problem. That's a good day's work! You shut down your Mac or close the document and take on some other work. Perhaps you've got some banking to do. Or some letters to write. Or a spreadsheet to develop. Macintosh handles its filing chores the same way with all your documents. Each new file is assigned a "parking space" on your disk.

Ready for a little technical stuff? Here's a stylized picture of all the "parking spaces" on your disk.



The sections on your disk are "painted" there, electronically, when you "initialize" your disk for the first time or when you erase it. The sectors are given code numbers, so the Macintosh Finder can file and locate documents placed anywhere on the disk. Each block, or sector, can contain several files. Or just one big one. When it's time to open a document, Macintosh reads the Finder information it encoded with the file upon creation, and the disk drive head whips across the disk, hovering over areas of the disk which contain the file you're opening. All this happens in a matter of just seconds, so you hardly notice it.

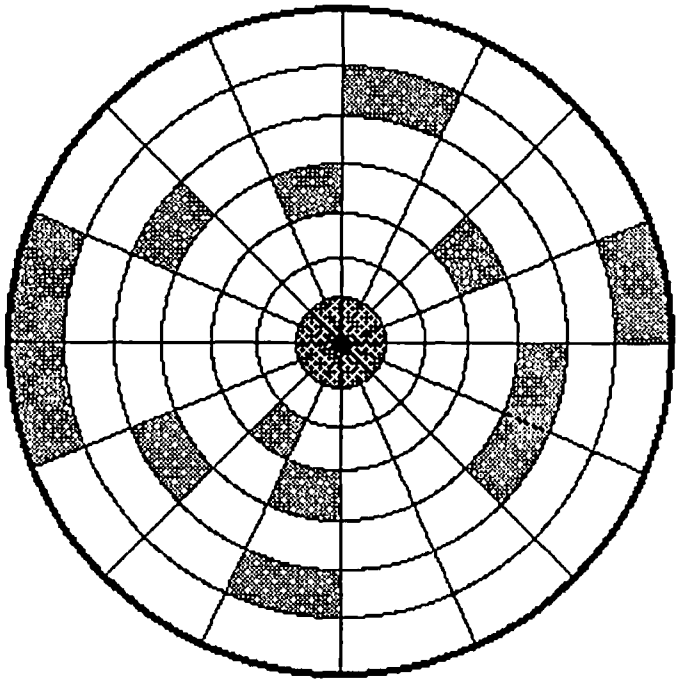
When a document becomes very large, it occupies several sectors of the disk. Macintosh adds "pointers" to its original coded filing information to help it find the next piece of the document. When a document is opened, added-to, and saved again, the new material may be assigned to sectors which don't happen to be contiguous with the original file on the disk. The pieces of your document may also be separated by

contd.

other documents you created in the meantime.

That's "fragmentation." With small files, you don't even notice the disk drive is skipping around to a couple of different places on the disk to read your document. It all happens so fast it's barely noticeable. But with large files, such as a manu- script running into the scores or even hundreds of pages, you begin to notice that Mac takes a bit longer to read and open your document from its disk. The problem is magnified by the new 800K disks, which can hold much more information than the one-sided 400K versions did.

And if 800K disks magnify the problem of fragmentation, imagine what happens to a book manuscript when it's scattered all over a 20 or 40 megabyte hard disk drive!



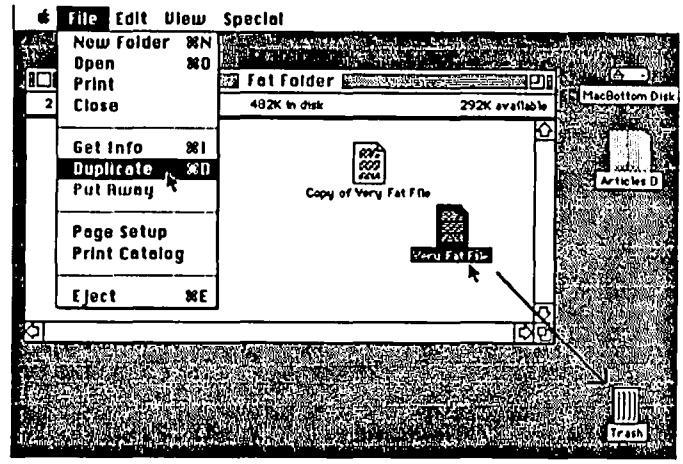
Now, MacNovices who are still using single-sided, 400K disks can understand why they've probably never noticed fragmentation as a problem. First of all, the disks aren't big enough to hold enough data to really slow things down. They're not big enough for the "parking spaces" to be very far apart, no matter how fragmented your files are.

And users of hard disk drives can now understand why fragmentation could slow them down noticeably. Because of the size of hard disks, documents can be fragmented over far greater distances, and the heads on the drive can be forced to take much longer trips all over creation to locate and open a large document.

So what's the fix? Piece of cake. As I said earlier, the fix is simpler than the explanation. If you think your Mac is taking the slow boat when it opens a large document, follow the following simple steps. These instructions are applicable equally to any size disk, including enormous hard disk drives:

- On the desk-top, make a DUPLICATE of your file by choosing DUPLICATE from the File menu. Give the duplicate a new, similar, name. (The new name is only temporary.)
- Now throw your ORIGINAL document in the TRASH.
- Rename the copy to take on the original name.

That's it! You've accomplished this: You've instructed Mac to write a fresh copy of your original file. By doing this,



the Macintosh finds a whole series of new "parking spaces" on your disk. And it uses contiguous spaces, so fragmentation of the file is eliminated.

"AHA!," you say. "I can't make a duplicate of my manuscript on my 800K or 400K disk. The file is already so large that there isn't room on the disk for a duplicate." Or, the disk is already nearly full of other files, so there's no room for a duplicate of your novel.

No problem.

- Initialize a new disk.
- DRAG the large original document from its home disk to the new one. Mac will make a copy of the document on the new disk— choosing nice, neat contiguous "parking spaces."
- Now just use the new disk when working on your large document. (You can TRASH the copy on the previous disk if you like, making room for expansion of other files.) Don't copy the large document back onto the previous disk, however, because Mac will simply find the same old fragmented sectors, and you'll re-create the fragmentation of before.

If you're working on a hard disk drive, you should have no problem making a DUPLICATE of the large, fragmented file. Then trash the old document. Alternatively, under HFS, you can drag a copy of the fragmented file into a new folder. That will effectively make a duplicate. Then, you can trash the old copy and its folder, making room on that part of the disk for other files.

By the way, for hard disk drive users, there are a few software programs available now which help eliminate fragmentation by automatically copying fragmented files onto new areas of your drive and erasing the originals. Some programs do it on a file-by-file basis. Others take care of the entire contents of the disk drive.

One word of caution: Before trashing your large document under any of these instructions—OPEN the new copy and check it. Just make sure it opens and reads OK. Once satisfied, go ahead and trash the old ones. Of course, you keep backups of all your work anyway, so this precaution shouldn't be necessary.

That's it. You should discover that your large documents now open quickly again, and it'll be faster scrolling through the entire document, too. Don't forget that when you add to your large file again, you'll be starting a whole new growth of fragmentation. When the slow boat gets you down again, just repeat the simple instructions for writing a clean and speedy copy.

FREDERICK APPLE CORE

A SLICE OF THE WASHINGTON APPLE PI

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SIG MAC Chairman	- Lynn R. Trusal
SYSOP	- Scott Galbraith

The Frederick Apple Core now meets on the second Saturday of each month in the large conference room of the Frederick Library at 110 E. Patrick Street, Frederick, MD at 9:30 AM. Call Scott Galbraith at 301-865-3035 for additional details. This meeting will also feature Macintosh applications and demos.

FAC Upcoming Programs

May 9 - Games Demo by Ron Wartow - Apple & Mac

Jun 13 - Designing Your Own Icons

HOTLINE MEMBERS

Lynn R. Trusal	- (301) 845-2651
Scott Galbraith	- (301) 865-3035
Kurt Holter	- (301) 663-4199
Bruce Taylor	- (301) 371-6181
Stephen Hadley	- (301) 831-5353

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 will continue to meet on the fourth Tuesday of each month at the U.S. Army Medical Research Institute of Infectious Diseases, Ft. Detrick, MD at 7:30 PM. Mac owners in the local Frederick area are welcome. Call Lynn R. Trusal at (301) 845-2651 for details.

SIG MAC Upcoming Programs

May 26 - ResEdit & MacLightning Demo

MACINTOSH BITS AND BYTES

by Lynn R. Trusal (Frederick Apple Core)

Macintosh/IBM Hard Disk

CMS (Costa Mesa, CA) has announced a hard-disk subsystem that will allow IBM PCs to share files with Apple and Macintosh computers via the SCSI bus. This follows release of a similar product to connect Apple //e, IIgs and Macintosh computers which was first announced at the San Francisco Macintosh EXPO. CMS claims that a user will be able to create a document with a word processor on the IIgs, store it on the hard disk and then call it up to add graphics using the Macintosh and PageMaker. The document could then be printed on the LaserWriter. The Apple/Macintosh hard-disk subsystem is called "Data Exchange" and consists of a 20 Mbyte SCSI hard-disk with an access time of 65 milliseconds and a list price of $995. It will connect directly to the Macintosh Plus SCSI port while connection to an Apple II or IBM PC will require a SCSI adapter card. Utility software will allow data stored on one partition of the hard disk to be translated into a form that other partitions can understand. Thus, totally incompatible operating systems could be stored on the separate partitions of the hard disk and still communicate with each other. In addition, a 40 megabyte model with the same access time will retail for $1,595 while a faster (29 millisecond access time) 40 megabyte will cost $1,995.

Other companies working towards Apple II, Macintosh and IBM compatibility are 3Com Corp of Mountain View, CA, and Dayna Communications of Salt Lake City, Utah (Source—*InfoWorld* , January 6, 1987).

Adobe Illustrator

The recent release of Cricket Draw by Cricket Software to tap the power of PostScript now has some competition. Adobe Systems, author of PostScript, announced (early 1987) a powerful drawing program for illustrators and graphic artists called "Illustrator." An IBM version will also be released that will run under Microsoft Windows and both versions will retail for about $500.

The programs will allow the ability to create true curves, advanced shading techniques and flexibility of PostScript font styles. It incorporates PostScript but allows the user to access advanced PostScript features without learning the language. Since the program is fully PostScript-compatible, output may be printed on any PostScript compatible printer. Illustrator uses a point-to-point drawing system that can complete a circle by a user-defined starting and ending point. It also permits different font styles to be added to an image and

contd.

then manipulated.

New InBox Version Increases Macintosh/IBM Compatibility

Think Technologies is releasing a new version of InBox that will allow IBM PC users to send electronic mail to Macintosh computers. Although the original version of InBox was only for Macintosh computers connected to AppleTalk, the new version increases the ability to share data between the MSDOS and Macintosh world. In addition to mail messages, this version will allow transfer of DOS files from IBMs to Macintoshes connected to AppleTalk. Such a transfer requires the use of a network adapter card such as MacBridge (Tangent Technologies) in the IBM. Think Technologies is also working on a special version of InBox for use with TOPS (Centram Systems West) (Source—*PC Week*, December 2, 1987)

Macintosh Big Screens

A recent article by John Markoff in *High Technology* Magazine (January 1987) discussed the three large screen monitors available for the Macintosh. It mentioned that the Macintosh's closed design makes adding external video equipment difficult, but because Macintosh software is already designed for a graphics interface and Apple guidelines are standardized, most programs can make ready use of the large display. On the other hand, IBM offers better ease of adding video peripherals, but IBM software follows no standard guidelines, particularly for graphics.

Programs such as MacWrite, MacPaint, and Word have some problems with the larger displays but already new versions are coming out that support such displays. Micro- soft Excel and Word are two examples.

The standard Macintosh displays 175,104 pixels on a 9 inch screen. The Big Picture ($1,995) by E-Machine is a 17 inch monitor that displays 827,392 pixels with a 1024 x 808 pixel resolution. The screen refresh rate is also slightly faster on the Big Picture (15 nanoseconds) than on the Macintosh (65 nanoseconds). Radius used a different approach and has a resolution of 863 x 640 pixels with a resolution of 75 dpi. The Mac screen resolution is 72 dpi. The Radius ($1,995) display requires factory modification including the addition of more ROM and 128 K of video RAM. Since the Radius does not modify the Macintosh system software, Andy Hertzfeld used the new ROM routines to "fool" some programs into opening to the dimensions of the Radius display. The author feels the The Big Picture display is best suited to computer-aided design work. Its controller mounts inside the Macintosh case and clips onto the 68000 CPU. The Big Picture does not add additional ROM but slightly modifies the Mac operating system in RAM.

The last of the big displays and also the largest is Micrographics Images' Megascreen ($2,995). It offers a 1024 x 980 pixel resolution and measures 21.5 inches diagonally. The Megascreen installs by means of an interface card which clips onto the 68000 CPU and provides a second slot for the Motorola 68881 co-processor. A second interface card contains 128K of video RAM and a graphics processor that interprets the QuickDraw graphics instructions generated by the Mac ROM.

Mr. Markoff concluded by discussing video monitors for the IBM PC. Although the open-architecture of the IBM made developing different monitors easy, the original 8088(8/18 bit) CPU was too slow for most graphics applications, and developers tended to avoid graphics altogether. Therefore, few if any programs for the IBM could take advantage of larger, clearer monitors without substantial modification. One of the major problems developing graphics applications for the IBM is the fixed pixel count. Therefore, larger screens for the IBM could only display the same number of pixels as the smaller displays which would offer no real improvement. Evidently Microsoft Windows will overcome some of these limitations since an application running under windows does not need to be tailored for a particular video standard. The author feels that IBM video formats will continue to increase as developers release new video adapters based on the Intel 82786 or the TI 34010 graphic chips. Unfortunately, these new standards only increase the available options and chaos in the MS-DOS world. By the time you read this, IBM will have announced new PC's which contain new graphics standards in ROM. As they increase the degree of proprietary standards to fight the "clones" they also increase the degree of incompatibility with existing IBM PC's. Only time will tell how this will all sort out and if such proprietary changes will only decrease IBM's share of the MS-DOS market that it seeks to reclaim.

Another approach to larger screens for the Macintosh is being developed by Ryad of Santa Ana, CA. They are developing the ability for Macintoshes to use standard IBM PC monitors. Such access will depend on a mother board replacement for the Mac to provide a new video interface that will be permit use of IBM monitors such as the NEC Multisynch monitor. The unnamed product is due the end of March and may allow color capabilities of up to 8 colors. This company currently offers a Mac motherboard replacement that adds a 68020 processor and a socket for a 68881 math coprocessor.

The Boston Computer Society

I joined the Boston Computer Society last May, when I attended the Boston Macintosh Expo. It is the largest computer society in the U.S. (perhaps the world ?) with between 20,000 and 25,000 members. It has grown very large in part because it services all makes of microcomputers, including Apple and IBM.

I receive a number of publications for the regular membership price of $35 a year. There are about 12 other types of membership from a family membership at $52, to a lifetime at $2500. If you live outside New England, an associate membership is only $28, but you do not receive the calendar of club events held monthly throughout the New England states. For this yearly fee, you receive the "Computer Update" magazine (bimonthly), a calendar newsletter, the BCS Buying Guide (semiannual), two BCS Newsletters (monthly), and discounts from nearly 500 companies. Many of the companies offering discounts are in the New England area but many are mail order firms. One noticeable benefit is free shipping from Mac Connection in the continental U.S. That one discount alone could make membership worthwhile. Many other benefits also exist if you live in the New England area. I chose to receive "The Active Window" which is the Macintosh newsletter. It is well laid out and usually consists of 30 to 35 pages of articles and advertisements. If you are the type who wants additional Apple or Macintosh literature,

contd.

you may want to consider membership in the Boston Computer Society.

Another Macintosh Hard Disk

The number of Macintosh hard disk makers has grown exponentially. A recent one in the January 1987 issue of *MACazine* is by Jasmine Computer Systems of San Francisco, CA (415-621-4339). They offer a 20 megabyte (Seagate drive) SCSI Macintosh hard disk for $579, 40 Mbyte for $999 and an 80 MByte drive for $1380. Yes, that is an 80 Mbyte SCSI Macintosh hard disk for $1380. The prices are effective January 1, 1987 and include a 4% prepaid cash discount, while credit cards add 3% and COD 5% to the above prices. Other features include shock absorbers, a public domain and shareware library, real-time testing of all drives, 3-way electronic surge protection, two-switched AC outlets, a SCSI device select switch for changing SCSI priority, choice of 2 or 6 ft cables, a 30-day money back guarantee, and a 1 year replacement warranty. It sounds too good to be true?!?

Apple in the News

Apple Computer has been getting very good press in some of the nation's leading magazines. Both *Business Week* and *U.S. News and World Report* ran articles on the comeback of Apple. In the January 19, 1987 issue of *Business Week*, Apple was the cover story (i.e., "Apple's Comeback") with a total of 6 pages of coverage. The *U.S. News and World Report* article (i.e., "After a long diet, Apple bites back") covered two pages and was similar in content to the other article. Although Apple's first quarter profits ($0.91/share) were identical with last year's first quarter and the second quarter is also expected to be flat, the second half of 1987 and the entire1988 is estimated to yield record profits. In spite of flat profits, earnings were up 24 % and gross margins grew to 51.8%. This is considered a good measure of profitability of a company's operations. The flat earnings were largely due to increased marketing, distribution and research and development costs. In case you haven't noticed, Apple stock has traded as high as $70 a share in recent months. It wasn't that long ago that it was at $14 a share. In contrast, IBM reported a 48% decline in the fourth quarter. Maybe Apple can loan them some money to get them over the hard times!

New HyperDrive and General Computer

General Computer has released a 40 Mbyte SCSI version of its external hard disk for the Macintosh. It is called the FX/40 and retails for $1,799. In addition to doubling the storage capacity of the 20 Mbyte FX/20, it also has a faster average access time of 28 milliseconds compared to 65 milliseconds (?) for the FX/20 and most other Macintosh hard disks. Hard disks with this access speed have long been available for the IBM but are only recently appearing for the Macintosh. The FX/40 contains a 3.5" size Seagate hard disk and is contained in an identical case as the FX/20. I hope they have decreased the noise of the fan!

General Computer also released a $30 conversion kit that allows the FX/20 to interface with Apple II computers that are equipped with a SCSI card (not included). Neither the FX/20 or the FX/20 are compatible with General Computers Hypernet software, although the internal hyperdrives are compatible. There have also been no upgrades to the FX-software that add the missing capabilities found in the internal Hyperdrives.

I have been one of the more vocal critics of the internal Hyperdrives and written several articles for the Journal about my personal experience. In November, I wrote a detailed three page letter to General Computer listing what I perceived the problems were and made 12 suggestions that I think will go a long way to addressing them. As of March 1987, I have not received any reply to that letter. As I pointed out to General Computer, any columnist has an obligation to the reader to present objective view points on the pluses and minuses of computer hardware and software. We also have an obligation to the companies to be fair, truthful, and as thorough as possible when we write such reviews. When companies produce good products for the Macintosh we are all winners, while products that do not fulfill their promise only hurt the Macintosh, the company and the consumer. In that case, we all lose. Such a partnership between all parties much be based on trust, reliability, performance and customer support. So far the external Hyperdrives appear to be much more reliable. I have had no trouble with mine although I know one owner that had to have the hard disk replaced. A quick note in the Boston Computer Society Macintosh Newsletter and in the February issue of *MacUser* also noted this increased reliability of the external Hyperdrives. I sincerely hope that General Computer has solved its past problems and continues to produce good quality hardware and software for the Macintosh.

LaserWriter VAX Server

Pacer Software of La Jolla, CA has released a software package called "PacerPrint" which will allow the LaserWriter to be used simultaneously by both VAX and Macintosh computers. In essence, a VAX running VMS can function as a server for PostScript compatible printers such as the Apple LaserWriter. The Macintosh-VAX connection uses VT-100 terminal emulation and file transfer. Pacerprint runs on all VAX models and is priced according to the model being licensed. A MicroVax license will cost $1,000.

New Version of MORE (1.1)

Living Videotext has just mailed to registered owners a new version (1.1) of its highly successful MORE program. The free upgrade includes two disks and a documentation addendum detailing the changes. Changes include the following: addition of an undo command, selective text styling (multiple fonts within same line), multilevel bullet charts, keyboard control of more menu items, ability to save defaults, delete files within MORE, resume MORE where you left off, and sending and receiving text from inside a document window and installing it as a template. The second disk supplied with the upgrade contains the National Directory of Addresses and Telephone Numbers. It contains more than 2,000 organization address and phone numbers and can be accessed within MORE using the the "Dial Phone" command.

Living Videotext is to be commended for providing more than a minor improvement to their popular program and not charging for the upgrade. Most of the changes in version 1.1 have come from user suggestions and they request that suggestions continue to be made. MORE was selected as the 1986 MacUser Product of the Year.

Lynn R. Trusal is a Major in the U.S. Army and a research physiologist with the U.S. Army Medical Research Institute of Infectious Diseases, Ft. Detrick, Frederick, MD. He is also the organizer of the Frederick Apple Core Macintosh Special Interest Group.

contd.

INTEL VERSUS MOTOROLA MICROPROCESSORS

by Lynn R. Trusal (Frederick Apple Core)

The brain of any microcomputer is the "central processing unit" or CPU. It is also referred to as the microprocessor or more specifically as the 6502, 68000 or 8088, just to name a few. IBM microcomputers and their compatibles are based on the Intel series of microprocessors including the 8088, 8086, 80286, and 80386, while the Macintosh, Atari, and Amiga use the 68000 series by Motorola. I've seen much debate in the computer literature about which microprocessor series is better, more upwardly compatible, or provides better graphics support. I will discuss some of the features and problems of each microprocessor family. I'm not an electronic engineer or microprocessor expert and it is with this caveat that I begin this discussion. I will distill down information which I have read and give the reader some insights into the future growth of Macintosh as it relates to the Motorola 68000 series of CPU's.

Perhaps the three most important aspects of the microprocessor are the size of the data and address buses, the processing speed as measured in megahertz (MHz), and the amount of memory that the CPU can directly address . The clock speed is a measure of how much time passes for the internal clock to cycle so that the next stream of data in 8,16, or 32 bits can enter the microprocessor or be internally processed. If the CPU is the brain, then the clock is the heart of the computer. A series of eight binary bits equals one byte of information. The data bus refers to the number of bits of data that can enter or leave the processor at one time while the address bus is the size of data in bits that can be addressed internally by the processor. A computer described as having an 8/16 CPU means it has an 8 bit data bus and a 16 bit address bus.

The Apple II family began with the 6502 and later 65C02 which were 8/8 bit microprocessors, while the original IBM PC used an 8/16 bit (8088) CPU. In other words, with the Apple II, data could be input and output through the microprocessor 8 bits at a time and addressed or processed internally at the same 8 bits. Therefore, the IBM PC was faster in that it could internally address 16 bits compared to the Apple II's 8 bits. This was followed by the 16/16 bit Apple IIgs (2.5 MHz) and IBM PC's using the 8086 (16/16). The most recent Intel processors are the 80286 (16/32), the 80386 (32/32) and the 80486 currently under development.

The IBM AT was the first to use the 80286 CPU running at 6 MHz. This was later increased to 8 MHz after users began replacing the clock crystals to run the AT at 8-12 MHz. IBM later prevented users from doing so by making changes in the ROM code. While Compaq was the first MS-DOS computer to release a microcomputer using the 80386 chip, IBM is expected to follow by mid-1987.

The biggest problem facing IBM and their clones is the advanced state of Intel microprocessors; they have not been followed by software or even an operating system that can use these features. This is true for both the Intel 80286 and 80386 microprocessors. A recent article in *Business Week* magazine (December 1, 1986) stated that it will be close to two years (late 1988) before an operating system is released that will directly support the 80386. An interim fix in the form of Microsoft's MS-DOS 5.0 (Advanced DOS) is not even predicted until late 1987. This operating system (5.0) will only allow partial utilization of the power of the 80386 chip. The article goes on to state that Microsoft Windows and Excel support of Windows for the "386" processor should not be expected until 1988-1989. This may be part of the reason that IBM has been slow to release its own 80386-based microcomputer. The current state of MS-DOS and the com puters that depend upon it adds to the confusion and the current state of uncertainty in the MS-DOS world.

The published comparisons of microprocessors are often based on so called "benchmarks." Use of benchmarks has often been compared to the paraphrased statement about statistics, that "benchmarks don't lie, but liars do benchmarking." The "Whetstone benchmark" is frequently used as a measure of floating-point performance and computer efficiency, while the "Sieve of Erastenes" is used to test the computational power and ability of a microprocessor to handle large memory structures. I should mention that benchmark results run by microprocessor companies should be looked at with caution and independent results should be more reliable. If you build an automobile that can reach 60 mph in 5 seconds but only gets 5 mpg, do you advertise the speed or the miles per gallon?

The Motorola family of 68000 microprocessors includes the original 68000, and later the 68010, 68020, 68030, and a rumored 68040. All the Macintoshes to this point have used the 68000, including the recently announced Macintosh SE running at about 8MHz. The Macintosh II uses the 68020 CPU with a clock speed of 16 MHz. Some basic statistics for the Motorola microprocessors are shown in the following table.

Processor	Data/Address Path Bits	Clock Speed MHz	Memory Addressing Powr Megabytes/Gigabytes	MIPS*
68000	16/32	8,10,12.5	16 MB	0.5
68010	16/32 (virtual)	8,10,12.5	?	
68020	32/32 (virtual)	12.5,16.7, 20, 25	4 GB	2.5
68030	32/32 (enhanced)	16.7, 20	4 GB	
68040	64/128 ???	?	?	
68881	Floating Point Coprocessor	12.5, 16.7, 20		
68882	Floating Point Coprocessor	12.5, 16.7, 20		

*= Millions of instructions per second

Motorola's own benchmark literature addressed comparisons Intel has made for its CPU's compared to the Motorola CPU's (Motorola MC68020 Benchmark Report). Intel apparently stated that the 80286 was three times faster than the 8 MHz 68000, while Motorola stated that "it is commonly accepted that the MC68000 is at least twice the

contd.

performance of the 8086." Motorola further added that the "MC68020 is 2.5 times the performance of the 286." With regards to relative performance, Motorola states, "Users migrating from the 8086 to the 286 are plagued by additional incompatibilities because the 8086 memory models are incompatible with their 286 counterparts. Thus, while Intel touts the advantage of having a standard memory management system on the 286 chip, the various schemes required to remedy the 64K byte segment limits ironically makes for incompatible code. The 68000 family always supports 32-bit addresses and therefore doesn't have any such segmentation-induced problems."

Some of these compatibility problems with hardware and software have also been addressed in issues of *PC Week* (December 2, 1986) and *InfoWorld* (December 1, 1986). The article in *PC Week* stated, "the forthcoming operating system for the PC AT, known as protected-mode DOS, Advanced DOS or DOS 5.0, may initially be incompatible with a variety of existing PCs and PC products, according to several leading hardware and software developers." The article in *InfoWorld* mentioned that Intel has acknowledged that its 80386 microprocessor will not allow an 80286 protected-mode operating system to run under an 80386 operating system.

In the same issue of *InfoWorld* John Sculley initiated the magazine's new "Macintosh News" section by addressing the new role of the Macintosh in the business world. He says, in reference to new technology being developed versus actually being implemented, "I think that's probably the biggest issue that faces the MS-DOS world right now. Even with the introduction of a faster processor, the 80386; even with the expectations of new version of MS-DOS operating systems, our experience is that it's probably going to take several years to get the operating system in place, for developers to learn how to use it, and to really start to get applications." He adds, "So while the 80286 and the 68020 are essentially standoffs in terms of performance against one another, the real advantage of the 68020 technology, and the 68030 when it comes out, is that it's ideally suited for graphics. But while the 80386 is getting sorted out, everything we have done since 1984 with the Mac will only run better and faster as we get faster processors - the 68020, 68030, and so forth. That's not true for the DOS world. They are essentially starting over again with the 80386." Apparently Apple hopes to make hay while the sun doesn't shine over Intel and the MS-DOS world.

Furthermore, the President of Stride Micro (formerly Sage Computer) discussed his company's choice to use the Motorola 68000 instead of the Intel 80286 (*Byte*, September, 1985). He says and I quote, "...Sage computer ... came to the quick conclusion: the 68000 is at least one generation ahead of the 286 in terms of microprocessor design...the 286 was so steeped in it's own history that the architecture suffered critically. In reality, today's 286 is little more than an 8086 with a memory management unit tacked on...just look at the registers and addressing modes. They are much larger and far more flexible in the 68000 than in the 286...Unfortunately the 286 has a bottleneck where it forces single pins into double duty. It shares the use of its address and data bus which means that, for a given bus bandwidth, its transfer rate will always be less than a non-multiplexed processor. The 68000 escapes the problem by dedicating a single pin for each function."

I hope I have not bored the reader with these quotes! My purpose was to give readers a feel for the current state of microcomputer microprocessors. I personally feel the Motorola 68000 family of CPU's appears to have the edge over the Intel family. I am glad that Apple decided to use the Motorola and not the Intel processors in the Macintosh.

YOU BE THE JUDGE: The Decision

The judge did not grant an injunction because the Farmers' Coop failed to prove there was a substantial likelihood, after a full trial would be conducted in the future, that the cooperative would be successful on the merits of the case, that is, proving there was copyright infringement. Also, the Farmers' Coop failed to prove that irreparable harm would ensue to it in the absence of issuance of an injunction during the pendency of the action and before a full trial of the matter could be conducted.

These are some of the issues which must be decided in favor of the requesting party before a judge in most courts may properly issue a preliminary injunction.

Similarities between the two programs exists on a level not protected by copyright. The Farmers' Coop program was too large to be copied and modified in the amount of time it took defendants to create GAMS. Defendants' expert witness Mr. Walsh testified that he compared the "overall structure of these programs" and that he "expanded his study" of the programs from the narrow search for verbatim copying. Goodall testified he did not rely on any material belonging to Farmers' Coop or CIR during his employment at Goodhope, and that a program for a mainframe could be altered to run on a personal computer only with enormous changes so that rewriting the programs would be faster than modifying them.

Also, input formats of a computer program, the organization and configuration of the information fed to the computer, were ideas, not expressions, and thus were not protected by copyright.

Because it is frequently difficult to provide evidence of direct copying, in order to show copyright infringement, the test used frequently is that the accused party had access to the copyrighted work and that there is a substantial similarity between the copyrighted work and the accused work. In this case, the judge found that the similarities which did exist in the two programs were not the result of copying, but rather the result of the two programs attempting to present the information in the same general format.

Typically, when a preliminary injunction is requested by a party, there are four points which need to be proven. The first is that there must be a substantial likelihood that after a full trial on the merits of the case, the requesting party will be successful in proving its case. The second is to decide whether, if a preliminary injunction is not issued, the requesting party, during the time the case is pending and before a full decision on the merits of the case can be rendered, will suffer irreparable damage, that is, damage for which money alone will not be sufficient. The third is whether the threatened injury to the requesting party will outweigh any damage the injunction may cause the other party. And the fourth is whether the issuance of an injunction will be against the public interest.

	A
1	Excelling on Your Mac
2	Part 12
3	by
4	David Morganstein

In this month's installment we will discuss a teacher's problem converting numerical grades to letter grades, and a treasurer's need to prepare a monthly statement of income. Yes, folks all this brought to you by Excel! But first, a couple of quickies.

Rolling Your Own Format, part iii.

Have you ever wanted to line up the decimal points on a column of numbers, say dollars and cents, but not have them bumping up against the right side of the cell where you have placed a border? That is, you have this:

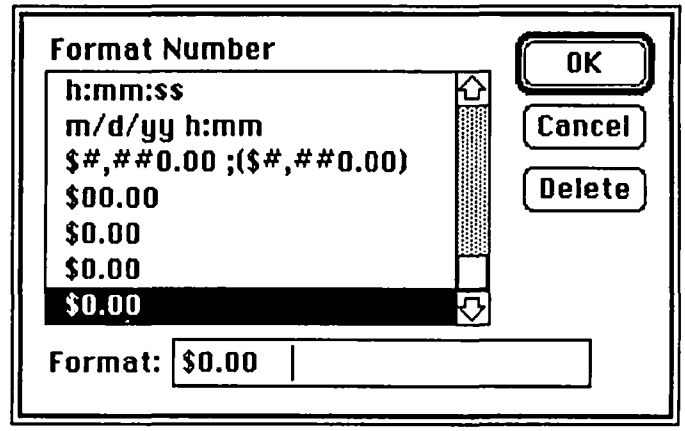
$23.57
$67.52
$4.75
$71.68
$85.46
$55.80
$3.90
$18.46
$1.68
$59.61

but you want this (where the numbers have been shifted to the left to line them up in the center):

$23.57
$67.52
$4.75
$71.68
$85.46
$55.80
$3.90
$18.46
$1.68
$59.61

How to do it? MaryLou, my secretary, had always accomplished this by adding a column of blanks to the right of the column of numbers and then placing the border around both columns. The numbers themselves are given an Alignment Right (under the Format menu). While this works, the added column gets in the way. You have to TAB through it when entering or changing numbers. Copying and Pasting from this sheet carries along a column of blanks (tabs) that have to be deleted. An easier way is to build a format that contains blanks at the right side. These blanks cause the numbers to shift left by the number of blanks you include. Call up Format Number and select the format you want. Now add blanks to the right of the "$0.00". You can see the ones I added in the example below because the vertical bar is positioned about a quarter of an inch to the right of the "$0.00". That will do it!

The next "quickie" was discovered when running the Heiser Software tax templates. Have you ever tabbed past the righthand side of your active area in the spreadsheet? Your data are in columns A through E and you keep tabbing into column F, causing a horizontal scroll of the screen. Then



you have to use the horizontal elevator box to drag the screen back to A through E. Common problem, no? Simple answer! Select columns F through IV (the last column) and set their width to zero! That's it. The results shown below are bullet proof. You can't horizontal scroll beyond column E, the right boundary of this sheet. (I'll bet you're curious as to the meaning of the entries in this example....sorry, you'll have to wait till next month to find out what it represents...)

JoshCollection4/6/87

	A	B	C	D	E
45	Amazing Spiderman	288	$0.75	$0.75	$1.75
46	Amazing Spiderman	289	$1.25	$1.25	
47	PeterParker	1	$7.00	$6.00	
48	PeterParker	3	$3.00	$3.00	
49	PeterParker	28	$13.50	$12.00	
50	PeterParker	40	$2.00	$1.50	
51	PeterParker	64	$15.00	$12.50	
52	PeterParker	66	$1.75	$1.25	$1.75
53	PeterParker	67	$1.75	$1.25	
54	PeterParker	69	$4.00	$5.00	$5.00

Making an 'A'. Judy is a teacher. She faced a common teacher's problem. Her "gradebook", maintained as an Excel database, contains the numerical scores resulting from her kids tests results and she wanted to convert these numbers to grades. Anything over 900 was an 'A', over 800 a 'B', etc. The first step is to enter a table containing the translation from numerical score to letter grade. This translation table can appear anywhere in the sheet as two columns or as two rows. (In fact, you can even make the table a part of the Lookup command we are about to describe but that prevents its reuse in other cells). I have entered the table as two columns in cells E2 through F6. Notice that the numerical scores must appear in ascending order. For clarity, I added labels, 'Score' and 'Grade' at the top of the columns and used the Define Name command (in the Formula menu) to name these columns.

Column C has been designated to hold the letter grade obtained by doing a look-up in the translation table. The required command appears in the formula bar of the screenshot. It is =LOOKUP(B2, Score, Grade). The lookup com-

contd.

mand selects the element of the set of cells in Grade (the letter grades) which is less than or equal to the element of Score (the numerical scores) as compared to B2, the student's numerical score. Lookup can work with a numerical table or a set of alphabetic fields as well. It does a search from one set and then a select from the other set. While you can use the actual cell references (E2:E6 and F2:F6), I prefer the Define Name approach since it is easier to remember what all the cells mean six months later. Just to check that all is working, Jane Doe, received a 650. Going down the Score column, we find the last row that contains a score that is less than 650. The third row does the trick. Lookup then selects the row 3 element of grades (an 'E') and places it in cell C2....try harder Jane...

C2 | =LOOKUP(B2,Score,Grade)

Worksheet2

	A	B	C	D	E	F
1	Student	Score	Grade		Score	Grade
2	Jane Doe	650	E		500	F
3	Sally Smith	853	C		600	E
4	Bob Jones	530	F		700	D
5	Ron Kool	659	E		800	C
6	Matthew Beard	966	B		900	B
7	Carol Custer	790	D		1000	A

A Balancing Act. Ed came over with his treasurer's books. He maintains them for a non-profit organization. It is a simple check register system. He lists every check and adds an expense category. Every deposit has a similar income category. Each month he wants to print a simple balance sheet (forgive me accountants if I have used the wrong term here...) which summarizes all expenses in each category and a similar summary for each revenue category. He has a template that contains this month's entries and the year to date total, as well as a column of deviations from the budget. Another easy task for Excel. He has two worksheets, one contains his check register information, checks out and deposits in. The second sheet is the report template. The check register is set up as a database with columns for check number, amount, date, name, and most importantly, category. One issue to be resolved is a method for keeping the expenses separate from the revenues. One approach is to keep two separate databases. This is easy but prevents easy use of the results to maintain your account balance. You might use negative numbers for expenses. That will solve the problem. Alternatively, you might have two 'amounts' columns, one for revenues and one for expenses. Here is Ed's version:

C6 | =LOOKUP(D6,Code,Category)

Excelling12

	A	B	C	D	E	F	G
4							
5	CheckNum	Date	Category	Code	Expense	Revenue	Balance
6		2/11	Advertising	201		$6,000.00	
7	2002	2/12	Supplies	106	$19.07		$5980.93
8		2/13	Dues	202		$1216.95	$7197.88
9		2/16	Sales	203		($120.00)	$7077.88
10	2003	2/17	Printing	104	$1142.25		$5935.63
11	2004	2/18	Advertising	101	$11.25		$5924.38
12		2/19	Dues	202		$2156.00	$8080.38
13		2/20	Sales	203		$2071.21	$10151.59
14	2005	2/23	Salaries	105	$2111.00		$8040.59
15	2006	2/24	Postage	103	$2071.21		$5969.38
16	2007	2/25	Postage	104	$6.00		$5963.38
26	2013	3/11	Advertising	101	$10.00		$10617.55
27	2014	3/12	Advertising	101	$79.00		$10538.55

Notice that Ed has a Code and a Category field. The Code field is a number describing each account, while the Category field provides a more understandable description. Initially, Ed used only the category field. However, when he tried the DSUM to obtain totals by account type, he came up short. This was due to misspelling some of the entries. I suggested the use of the code since it was less error prone for entry. The categories can be derived from the codes (not manually entered!!!) using the Lookup function we discussed earlier. I have done that, as you can see from the edit bar describing the contents of cell C6.

To obtain totals by account, Ed uses the DSUM function combined with a one-way Table. First, make sure the database has been defined. Do this by selecting the entire array of field labels and entries (cells A5:G27) and then use the Set Database command. Next, build a column of account codes and a place to put the Criteria statement. The accounts (which will be used in a Tables statement) appear in D32:D0, while the cells A32:A33 were used to Set Criteria. E31 and F31 contain DSUM commands which compute the total Expense and total Revenue. You can see the definition of F31 below, DSUM(Database, "Revenue", Criteria).

F31 | =DSUM(Database,"Revenue",Criteria)

Excelling12

	A	B	C	D	E	F
3						
4						
5	CheckNum	Date	Category	Code	Expense	Revenue
6		2/11	Advertising	201		$6,000.00
7	2002	2/12	Supplies	106	$19.07	
30						
31					5637.07	16175.62
32	Code			100		
33				102		
34				103		
35				104		
36				105		
37				106		
38				107		
39				201		

Next, fill in the totals of Expense and Revenue for each code using the Tables command. The result, a completed table, containing a summary of each categories transactions. The Table command (under the Data menu) was applied to cells D31:F42 after entering the DSUM commands in E31 and F31.

	C	D	E	F
31			$5,637.07	$16,175.62
32	Advertising	101	$89.00	$0.00
33	Food	102	$1,162.25	$0.00
34	Postage	103	$2,077.21	$0.00
35	Printing	104	$16.98	$0.00
36	Salaries	105	$2,172.81	$0.00
37	Supplies	106	$19.07	$0.00
38	Travel	107	$9.50	$0.00
39	Advertising	201	$0.00	$9,728.18
40	Dues	202	$0.00	$3,372.95
41	Sales	203	$0.00	$1,951.21
42	Tutorials	204	$0.00	$1,123.28

Ed's report template picks up this summary data from the check register and links it so that monthly changes are

contd. on pg 70

REVIEW CORNER

by James M. Burger

MACWORLD PLUS

Reviews

This month I am reviewing several products that I saw at MacWorld. The first is a series of software packages that is billed as "hands-on training for the Macintosh."

I. Learn Word 1, 2 and 3

Personal Training Systems in San Jose, California has a series of audio tape cassettes and disks for self-paced courses in Microsoft's Word 3.0 and Excel. David Morganstein has several of the Excel series and I am sure we'll see a review soon. Personal Training Systems plans courses on PageMaker 2.0 and dBase Mac.

Unfortunately, most of us cannot afford to have a personal Word expert, such as Washington Apple Pi's Marty Milrod, around to teach us how to use a program such as Word. Moreover, most of us cannot wait for the excellent WAP tutorials or we just cannot make the scheduled date. The Macintosh interface, of course, makes learning a new program much easier. Nevertheless, with more and more sophisticated programs, such as Microsoft Word and Excel, the need for hands on tutorials is becoming more evident. Personal Training Systems has moved in to fill that gap. Each course contains a cassette tape and a disk of examples that are used to step the listener through each segment.

The beginning course—Lean Word 3.0 Volume 1 Beginning Course—sets out to teach the beginner the basics of Word 3.0. For a beginner who has had no experience with Word 1.0, I recommend the basic course without reservation. Volume 1 teaches the following: Entering and Editing Basics (text entry, erasure, deletion, changes, insertion, word, sentence and paragraph selection, moving a paragraph and saving), Printing, Margins and Justification, Tabs and Tables, Spell Checking, Headers and Footers, and Printing Long Documents.

The narrators appear quite professional; that is, each lesson's pace is appropriate for a beginner. For someone with a fair amount of experience it is quite slow. It would be nice to have a tape recorder on which you could vary the speed. Even for an experienced user, Volume 1 is a good review, but slow. On the other hand, for someone without experience, Volume 1 is an excellent start..

A side note, however. Word 3.0 is the most powerful word processor available. At the present time, it is the application for any serious author. But, it requires a lot of study. The intermediate and advanced courses of Learn Word are ideal to teach the solid fundamentals of Word 3.0. Frankly, if you do not need these features you probably should not buy Word 3.0. But if you do, I strongly recommend Lean Word.

Learn Word 3.0 Volume 2 is the intermediate course. It covers Using a Glossary, Creating Form Letters, Printing on Two Sides, Using Hyphenation, Styles, Newspaper Columns, Understanding Section Control, Printing Envelopes, Using Search and Replace, and Changing Defaults. This section gets more into the meat of Word 3.0. As in the beginning course, each segment carefully takes the listener through a function of Word 3.0

The advanced course, Learn Word 3.0 Volume 3 covers: Formatting Characters, Creating Indexes and Table of Contents, Number Lines (particularly useful for Lawyers), Custom Menus, Using Footnotes, Side-by-Side Paragraphs, Using Outlines, Coding Scientific Formulas and advanced form letters. In some respects, the definition of intermediate vs. advanced is subjective. Some of the intermediate sections could be in the advanced course and vice versa. Thus, for myself, it is hard to justify the intermediate without the advanced course. Like the other two courses, each segment takes you carefully through each exercise, using the examples on the disks. I had little trouble following the steps. In fact, as a fairly fast touch typist, I found the tape slow in all the sections. It should not be too fast for slower typist. The great advantage of the tape player is that if it does go too fast, it can be stopped until the listener catches up.

In summary, if you are buying Word 3.0 to do serious word processing, and even if you are an advanced user of Word 1.05, I would still recommend Learn Word, both the intermediate and advanced courses.

II. Hardware

Rodime 20. Okay, I will admit it. I am a hardware junkie. Ever since I put my first add-on board into my][+ (a 16K card—wow, what to do with all that memory), I have been hooked .The first hard drive for my Mac was a Corvus 5 megabyte serial drive. Compared to 3.5 inch 400K microdisks, it was impressive.

Now there are numerous fast SCSI drives for the Mac. New ones are appearing everyday. I hope to review as many drives as possible. The goal is not to run speed test benchmarks. Speed tests only work on disks that have the same software loaded in the same sequence. Frankly, according to most benchmark tests the variation between individual SCSI drives are not significant. Instead my objectives is to provide a subjective review of the features, convenience and ease of setup and use.

The first drive review is of the Rodime 20 Plus. The company also offers a 45 Plus (with 45.5 megabyte of formatted capacity) and internal versions of both the 20 and 45. Rodime's entry into the market has created a little stir. As mentioned in my March MacWorld article, Rodime is the fourth largest manufacturer of hard drives worldwide. In fact other Mac drives (including Apple's) have Rodime mechanisms inside.

In size, weight and appearance, the drive is very similar to the HD-20. The Rodime lists for $1195, but I have seen street prices as low as $899. It fits underneath the Plus or SE. Set up is a breeze. Turn off your Mac, put the 20 Plus

underneath, plug it in, attach it to the Mac's SCSI port and turn it on. (A minor complaint—for some reason, perhaps imitation of the Mac, most Mac peripherals have the power switch on the left—Rodime's is on the right, making it difficult to remember and my sideways external drive is in the way.)

My Rodime came with a System and Finder already installed. (For some reason, it was localized for Europe—backwards date. It was easily fixed and the drives shipped now have the normal localization.) Loading software is, like all SCSI's, simplicity itself: merely finder copy applications and files.

The drive has a reasonable average seek time (the time the head moves to a specific track) of 85 nanoseconds (the 45 is 28 nanoseconds). Seek time, however, is only one, although important, factor of a drive's speed. The perception of speed on the Rodime, however, is terrific. But, my subjective perception is between this SCSI and the Apple HD-20 which uses the floppy disk port. Rodime claims it to be six times faster. I believe it.

I have used it extensively (nearly six hours a day when I'm in town and, during weekdays I do not shut it off at night), with lots of saves, backups, crashes, transfers, etc. with no failure that I could attribute to the drive. In fact its bomb recovery is good (and with my extensive use of Switcher, it happens often). Rodime says meantime between failure (MTBF) is 18,000 hours. The Mac's MTBF is quoted at 25,000, and other than the floppy drive, it had no moving parts. The 20 Plus has the feel of a rugged, dependable drive. Until I find a less expensive drive that I have confidence in, I have no hesitation in recommending Rodime. I suspect that, given its size, Rodime will remain price competitive.

PC MacKey. The search for the perfect keyboard. Having got used to the IBM Selectric before discovering microcomputers, I was reasonably satisfied with the original 128K Mac Keyboard. Then it became apparent that such a simple keyboard was inadequate for approaching the shortcuts that using a computer as powerful as the Mac offered. The MacPlus keyboard does not quite do. For one thing, the small right hand shift key located right next to the cursor keys is a mistake waiting to happen. Also, function keys would have been nice. Adding the numeric keyboard helped.

The folks at Tangent Technologies offer an alternative to the MacPlus keyboard called PC MacKey. The keyboard is similar to improved models offered with non-IBM PCs. First, it has a normally large right hand shift key. Second, it has, and this is very subjective, a very nice feel to it; softer than the Mac keyboard but a definite positive feel (i.e. you know when you have pushed a key sufficiently to register on the screen). PC MacKey has a full set of ten function keys.

Installation is a snap. It just plugs in place of the Mac keyboard. A small file (*PC Mackey 2.2)* is placed in the system folder. This alerts the Mac to the presence of the function keys. Unfortunately, the function keys vary from program to program. It would be great if they would act the same for each program. But this would require a little more uniformity on the part of programmers than the Mac rules require. You just have to experiment with each program to find out what the function keys do.

Switching between PC MacKey and a regular Plus keyboard can be a little disconcerting. For one thing the command (cloverleaf) key, while actually labeled command on the MacKey is located where the Caps lock key is on the Plus keyboard. Caps lock is below the right shift key. The Option key is labeled Alt (shades of MS-DOS). Finally, the "bump" for positioning your fingers is on the F and J keys, whereas they are on the D and K Plus keys.

While PC MacKey is not a perfect keyboard, I prefer it to the Plus keyboard. I do not use the function keys much yet, nor do any application programs that I am aware of incorporate those keys. Using PC MacKey is much a matter of personal preference, plus availability of the larger right shift key.

New Products:

HARDWARE -

Rodime Inc., 29525 Chagrin Boulevard, Suite 214, Pepper Pike, OH 44122. **20 Plus, 45 Plus, 20I Plus, 45I Plus.** $1195, 1595, 1295 & 1695..25 and 45 Meg internal and external drives.

Tangent Technologies, 5720 Peachtree Parkway, Norcross, GA 30092. **PC MacKey.** Replacement for Mac keyboards in the form of an improved IBM-AT type keyboard.

SOFTWARE

Personal Training Systems, P.O. Box 54240, San Jose, CA 95154. **Learn Word 3.0.** $49.95, each module. Beginning, Intermediate and Advanced Courses.

Excelling On Your Mac contd. from pg 68

reflected in the report whenever it is opened. In the Report Template below, you see cell C5 defined as coming from the Check Register sheet. This is accomplished by means of the command key. The cells on the template are selected, the equal sign is hit, then the cursor is moved to the Check Register sheet and the corresponding cells selected there. Note, the number of cells which are to be linked between sheets must obviously be the same! Then the command-enter keys are struck. In the edit bar you see the linkage between the Report Template and the check register. Brackets appear around the entry Ex12.checkRegister!$E$32:$E$38, meaning it is an array function. Don't let this bother you. It's Excel's way...

C5 {=Ex12.CheckRegister!$E$32:$E$38}

Ex12.Check

	D	E
29	SUM	$5,637.07
30		
31		$5,637.07
32	101	$89.00
33	102	$1,162.25
34	103	$2,077.21
35	104	$16.98
36	105	$2,172.81
37	106	$19.07
38	107	$9.50
39	201	$0.00
40	202	$0.00
41	203	$0.00
42	204	$0.00
43		

Ex12.ReportTemplate

	A	B	C	D	E
1				1-Jan-87	
2					
3					Annual
4			Actual	Estimated	Budget
5	Advertising	101	$89.00	$82.47	$300.00
6	Food	102	$1,162.25	$1,099.57	$4,000.00
7	Postage	103	$2,077.21	$1,649.35	$6,000.00
8	Printing	104	$16.98	$27.49	$100.00
9	Salaries	105	$2,172.81	$1,924.24	$7,000.00
10	Supplies	106	$19.07	$13.74	$50.00
11	Travel	107	$9.50	$13.74	$50.00
12	Advertising	201	$9,728.18	$8,246.74	$30,000.00
13	Dues	202	$3,372.95	$3,298.70	$12,000.00
14	Sales	203	$1,951.21	$1,924.24	$7,000.00
15	Tutorials	204	$1,123.28	$1,099.57	$4,000.00

If the report template is opened when the check register is not open, Excel will ask if it should update references to non-resident sheets (in this case, the check register file). If the check register is open at the time, Excel will just pluck the entries from the register summary and put them into the report. What could be easier. Until next time...

VIEW FROM THE HILL
by Rich Norling

I can't resist the urge to add my own pronouncements to supplement IBM's announcements of new personal computer hardware. Then I report on the conference Apple held for Macintosh developers in early April. If you have had your fill of IBM-bashing this week, feel free to jump directly to the part about the Apple Developers Conference.

IBM's Announcements

A month after Apple announced the Macintosh SE and Macintosh II, IBM announced an entirely different set of small computers from the ones it has been selling. It appears that IBM's strategy to beat the clone-makers and win back its dominant position in the market is to cancel all the things that have been cloned and start over—new hardware, new operating system, using proprietary technology not compatible with IBM's or anybody else's current hardware or operating system.

Some of the new IBM machines are said to be available now, but the models using the Intel 80386 chip to compete with Compaq's latest model will not be available until July, and the top model won't be available until the end of this year. The top two models sit on the floor instead of sitting on your desk.

The new operating system announced by IBM, called Operating System/2, will not be available in even its bare-bones version until 1988, and IBM has not even announced an availability date for the version with a windows manager. The new operating system is rumored to contain a combination of Microsoft's Windows and IBM's TopView, and apparently still needs a lot of work.

Apple Developers Conference

I have just returned from a 3-day conference sponsored by Apple for third-party hardware and software developers. While there was one session discussing development systems for the Apple II computers, this conference was designed for developers who create add-on equipment and software for the various members of the Macintosh family (a conference for Apple II developers was held last fall just after the GS was announced).

The biggest news of the Developers Conference was not contained in any of the presentations. The news was the size of the conference itself! This conference had about twice the number of developers attending as the conference accompanying the announcement of the Macintosh Plus in January, 1986.

For this conference Apple had booked facilities to handle 600 developers of Macintosh software and add-on hardware. The conference was overbooked. What this means is that third-party developers are flocking to the Macintosh, and you can expect to see a real flood of software and hardware for the new Macintoshes beginning this fall. I saw rough working versions of a few, and they are awesome.

WAP members who attended the March meeting saw a videotape of the Macintosh II introduction, including a sequence in which the Macintosh II draws a picture of a green hillside and gradually changes the colors as the sun rises. It was impressive on videotape, and even more impressive live.

Most of the 3-day conference was filled with presentations on the Macintosh SE and Macintosh II hardware and software, marketing directions, and how third-party developers can work with Apple. The benefits of those sessions was boosted by the adrenalin rush of being surrounded by nothing but Macintosh talk with Apple people and other developers for three solid days. I won't bore you with a recitation of technical details. Apple people did say that assembly of boards for the Macintosh II has started, and the machine will begin shipping in May (possibly even late April!) in limited quantities, just as they said when the machine was announced.

The other thing that the Apple people at the conference went out of their way to make sure we understood is that Apple has not finished with new product announcements for this year. Apple actually announced over 20 products on March 2 (Macintosh SE, Macintosh II, internal and external hard disks, monitors, keyboards, memory expansion kits, tape backup, etc.). We can expect to see a lot more new products from Apple before the end of the year. I don't think Apple will announce any more models of Macintosh this soon, but I do expect more announcements of peripheral equipment and software that will significantly expand the value and use of the machines.

I went to the Developers Conference with a list of software product ideas that I wanted to winnow down to those that fill a market need and are not already being pursued by other developers. There were 21 ideas on the list I took to the conference. After talking with Apple's managers and evangelists, and trying a few of the ideas on other software developers, I have picked the top ones to pursue after I publish the two products I have been developing during the last nine months.

If you are interested in becoming associated with a small, energetic software company, either part- or full-time, take a look at my ad under Help Wanted in the front of this issue. Meanwhile, this column is going to be shorter than usual, because I have a lot to do and I want to get started...

Rich Norling is coauthor of StatWorks™ and Cricket Graph, and the author of Pict-O-Graph™, a new Macintosh application that draws picture graphs. He wrote the book Using Macintosh BASIC, published by Osborne-McGraw/Hill. Rich is President of Language Systems Corp.

DEVELOPER'S VIEW... 1987 Spring Developers Conference...
by Jim Lanford

The Spring Developers Conference.

If you are a serious Macintosh developer, you will find yourself attending at least one of the Apple Developers' conferences held several times a year. The spring conference was especially useful since it primarily covered the Macintosh II and the Macintosh SE. I personally ran into eight other developers from the DC area, many of whom are WAP members. Hopefully you will hear from some others to receive a more rounded point of view.

Things you haven't read in any other magazine. The Macintosh II can support up to 128 Megabytes on the motherboard. Yes I know that everyone including myself has been saying 8 Megabytes, but the engineering manager of the Macintosh II team who is responsible for the NuBus, Ron Hochsprung, said that all the address lines are there just waiting for the 16 Megabyte SIMS to become available. Now before you get too excited, I'll mention the caveats.

First, it will be several years before the 16 Megabyte memory chips are even available, let alone affordable.

Second, it will require a ROM upgrade since it will mean running all software in true 32 bit address mode. The original Macintosh and Mac Plus run in 24 bit address mode because the standard 68000 uses only 24 address lines. The extra 8 bits are used by the memory manager for such things as memory locking and purge bits. In the new 256 K ROMS, all of the routines run in 32 bit mode except the memory manager. Those programmers reading this will grin and say but most every routine toolbox routine uses the memory manager. This is true when running the standard Macintosh operating system, the Finder. A/UX (Apple's UNIX) will have it's own memory manager that works in 32 bit mode. This will allow programs running under A/UX to have access to the rest of the toolbox.

The Macintosh II has seven slots. The motherboard uses slot address zero. (Actually, the motherboard takes up slot addresses zero, one and two out the the 16 available in the NuBus specification.)

NuBus on the Macintosh II also has the power on/off signal available for co-processors on the bus. This will give third parties the ability to build a card which could "wake up" via an outside signal (such as a phone ring), turn the Macintosh II on, use all of the available resources, and power the system back off.

Ron also listed the feature highlights of NuBus.

- Synchronous (10 MegaHz)
- Multiplexed (Address and Data)
- Simple protocol
- Geographic addressing (No DIP switches)
- Configuration ROM (self identification and booting)
- Distributed and fair bus arbitration
- Processor independent
- 8 /16/32 bit data transfer (full 68020 support)
- Plenty of power and ground lines (for a "quiet" bus)
- Support for read-modify-write (necessary for UNIX semaphores)
- Allows "Dumb" interrupts (NMRQ*)

Memory Management Units (MMU)

The Macintosh II comes with a socketed MMU called the HMMU. An interesting aside, the chip was first called the FMMU, which stood for Fake Memory Management Unit. The next revision of the the chip made it the GMMU and the final revision made it the HMMU. Of course, marketing will come up with a suitable name for the acronym if they haven't already.

The HMMU translates the 32 bit address mode of the 68020 to the 24 bit mode of most of the Macintosh software. It can be set under software control to run in 32 bit address mode. This is necessary to take full advantage of the NuBus. Drivers for NuBus cards can be written to use 32 bit mode while using the bus and restore the MMU to 24 bit mode for other software.

The exciting thing about this for UNIX fans, is that the HMMU can be removed from the MMU socket and the Motorola 68851 PMMU (Paged Memory Management Unit) can be inserted. The Macintosh II will still run Macintosh software as before because the HMMU is a subset of the PMMU. A/UX needs the PMMU to perform multi-tasking correctly and efficiently.

Apple personnel told the developers that they should start changing their software to assure that it will run in native 32 bit addressing mode because that is the direction Apple is going. Programmers out there be forewarned.

Recommended reading on the Macintosh II.

Every computer magazine has given coverage to the new Macs. *MacWorld* had quite a few technical errors. *MacUser* and *Macizine* had a few mistakes as well. The best, most accurate, and in depth coverage was in *Byte*. I recommend reading the *Byte* article before plowing through *Inside Macintosh, Vol. 5*.

The Palette Manager.

The what? The Palette Manager was finished the day before the conference. This is why those of you who have read all of the available literature on the Macintosh II have not heard of it.

Prototype boards for the new Macintoshes.

Diversified I/O, Inc. is shipping some prototype boards for the new Macs. The have one for the NuBus, one for the SE slot, and an extender board for both. They are $50 each. Call them at (408) 730-2171.

One Gigabyte WORM

We are in the process of interfacing the OSI (Optical Storage International) LaserDrive 1200 with SCSI interface to the Macintosh. The cartridges hold over one gigabyte per side. If any WAP members are interested, I could bring it to a meeting for a demonstration.

Jim Lanford is the architect of MacLabeler™, MARS2™, PostHaste™and other "yet to be announced" software for the Macintosh II. He has implemented ground stations for Spartan I and other real-time 68020-based testing systems. Jim is president of Micro Dynamics, Ltd., a D.C.-based consulting firm specializing in custom Mac software and advanced training.

MUSEMENTS
by Fred Seelig

Last month I attended a WAP meeting for the first time. It was interesting. USUHS is a cavernous set of buildings, and the auditorium looks like a place where doctors dissect bodies in front of hundreds of fascinated interns. That Saturday it was a few Macs that were being disemboweled in the interests of showing the wares from Levco and Mac Memory. Amazing what turbocharging a Mac can do. Near real time rotation of 3-D images... Ah, dangerous thoughts, when considering plunking down two thousand dollars for such an upgrade.

The WAP crowds look amazingly human. I guess I was expecting wild eyed funny smelling computer users. Got to meet Tom Warrick, the prez of this motley crew. He was a combination of circus ringmaster and lion trainer. We were the audience and lions, simultaneously.

Most of us were there to see a demo of the Mac II. That didn't happen, exactly. We got to see Jim Lanford's real live II after the meeting. I briefly thought of how much time it would take to give him a rap on the head, gather up the cables and equipment and make a sprint for the door. But that didn't happen either. We were treated to a video of the Mac II's intro, hosted by Jean Louis Gassee, at San Francisco's Moscone Center. It was hot. It was very hot. Oh baby.

As to this month's offerings: IBM's new machines are mentioned, sort of. A good educational software disk is hyped. A very useful and fast plotting software package is discussed but not reviewed. The new SE is discussed, sort of. Being a real jelly spined wimp, I offer an equivocable opinion, as usual. A Bad Ad contest is kicked off. And KSK Communication's bizarro newsletter is examined.

The Macintosh SE

Can we talk about the SE? Is this an arfer or what? The Mac SE shell is the epitome of bad taste. Its color makes it look like a beached whale that's been bleached totally white. The front looks like a Buick radiator grille. There are no vents on the top. That makes the SE look like it's hermetically sealed. I am reminded of Catholic girls' schools for some reason, but that's a whole other story. The box is, in a word, ugly. The SE looks bad, its mouse feels bad (now why did Apple feel like it had to redesign its perfectly good mouse?), its operating system (at the Desktop level) is not very Mac-like... As my daughter would say: Yeeeeeeuch. Blech. Urf. Gag.

The SE is faster than the MacPlus, but only slightly faster. It has only one slot, and that's only to accommodate an IBM emulator board. Big deal. Who wants to emulate an IBM anyway? So where is the market niche for this SE? It's certainly not positioned between a Plus and a II. If it were, it would be a turbocharged version of the Mac Plus. A whole lot of people would have liked a Mac Plus with a Levco Prodigy 4. This would have added one to three more megabytes of memory and a numerical coprocessor. It would have added serious speed. Instantaneous 3D graphics. Fast, huge Excel spreadsheets. The Mac Plus would have become a true workstation. What Apple gave us, though was something less—much less.

I predict that this unit will bomb as surely as IBM's PCjr did. As an Apple enthusiast I am very disappointed that the Cupertinites let this monstrosity get to market. Now Apple is saddled with the onerous job of explaining away a crummy machine. It gives the Mac a bad name at a time when the Macintosh was just beginning to find public acceptance within the IBM community.

And then, I discover that across the hall from my room at work there are plunked three brand new SEs with a LaserWriter Plus, and I am suddenly reconsidering all of these opinions. Next month: a close look at how an SE performs. Maybe I'll change my tune.

The Macintosh II

The Macintosh II, on the other hand, is an amazing piece of hardware. No equivocating here. Anyone that was at the March 28 WAP meeting and watched the videotape of Jean-Louis Gassee introducing the Mac II knows what I am trying to say. One is stunned into speechlessness.

Speechlessness is perhaps the incorrect phrase. Sounds were coming out, but I was reduced to making lots of incoherent gutteral groans. It was the sheer technical wizardry of the machine. The demo, sound and display, was the most amazing video segment ever produced by a microcomputer. Women and children were crying in the aisles. We felt as if we'd *won* , that the Mac II would be our champion, the David to Big Blue's Goliath.

IBM Announces New Machines!

Yawn.

And Wall Street Responds!

On the day after the new unveiling of the IBM machines, after the dust settles:

IBM	- 3 1/8
Apple Computer Corp.	+ 5

Educational Software Helps Hyperactive Daughter

My 3 1/2 year old daughter has been begging to play on the Macintosh for as long as I've had it. But safe programs like MacPaint did not hold her interest for very long. We pulled out a year old educational disk, "Mac Edge II," by Think Educational Softwear, Inc., and let her play the Count On Mac game. She played this game all by herself.

It consists of counting objects that glide into a bordered rectangle. On the bottom of the screen are rounded rectangles with numbers from 1 to 9. Julie counts the objects, then moves the mouse/cursor until it's over the appropriate number, then clicks. After correctly guessing a number the Mac makes happy sounds. After a few numbers are guessed correctly a bell is rung and the screen goes crazy. Julie is unbelievably proud of herself for being able to do the numbers game, and for working the computer. She even prefers it over Saturday morning cartoons. Well, almost. Pee Wee Herman is still her favorite show, and not even the Mac can displace that love.

Parents ought to check out this disk full of games. It is

contd.

excellent! The software is done very well, and it reaches all elementary school (and, as I can personally attest, pre-school) age levels. The sounds and graphics are also well done.

The disk teaches the following: numeral recognition, cardinality, addition, subtraction, multiplication, division, phonics, reading, antonyms, synonyms, homophones, contractions, compound words, sight words, and vocabulary. Each of the eight programs has a variety of skill levels. Six of the eight programs allow competitive play with up to four players.

MacUser gives Mac Edge II a three (out of five) mouse rating. I think the rating is ridiculous—it's a five mouser if you have kids or if you teach.

Mac Edge II, $49.95, by Think Educational Software,16 Market Street, Potsdam, N. Y. 13676

Bad Ad

I love bad ads. I scour the back of MacWorld, MacUser, and all of those minor league Mac rags just to find new bad ads. Bad advertisements have a certain anti-resonance to them. They stick in my mind long after I read them.

This month's MacWorld has one that I really love, and I'd like to share it with you. Figure 1 has the ad. The company name has been omitted so that Bernie & Co. won't get sued. It's on page 237 of April, 1987's MacWorld. It has been created through painstaking reverse engineering using FullPaint.

Figure 1. The worst Mac-product ad I've ever had the pleasure to see. Note the different fonts, the changing margins, the white-on-black look applied for no apparent reason. And the text! Ah, the text!

The opening font is Athens 18 shadowed. This has been inverted to give it that hip white on black look. We have no idea what the reference to 2 billion records means. Perhaps this changes every month, like the McDonald's marquees.

The second section is also done in Athens 18, plain. For some inextricable reason, the creators of the ad chose not to go with the standard Athenian dollar sign, and imported a dollar sign using some other font. Perhaps the Athens $ just wasn't quite up to snuff.

The third section has "Simple setup:" in Athens 18 boldfaced. "Forms included" is Athens 18 plain. Again, we are clueless what part A has to do with part B.

Our favorite part is the fourth panel. It says "Programable ... In English/IF-THEN-ELSE-AND-OR-ROUND-SINE." First, the misspelling is a nice touch. Then, there is a space between Programable and the ellipsis (the three dots). A little quirk, to be sure, like the Mystery Spice in mystery meatloaf. The first line was done in bold Athens 18. The second line shifts to Chicago font. As if we didn't quite pick up on it the first time around, the ad rearticulates the If-then-else feature of this program. And *then* there's the And-Or feature. The mind begins to boggle a bit here. But the end is the best. The Round-Sine, that's totally out of the blue. Where did that come from? What does it mean? It snaps our attention like a bad case of whiplash.

The next panel, which says, "Data from any source!/Add 1st PORT($295)Even another computer". Fontwise, it's an Athens/Chicago split again. Wordmeaningwise, this is pretty dense text here. Is 1st Port another product? Is it $295? Or is another computer $295? And why all the excitement about data from any source? Are we to interpret the scope of the source as being merely other Macintosh software products, or are source to include, say, the Red Spot of Jupiter?

Dropping down a panel we read that we can get a working demo (as opposed to a nonworking demo?) and Baseball by bringing 800K to our dealer. That sounds like a pretty stiff price for a demo, fer pete's sake. Baseball must be pretty special to rate the quotation marks, but we suspect it's not. We do not know what the reference to peanuts indicates. Continuing on this amazing juggernaut: We can send $10 direct to the company, but by this time we are extremely reluctant to.

And that's the end of it. Whew! A magical mystery tour of an ad. It could be viewed, I suppose, like a fantasy game, with hidden treasures in every line. This ad has fonts, sizes, attributes, everything. Everything but information. It's fantastically crummy. I challenge anyone else to find a poorer ad in MacWorld or MacUser.

Okay, let's make this a contest. The First Annual Trashiest Ad In A Major Magazine Contest of 1987 . Let me know if you do: Fred Seelig/Crummy Ads/P.O. Box 244, Vienna, VA. 22180. Winners posted in a few months.

SoftWear Plot

I complained about the lack of a good plotting package for engineers a few issues back. Since then I have been trying an interesting plotting package called SoftWear Plot.

It accepts ASCII files (as long as they are numeric, multicolumn files) as input files. That means that you can generate plots from your favorite programming language (Basic, Mac PASCAL, etc.), text editor, or even spreadsheet like Excel or MultiPlan.

Plotting is fast. That's F-A-S-T. So long, MS Chart.

The software was designed for speed, so some of the

contd.

plotting bells and whistles were left off. No legend boxes. The software designer, Dr. Bob Fontana (Ph.D. in information theory from Stanford. Gulp.) reasoned that some of these things would be added in FullPaint using Switcher. Actually he is right. I used such a technique to crank out a report full of charts and graphs about 6 months ago.

You can have an unlimited number of data points and plot up to five (I think) plots overlaid onto one another. There's a handy Zoom feature that allows expanding a local region of the chart. If you are plotting hundreds of points this is a handy feature. There's a measurement feature that turns your cursor into crosshairs. Great for measuring antenna nulls or digital filter sidelobe peaks.

The user interface is somewhat non-Mac. But, this package is for engineers who know what they're doing, that are frustrated by plotting packages written for the general public, and as a consequence limit the useful features that engineers need. The package is HFS compatible. Plots off a LaserWriter will surely impress your audiences. The software is compatible with large screen displays. And it's not copy protected.

This is a plotting package to be reckoned with in the engineering community. It is a good example of workstation software that will make Macintoshes the machine of choice for personal engineering workstation applications.

SoftWear Plot is $99.00 with $5.00 for S/H. *SoftWear Products, 7230 Oliver Street, Lanham, MD. 20706 (301) 577-9207.*

Wow!

I'm on the mailing list of KSK Communication's Kaleidoscope newsletter. It's a one-page screed that attempts to impress potential clients. Nothing especially noteworthy about it. It doesn't hype KSK hardly at all. I figure that some bored ad executive is allowed to have free rein once a year and write anything that comes to mind. The small print on the bottom of the front page caught my eye, though.

"KSK is a results-oriented advertising and public relations agency specializing in technology-based companies with a vision."

Wow! If you were a corporate president, I should think you would be pretty nervous trying to get KSK to be your ad agency. Imagine filling out a form to be a client of theirs.

Item 47: Are you a technology-based company? Well, I suppose so. I sell papers to the Government. I have a Xerox machine. Does that make me technology based? I buy mechanical pencils for all of my employees. Should I note that here?

Item 132: Does your company have vision? 20-20, in hindsight. Does that qualify as vision? I *do* wear contact lenses and those end-of-the-nose reading glasses. Does that count? Gosh, this application is harder than I thought...

Item 168: Did you want to hire a results-oriented ad agency or a non-results-oriented agency? Well, I did want some results, so the answer seems obvious. Maybe this is a trick question. Perhaps they're dropping some Zen on me here. Maybe I should answer with "What is the sound of one hand slapping an ad exec silly?"

Do I, your newsletter advisor, recommend subscribing to this thing? Sure, what the heck, it's good for a few laughs. And it's free. Very important to young Gramm-Rudmannites. Go and subscribe if you need some more junk mail. It's printed on nice paper and they even use two or three colors, so you might get some stylistic tips for your newsletter if you do that sort of thing.

KSK Communications. Ltd., 2485 Chain Bridge Rd., Mclean, VA. 22101-4501 (703) 734-1880.

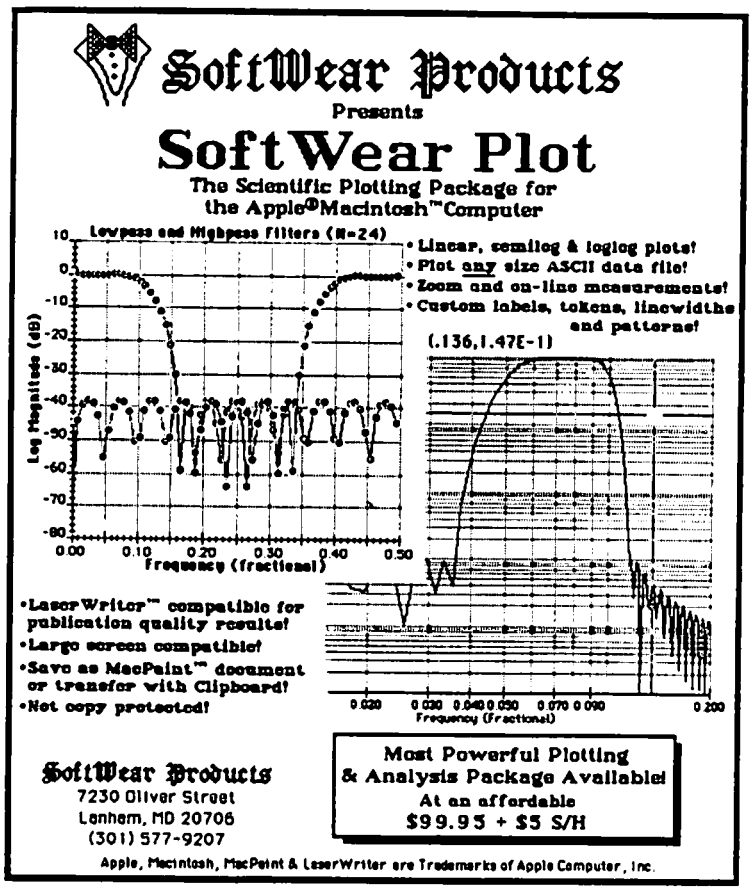
Fred Seelig's Guide to Proper Computer Etiquette is a hugely successful book with prerelease sales in excess of three hundred thousand dollars. It is the first known instance of vaporbookwear. Mr. Seelig has taken the money and run. He currently resides in Barbados.

Mr. Seelig, when he isn't busy fantasizing, is the president of Mac Consultants, a business dedicated to helping Macintosh users make the most of their computers.

Editorial contd. from pg 3

(<500) and large (≥500). I was charged with coordinating the initial efforts of the committee and will be reporting to you on its progress.

An interesting sidelight. White the Dayton meeting was a huge success, thanks to Dr. Roger Siervogel and Jim Coates, the food was not. At least 90% of the attendess fell ill, including Ellen, Cathy, and Guy of Apple Computer and yours truly among many, many others. The Health Department has begun investigating the food handling practices of the Marriott Hotel in Dayton. Hope all you fellow sufferers are now well. Speaking of Guy Kawasaki, have you heard, both he and Scott Knaster are leaving Apple to form their own firm, Acia, to promote the new DBMS Silver Surfer?



BEST OF THE MAC ITEMS FROM THE TCS
by Bill Baldridge

Business Accounting

CHUCK ROTHLISBERGER ON 01/19
SITUATION: Medical-related practice with about 500 active patients and 10-12 employees. Interested in commercial software package, preferably integrated, possibly usable on Macintosh Plus, which will provide word processing, patient data base, including mail merge function, payroll, and inventory capability. Cost not a great inhibitor, but looking for something within reason and system relatively easy to learn/teach to bookkeeper. Essentially looking for a system that is powerful enough to take care of all, or at least most, of the functions of a business of the magnitude indicated. Any experience or suggestions will be greatly appreciated.

DEACON MACCUBBIN ON 01/20
Although you probably won't find all those functions in one integrated package, most of the medical-specific items can be handled by several vertical market packages designed to run under Omni3+. I'd suggest you contact Blyth Software (415-571-0222) and get a copy of their Omnis3+ Business Directory (normally it's $7 but I think they have a special $4 offer for it right now). It lists hundreds of vertical applications, including several medical-specific ones. For word processing, check out WriteNow or MSWord 3.0 (out in Feb.)—both will support mail merge with other data base programs like Omni3+. For general accounting work, check out Turbo Maccountant (from Digital, Inc.) or Insight (from Layered). There are a number of payrolls applications in the Omni3+ Business Directory, too. One caution—most of the available payroll packages handle only single state situations. If you have employees who live in one jurisdiction but work in another (as I do), you're not going to find an off-the-shelf package that will handle that. I am working with three different developers to modify existing programs to handle that task but don't look for it before 1988.

ROBERT LAMACCHIA ON 01/27
Has anyone had any experience using Rags to Riches, the accounting packages put out by Chang Labs? I've heard that it's a popular program, but have not seen it advertised or reviewed. Does anyone know if it can handle multi-user over AppleTalk or under TOPS? Any and all comments welcome.

MICHAEL HARTMAN ON 02/03
Don't know of specific R to R reviews, but there's a decent comparison article in the October 1986 MACazine, and an extensive feature comparison table (only) in the September 1986 MacWorld. If you're interested in R to R's Professional Billing package, it's reviewed in the Dec. 1986 MacWorld (looks nice). For multi-user, the only one listed as such in MacWorld is Great Plains Hardisk Accounting Series. There are also multi-user accounting packages from a number of sources implemented in Omnis 3. You might look at message 14 on this board. I have not seen any of these, but my experience with Omnis 3 says you could implement a very nice multi-user accounting system in it. You can probably expect multi-user implementations of some accounting packages for the new AppleShare file server.

ALLAN BALLIETT ON 01/29
I need a small business accounting pkg for a retail shop w/<150K per annum and a 6 person-payroll, using 512 MAC. None of us has an accounting background. What accounting software can you recommend?

DEACON MACCUBBIN ON 02/01
I recommend that you upgrade to at least a 512E and get a hard disk. (Seriously, most accounting programs are a drag to run on 400K disks.) Then you might look at Turbo Maccountant (from Digital, Etc.), Insight (from Layered) or Rags to Riches (?). You should have your accountant look at each program you are considering—he/she may have special requirements.

MARK OSTROFF ON 02/03
I realize this is for business accounting, but I just bought Dollars and Sense to do both personal and (very) small business accounting. The only problem is that I'm having a lot of trouble, um, making sense of Dollars and Sense. The manual shows all kinds of examples of how to set up accounts for various situations, but FAILS to tell you how to USE these #%x*&% accounts. HEEELLLPP!

AL COOPER ON 02/05
There are some preset accounts in the program which you can use if you are having trouble setting up your own accounts. I've been using the program for a couple of years and think it's great. Did you go through the tutorial? I thought that was pretty good for a quick start to learning the program.

Data Bases

MARK OSTROFF ON 01/08
According to what I've read in the trade journals, A-T (Ashton-Tate—ed.) is disappointed in the speed of the current form of dBase Mac, and so has put off releasing it until mid-1987. However, there seem to be no major bugs, according to the reports I've read. Another company you may be familiar with, Nantucket Software, is jumping into the Mac Database fray as well. In the "boat anchor" world, Nantucket is known for its database compiler, "Clipper". They have bought out a German program called "dMAC III", which claims BOTH data file AND program file compatability. It has been down-rated for very poor documentation, but Nantucket is going to re-write all the docs, and release it under (perhaps) a new name. Expect THIS product to appear BEFORE the A-T Mac version!

DAVE CHAMPNEY ON 01/08
I am reasonably new to WAP BBS. I noticed someone's message wanting to talk about BFilevision. I have had it for several months now and find it fascinating. I have used it to set up a multi-level systems flowchart. The top level is a macro-level overvue. As you click on it you can get to additional levels of detail on the different subjects shown on the macro chart. The graphics can also be attached to data records/files. BFV is a very competent and easy report generator and also does a credible job of producing forms. I see many other uses for BFV at my work place, but have not been able to catch anyone's attention to the concepts (the IBM PC has a program called "Accelerator" which does a lot of the

contd.

same things, but costs $10,000). The BFV people are great to work with and provide updates for free. I don't see why more people aren't checking this one out.

MARK OSTROFF ON 01/09
Our home owners association wants to be able to keep track of the dues owed/paid by all members, flag the ones who are overdue, write reports and form letters and bills, etc. What should we use?

DAVID GURSKY ON 01/09
Frankly Mark, it would seem that ALL the major DB packages can do that. I happen to like Double Helix, but that is an expensive proposition (about $275). I suspect Reflex would do also, and it's only $100. Record Holder might due as well, and it's only $50. The lynch pin would seem to be flagging overdue members, which requires the ability to automatically know the current date to compute if a member is past due.

DICK RUCKER ON 01/11
I maintain a mailing list using 1st Base. It has grown to the capacity of the 400K disk it now resides on. I tried moving it to an 800K disk (I'm using a Mac Plus with 2 800K drives), but all I get is garbage when I open the data base file. It works fine as long as it is on a 400K disk. The data base is all by itself on one 400K disk. The system folder (System 3.2 and Finder 5.3) and 1st Base are on a separate 800K disk. Anybody know what is going on? Is there a size limit to 1st Base DB file capacity? If I have to move out of 1st Base into some other DBMS, does anybody have a copy of 1st Port I could borrow to safely extract my files into a usable format? I really don't want to type them in again!

FROM DICK RUCKER ON 01/18
I talked with 1st Desk Systems who bought 1st Base, 1st Port, etc. from DeskTop Software some time ago. They have finally released a Mac Plus compatible version of each of the three programs Base, Merge, and Port. Cost is $25 per plus $5 for shipping. They warned me NOT to use my current version of 1st Base with System 3.2 and Finder 5.3. I would be running some risk of losing everything. (I have used it for 6 months now with no losses so far, but who knows...). The lack of a response to my previous message may indicate a lack of interest in this software. As I understand it is pretty limited by today's standards, but when you have, as I do, a large mailing list in it with no way to export it to something more modern, you make do! IS THERE ANYBODY OUT THERE? (who can suggest how to export my 1st Base files into something else?)

KIM BRENNAN ON 01/18
You might read how files are kept on the List board (Conference 1) for an idea about how to export your data. Not being a Mac owner myself I am not positive that most Mac DB programs can create a DB via a text file. However, it is worth a shot. The basic idea is that you create a special report using 1st Base—it will print out all (or as much as possible) of your DB to a text file on a disk. Each line will have a single entry (field) of your DB. Each record will consist of x number of lines. Each record should have the same number of lines. Then when you import to a different DB program (I hope) that DB program (after being informed it is coming from a text file) will prompt you for the number of fields in each record. This is the way AppleWorks does it. I would be surprised if MacWorks (from Microsoft) was not similar in action.

DEACON MACCUBBIN ON 01/20
I don't know anything about the 1st line, but can't they at least export a text file? If so, you should be able to export a text file and then import that text file to almost any other data base. It might be a little tricky, but it should work.

DICK RUCKER ON 01/24
Thanks for the reply, but see my message #32. Exporting from 1st Base is possible, but very expensive, if it is to be a one time move! I would really like to find out if someone has a copy of 1st Port that I could borrow for a weekend.

DICK RUCKER ON 01/24
Unfortunately, 1st Base doesn't have a built-in export file facility. Instead, the designers provided a second application, 1st Port, to do that function. Unfortunately, it retails at like $195!!! No way am I going to pay that kind of money for a one time export.

KIM BRENNAN ON 01/24
Dick, I am surprised. There is no way of printing a report to a disk? I mean that is the easiest way of exporting a database. With AppleWorks a report can only have 15 lines (in a label style report) which limits how much can be printed out from a large DataBase. But, I have a simple text editor that works on simple text files (sorry this is all // stuff) so that I can edit my reports to a format acceptable to other DBs. Maybe I am satisfied with simple reports but I sure wouldn't pay $195 for a portage program either...I wonder what else 1st Port has that the designers feel is worth such an outrageous sum?

DICK RUCKER ON 02/01
I guess I could format up a report that mimics the data base format in order to print a text file to disk. But that makes me do some work. Also, I am not sure that would preserve all the data base formatting and control features (whatever they are) that a 1st Port export might provide.

KIM BRENNAN ON 02/02
Well, it may be a little work but it sure doesn't affect your bank balance. As far as the DB formatting and control features, you would probably have to reconstruct those to your liking—no matter what you export the data base to. The simplist export job retains only the data, but after all that is the very stuff that you don't want to have to reenter via the keyboard. Whatever new DB you go to make sure that you'll be able to import whatever you manage to export. Surely, it would be a criminal act for you to go to the trouble of exporting your data only to find that you can not import it.

Educational Software
FRED PUHAN ON 01/02
Just read about a package of 11 games for pre-K to 2nd graders for the Mac, called Match-On-A-Mac, by Teach Yourself by Computer Software in MacAzine... Their address is 2128 W. Jefferson Rd., Pittsford, NY 14534. Has anybody heard about it? I would REALLY like to purchase some quality software that my 5-year old can use! She LOVES to play on my Mac, but what I've got for her (learning math, reading, etc.) is REALLY, REALLY LIMITED!

NIR WICKRAMASINGHE ON 01/08
Look in your Pi Journal for the full page ad by Coral

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Software for their OBJECT LOGO. Looks like Alan Kay's group in the LA school is using it with kids that age. The videotape of the WAP Feb '86 meeting at which Alan Kay describes some of the things he's working on is available at the Pi office.

WILLIAM HULTGREN ON 01/15
I purchased KidsTime for my six year-old and she loves it. The keyboard game is also great practice for non-typists like myself.

FRED PUHAN ON 01/21
Thanks for the reply... I have some literature on KidsTime (somewhere around here...), but my wife said she wasn't too impressed with it. I think it might be time for dad to take a personal look into it.

Entertainment Software
RICK ROBINSON ON 01/09
Anyone know where I can purchase the 3D Chess game entitled "Alice" or "Through the Looking Glass." Is this program still being sold?

DAVID GURSKY ON 01/09
"Alice, Through the Looking Glass" is still available, but I don't remember the details. You are not the first to ask this question, and I don't recall the answer. "Alice" was sold by Apple, so I would suggest giving them a buzz. Another place to check would be the various software flea markets that occur throughout Washington.

BILL BALDRIDGE ON 01/10
Alice was a "tour-de-force" demo done by Apple, Inc. back in the early days of the Mac. It is not a chess game, per se (though based on chess), but more an arcade game where one player, Alice, tries to evade a full complement of chess pieces while attempting to capture them at the same time. It is still available at a couple of local stores—check/call Bethesda Computers or there was/is a computer store on Georgia Avenue (N of Beltway—forgot the name) which still had it a few months back.

DEACON MACCUBBIN ON 01/09
Those who have regained their memory and escaped the cops in Deja Vu, then fought their way past gremlins and zombies to save their brother in The Uninvited, GET READY! ICON Simulations will be announcing their latest graphic adventure release this week. It's called SHADOWGATE, and they promise that it is bigger, better and more challenging than ever—with more animation and more and better sounds. The game should be ready for shipment by the end of January.

WILLIAM HULTGREN ON 01/15
Please help. I downloaded my first game from Compuserve but can't get it to run—ResEdit says it contains no resources.

DEACON MACCUBBIN ON 01/16
Did you use XModem/Macbinary as your transfer protocol? If so, chances are the game is packed. You'll need Packit III to unpack it (it's on CompuServe in the MACUS DL14 under the name PACKIT.BIN). What game is it anyway? If you used simple XModem (for instance, if you downloaded with a version of Macterminal earlier than 2.0), then you'll need to convert the file with Binhex 5. That, too, is available on CompuServe, probably in DL14 also. You could try a BROwse on the keyword Binhex.

WILLIAM HULTGREN ON 01/17
Thanks for the tip! PACKIT.BIN did the trick, but what a waste of time. It wasn't even a game—just out-of-focus dirty pictures. My wife laughed at my efforts for an hour. However, now I know how to unpack—just need to find some stuff worth downloading.

BILL BALDRIDGE ON 01/17
If Compuserve has a similar feature to GEnie then check how many downloads the file/game has had previously—if there are a lot of people downloading a file there's a good chance it's above average (or above dirty for the scanned images). Good Hunting!

RICK ROBINSON ON 01/31
Has anyone tried the new game by Spectrum Holobyte, Falcon? I have seen an ad for it in MacUser. I have been hoping that someone would come out with a good fighter-simulation. The ad (Feb 87) states, "...fly a highly realistic simulation of the F-16A Fighting Falcon. Perform fighter maneuvers while engaging enemy MG's in dogfight battles OR connect two computers and go head-to-head against another plane piloted by a second person." Seems to me that this would be one of the first Mac games to allow players to go "head-to-head." I'm not sure what they mean by "connect two computers." Could mean modem connection OR hard-wire connection; in any case, I think it would be neat to "fly" against a real person. Comment on Spectrum Holobyte: I have been very impressed by their software. I have purchased their astronomy program "Tell Star" (which is not copy-protected) and would purchase GATO "in a heartbeat", if and ONLY IF they would remove the silly copy-protection. I have a hard disk, and if I purchased GATO I would like to have the option to put it on the hard disk. I will also refuse to purchase Falcon if it is copy protected. I hope more Mac users will boycott any and all software that is copy-protected.

RICK STICKLE ON 01/31
Look for Falcon in the May-June timeframe. I spoke to someone just yesterday at S-H. They will also have a new WWII simulation coming out near the end of the year that will be starting Beta testing next month. By the way, version 1.4 of Gato is not copyprotected, and neither is their Orbiter simulation.

DAVID GURSKY ON 01/31
To date, Falcon is still in that wonderful category called vaporware. SpecHolo has been promising it since August of 86. The computers would be connected via AppleTalk according to my sources. While it is certainly your privilege to refuse to purchase software because of copyprotection, I personally doubt the better games will drop their copyprotection schemes. I could be wrong. According to Deacon [Maccubbin], Mindscape will not copy-protect their newest game [but then again, if its anything like King of Chicago, it wouldn't be a great loss.] And I believe MS will be dropping CP from Flight Simulator when the next version comes out, if not sooner. But these examples are the exceptions, not the rule.

BILL BALDRIDGE ON 02/03
This is an unequivocal reminder to any who haven't yet seen, tried, BOUGHT(!) Dark Castle—you ain't seen/played nothin' 'til you've seen/played Dark Castle.

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DAVID GURSKY ON 02/05
At GameSIG this evening, an Alpha-test version of a new WWII sub simulation was demonstrated from Epyx. While the user interface would seem to need some work, on the whole it was a verrry welll written game. Much slicker then Gato. You are attacked by destroyers and aircraft, and can select targets from within the periscope, sonar, binoculars, radar displays. No word on price or availability.

Graphics & Design Software

ALLAN BALLIETT ON 01/12
Well—I took the FullPaint back to Diskcovery to get SuperPaint. All I have to show for it is a raincheck for $87. (Their prices are great when somebody else is paying for 'em!). Now you guys are knocking SuperPaint AND FullPaint. My question is If I already own ComicWorks, is there any REAL reason to buy either of these other Paint packages? (I really do want variable tilt and center drawn objects—but that is an either/or situation) Opinions please. By the way, have they made the GraphicsWorks art archive available separately? And BTW2. The artist that did the work for ComicWorks has another disk out of Paula the Plastic Playmate, or something like that. Object oriented girly art. Apparently really beautiful and at least R rated.

BILL BALDRIDGE ON 01/12
You might check out the December issue of Macazine, in which resides a comparision of 12 graphics packages in tabular form, including such notables a s Cheap Paint, 4Paint, FullPaint, SuperPaint, ComicWorks, MacBillboard, MacPaint, Graphics Magician—included are D/A's and specialty tools like Paint Mover, Paint Cutter, CA Effects, and MacBanner.

ALLAN BALLIETT ON 01/13
Well, I got so excited about the Summagraphics tablet that I called them. They are sending me (FREE!) a cable chart and a list of compatible MAC software for use with the tablet (SUPERPAINT WORKS WITH IT!) The table I have access to is the 1200. A nice piece of work, it is. Since your mention of the Summagraphics as part of your dream machine, their ads are starting to standout to me for the first time! Will let you know when I get the thing connected. (And start entering all the G-Men logos, etc.<grin>.)

BILL BALDRIDGE ON 01/14
Glad to hear it! I still want to get their smaller tablet. Hummmmm, maybe if the IRS is nice to me this year...

BILL BALDRIDGE ON 01/14
To boot a paint application other than MacPaint from the TOOLS menu from within Thunderscan, just rename your favorite paint program "MacPaint" and replace MacPaint with it. For you HFS users, remember it will have to be in the same folder as Thunderscan.

KEVIN PARKER ON 01/14
My wife is trying to make T-shirt designs using MacPaint. The catch is that she has to reverse the entire picture before she prints it out (using a special ribbon). Is there an easy way of doing this, either within MacPaint or by using free or inexpensive (and easily available) software?

BILL BALDRIDGE ON 01/15
Several options come to mind, some free, some not so free: 1) MacBillboard from CE Software is a shareware paint program which will allow you to select the entire document (via the marquee [the dotted rectangle]) and then invert. It is available on SigMac Disk 43—$35 if you like it. 2) PaintMover - a PD application from Bill Atkinson (of MacPaint fame). This is a super utility for working from multiple input paint documents to a single output document. It allows you to select any part of an input document, scale, rotate, invert, OR/XOR, flip it and output to another document. Both documents are presented on the screen in reduced form (like show page in MacPaint). Freeware—available on SigMac Disk 38. 3) MacPaint - freeest/most available option. Move the window to the upper left part of the document, double click on the marquee (this selects entire window), select Invert from Edit window. Move window using the hand tool until inverted portion JUST moves off screen, and repeat. Remainder will have to be inverted with the marquee by selecting the individual portions to be inverted. This is the least convenient method but until you get PaintMover or MacBillboard (or some other paint application—most seem to allow one to select entire document, but all are in the $100+ price range), it will have to suffice. Enjoy!

ALLAN BALLIETT ON 02/01
Say, what if a guy wanted to get LOTUS graphs into his MAC graphics software and these LOTUS graphs were based on info keyed in on an (shudder) IBM and the coordinate accuracy of the graphs was important and he didn't have time to re-key etc. Is there an easy way to do this? I assume that an ultimate solution would be import to EXCEL and regraph. I'm hoping for one that involves fewer steps. And, hey, can those EXCEL graphs be saved in PICT form?? IBM-Mac conntection via RR94 and ProComm.

DAVID GURSKY ON 02/01
Yes, and it isn't even tooooo hairy. Using EXCEL, copy the chart into the clipboard. Then open a new MacDraw (or Cricket Draw, etc., etc) document, past the chart into it, and save in PICT format. Voila! I'm afraid though you're stuck on the Lotus graphs. The best you could do is put the disk with the Lotus document on a PC on a TOPS network, and open the document with EXCEL [which can directly open Lotus 1-2-3 and Symphony files.]

DAVID GURSKY ON 02/03
The Mac is very smart when it comes to combining graphics and text in text documents. It simply views bit mapped graphics as a special case of object graphics (or maybe its the other way around?) In any case, non-graphics packages, such as PM, MS Word, Double Helix, etc., that can all cope with imported graphics do not differentiate between bitmapped and object graphics, except when printing, and even then, it isn't handled by the application, but the printer driver. All the application does is pass the driver the graphic and location. What Bill suggests doing with your charts (or any drawing for that matter) is perfectly valid and a time honored solution, and it can be used for ANY graphic, not just charts. In this regard, Cricket's new draw package really shines, as you can magnify beyond 1x (or should I say below 1x?) allowing very precise manipulations of objects. If you are wondering what use this would be, the answer is freehand graphics, where very precise control is needed.

BILL QUALLS ON 02/05
Thanks for the additional information; it was very helpful. I've

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heard some good things about Cricket Draw, but I don't recall anyone posting any comments about it here. I know it's somewhat expensive, so maybe that's a factor limiting wide usage. At any rate, I'd like some clarification on the magnification and reduction feature, if possible. Can you, in fact, reduce images? If so, is text reduced in the same scale as geometric primitives and patterns?

DAVID GURSKY ON 02/05
I didn't try text reduction. Since text size is a function of the font size, I doubt that text is reduced in the same scale. I could be wrong though, and perhaps it is smart enought to reduce the font size in proportion with reduction in other primitives. MacDraw can reduce and enlarge images as well and as easily. What I was referring to was Cricket Draw's ability to magnify the display beyond 1x. In other words, MacDraw's finest magnification results in 72 pixels/inch. In Cricket draw, there is a 144 pixels/in mode, and a 288 pixels/in mode. If this seems like it is leading towards the LaserWriter's 300 dpi, it is. I suspect that the high res mode is really 150 pixels/inch, and super-hi-res is 300 pixels/in.

MIL TRATENSEK ON 02/09
CALIFORNIA DIGITAL is selling the no longer produced four pen Apple Plotter 410 for less than $200 (includes shipping, cables pens and paper). Works great with Color Chart and the Mac. Their Phone No. 800-421-5041. Max paper size supported is 11by17 (size B).

BILL BALDRIDGE ON 02/09
Is this new, reconditioned, or used equipment?

MIL TRATENSEK ON 02/09
As far as I could tell this is brand new equipment—came with appropriate packing and manuals. To be honest I never positively ascertained.

Hard Disks
MARK OSTROFF ON 01/08
I have been working with a 20/20 connected to a Sperry PC at work. Why just use it for backup and archive? What I've done at work is set up one cartridge as my boot-up system disk, and created a set of data cartridges to use in the second drive. The dual 20 is great for archiving, since Iomega supplies you with all the utility S/W you need for file-by-file and disk-copy backups, data cartridge formating, etc. In fact, at least in the DOS world, the disk-copy is SO good that is even makes WORKING backups of installed copy-protected software! The cost, however, ain't cheap—about $2400 for the drive, and about $170 for 3 20-Mb cartridges. The construction is excellent, and so is the support. The fan on the 20/20 is quieter than on the older 5 Mb drive, and the unit is about the same size as the older unit, but with two drives instead of one. The 20/20 plugs directly into the SCSI port, so should be much faster than the old 5 Mb drive.

ALLAN BALLIETT ON 01/09
So, if you've been reading ANY board in this country, by now you probably know that my internal Mac+ (upgrade) disk drive is only interested in formatting, not reading, disks. As part of the question above—I imagine I'm going to have to replace the drive, since the consensus of replies seems to be that the Mac+ internal drive was funky from the beginning. The question, here comes the question. Since I am booting from a Dataframe20 HD, is there any reason to think in terms of INTERNAL drive replacement? Will I really lose anything if I buy an external 800K drive and leave the internal dead? That is the question.

DAVID GURSKY ON 01/09
No, that is a perfectly valid approach. I suggest, though, you contact the dealer that installed your upgrade. Many of the original 800K internal disks were found to be flaky, and I think there is an exchange policy, but I am not 100% certain. For what little is worth, I also have an upgraded Mac (although I have only gone to EMac, not Mac+) and have had no problems with my new internal drive.

BILL BALDRIDGE ON 01/10
I agree with David. See the dealer that installed it. Fixing it yourself is OK, assuming you know what you're doing, and the consequences if you screw up (i.e., $$). I personally would like to see Apple be more OPEN about the Mac, and at least OFFER upgrade kits with a "no warranty" caveat.

BERNIE URBAN ON 01/15
Disagree! Fix the internal drive. I experienced this same problem in the middle of Journal crunch week and limped along the way you suggest. The application I was using would not release the key disk from the external drive and there I was stuck with need for internal or taking time out to eject from external. Also I forgot a few times and by force of habit used the internal. Either fix it, tape it over or insist the upgrade installer rectify the problem.

RICK ROBINSON ON 01/23
First of all, I own a Lo-Down 20 hard drive; however, I don't recommend it. Anyway, the Lo-Down sits under the Mac. As far as hard drives that sit beside the Mac, I must recommend the DataFrame hard drive from SuperMac. I have talked with owners of this drive and company reps, and have read much about it. Seems that SuperMac offers the best support in the Hard Disk business (any DF owners want to confirm or debate this?). I'm not sure what method the DataFrame uses to park its head(s).

BERNIE URBAN ON 01/27
Wouldn't part with my DataFrame. It uses a Superparker which comes from SuperMac.

ALLAN BALLIETT ON 01/29
Bernie, You know, when I got that last piece of formatting software from SuperMac (I mean SINCE I got that last piece of formatting software installed) I haven't had one whit of trouble from my drive! I can run all the DA's and RAM resident pgms w/o losing the DF20 icon. That part is great. What stinks is that SuperMac must have been clearly aware of the problems that existed to issue such a perfect "FIX". I just resent that they jived me on the help line instead of awknowledging there was a problem with their stuff and the fix was in the works. I got the same sort of obfuscation from them on the X upgrade. They were telling me the dealers had them and the dealers were saying they hadn't been shipped. Ultimately, it turned out they hadn't been shipped.

MARK OSTROFF ON 01/24
Anybody see the ad in the Feb. issue of MacWorld on the 5.25" Bernoulli technology drives from a company called Bering? According to the ad's small print, Bering is a division of Mountain Computer Products. The last time I dealt with

contd.

Mountain Hardware, they were making VERY good S-100 bus cards that I used in the Cromemco Z-80 machine I was working on at the time. Anyway, the ad shows a 20Mb 5.25" Bernoulli-type drive that is equiped with a SCSI interface, come in several models, and can fit beneath the Mac. As far as traveling with it, if the drive itself is any good at all, the transportation worries of using a hard disk do not apply at all. The data resides on 20Mb removable cartridges. Just take them out and THEN move the drive. The only major drawback is cost. I don't know what these drives cost, but the original 8" Bernoulli Boxes go for up to $2400 (for a 20+20 dual drive). Considerably more $ than a 40Mb hard disk, but then you GET more than a 40Mb hard disk.

JAY HELLER ON 01/25
Several of us are working on the homebrew hard disk that was in the BMUG newsletter. It looks like that for around $350 or so you could build one. If you are interested in doing this leave me a message here.

RICK ROBINSON ON 01/26
I already have a (Lo-Down) hard disk, but would be interested in following the project and learning more about how hard disks work. How could I get a copy of the BMUG newsletter? I would be veerrry interested in building a homebrew tape back-up unit!

JAY HELLER ON 01/26
I don't know if we will be able to reprint the article but I am writing one that will tell about what we are doing.

RICHARD BROSNAHAN ON 01/30
YES. I am interested in this project. Will you be doing the "manufacturing" and/or writing up a project for the Journal? I may go either way. I don't really have the time to do the "kit" but as I understand it, the kit would not take that long to build. Great idea, in any case. Pun intended. We gotta find appropriate cases for the darn things. Have you shopped at Electronics Plus in College Park?

JAY HELLER ON 01/31
Buy a lot of stuff at Bill's. I am going to write up the project for the journal in April. I will not be manufacturing the drives but will make the cables for those who do not want to do them. I think that almost anyone could build this drive.

JAY HELLER ON 01/31
Zack and I are having problems with the Shugart 1610-4 controller that we are using. It now looks like we may write our on formatter for this unit. This controller is $80 cheaper than the one Jim Lanford is using now so we will try for a little while longer on this one. If things do not work out we are going to get one of the Adaptec 4000A controllers that we know will work.They cost $180 each. The Shugart is $100.

DEACON MACCUBBIN ON 01/28
I have never heard anyone claim that the MacBottom is noisy. I know scads of folks who run with MacBottom SCSIs and every single one praises the drive for its speed, reliability and extremely quiet operation. As far as I know, the MacBottom is the quietest SCSI 20 meg. hard disk on the market.

DAVID GURSKY ON 01/28
The early MacBottom serials [emphasis on SERIAL and EARLY] were not noted for being particularly quiet. See my earlier message here.

DEACON MACCUBBIN ON 02/01
That's right, but the early MacBottom SCSIs are VERY quiet. The current MacBottom SCSIs are slightly noisier, but still one of the quietest HD around.

BAILEY WALKER ON 02/03
I've checked out and finally confirmed that the MacBottoms (like mine) which were upgraded to SCSI from serial) are NOT as quiet as the factory SCSI model. Mine is quieter than it was before the upgrade but it is not at all silent or "whisper-quiet." Also, the upgrades have a piggy back board installed to support the SCSI port which is different from the factory model as well. But, all things considered, performance is far better and support is fine. And how many disk manufacturers even have such an upgrade policy? Have you ordered HFS Backup 2.0 yet?

DEACON MACCUBBIN ON 02/07
Hate to tell you this but your upgraded SCSI isn't as fast as the off-the-shelf SCSIs, either. PCPC was limited in how much of an upgrade they could do on the serials. They did a good job, but the real SCSIs are better yet. I haven't technically gotten my upgrade to HFS Backup 2.0, but I bought another MacBottom SCSI last week and it came with the new version. I still have to buy an upgrade for my old v1.1 that I use on my Apple HD (since the ones that come with MacBottoms can't be used on other HDs—legally or in actuality).

ALLAN BALLIETT ON 01/29
Hey—where can I find a copy of the instructions for cutting the squeal out of my DataFrame 20? It was in the hardware library of the "OLD" BBS.

BILL BALDRIDGE ON 01/30
Check page 86 of the January Journal, left column, from Kevin Nealon 10/22 for the "inside story."

TOM THOMPSON ON 01/31
I just got my Jasmine 20 meg hard disk yesterday and I thought that some of you might like to hear my first reactions.—The drive seems smaller than I had expected it would and that is great. It fits under the Mac with out sticking out the back. The case is painted the same color as the Mac almost and the quality of the machining is excellent. The 2 AC outlets on the back are perfect for connecting the Mac and a modem or printer. This way you can leave the Mac's power switch on and power the whole system from the power switch on the drive. The drive also comes with over 10 megs of software from the 'Berkeley Mac Users Group' library. It took thirteen 800K floppies to back up this stuff. Now if I can just find the time to try them all. The drive is shipped via air by Purolator which takes about 2 days from the shipping date given when you place your order. The 2 days may have been caused by the snow. The price of the drive was $575.04 since I ordered on 12/31/86. The price now is 589.00 and this includes the shipping charges. My only complaint so far would be the noise level. The fan makes a typical fan noise like that on a IBM AT power supply. It is not a terrible sound, but when you are use to the "no sound" of a Mac it does seem distracting.

DAVID GURSKY ON 01/31
Buy a Radio/Tape Player combo, set it up next to your Mac, turn it on, and you will not notice the fan [that's what I do to drown out the noise from my Micah fan.]

contd.

GAVIN HEMPHILL ON 02/01
I've had my Jasmine 20 for about a month now, and find it quite reliable and quiet (direct comparison with an Apple SCSI and a LoDOWN 20). It surprised me that the drive was quieter than the LoDOWN even though the LoDOWN doesn't have a fan. The company has a support line (not toll free) and seems to be reasonably responsive to queries/problems. They also have a one year warranty and say they will supply upgrades to their software as needed (the first upgrade should be here this week—their formatter has a bug that requires the HD to be off when you start it up.). In all I've had fewer problems with this drive than I've had with either the LoDOWNS or Apple SCSI's.

DEACON MACCUBBIN ON 02/01
Word has leaked out that PCPC will shortly be introducing a 40meg SCSI MacBottom HD. They expect to offer 20 meg HD owners an upgrade path (probably about $400 to upgrade from 20 to 40—roughly the difference in the retail price between the two). Also, there is a new version of their print spooler and their HFS Backup program. If you need these upgrades, you can call PCPC's customer support to order them (or wait for the notification postcard to arrive). You'll need to give them the serial numbers of your registered HD or software.

LEE DUER ON 02/02
To anybody interested—I received the drive about a month ago ($995 via Mac Conn. and have not had a bit of trouble—shut it down on purpose at various times etc. and no trouble at all. It sits next to my Mac+ on a DAK power controller. Fan a little noisy but compared to what? Also I just downloaded from Compuserve a DA that's great for those with a hard disk, called DiskTop from CE Shareware. download file = DSKTOP.BIN (35986K). if you don't subscribe to CIS call me and I'll upload it for you.

JONATHAN TETZLAFF ON 02/08
After reading the other messages on hard drives, I thought you might be interested in my experiences ordering a Jasmine 80 meg drive at work. We ordered the drive on December 28, and were given a delivery date of January 17. When it hadn't arrived by the 19th, I called Jasmine. They told me that Quantum (who makes the drive itself) was having some problems with the ROM, and were in the process of changing it. Then they told me that I might not get the drive for about two more weeks. To make a long story short, it took 3 or 4 calls to get the drive. We received it on February 3. The rep at Jasmine said that the demand for the 80 meg drive has been tremendous. Because of this, they shipped the drive without documentation. Their rationale was that a purchaser of an 80 meg DD could probably cope for a few weeks without detailed instructions. They have promised to mail the documentation as soon as it is available, approximately 2-3 weeks from now. The drive itself is relatively noisy. As with Jasmine's 20 meg, it comes shipped with about 10 meg of public domain programs and shareware. Good stuff from the looks of it, but the sheer quantity makes it a little overwhelming. The drive responds very quickly, and we've used it quite a bit in the few days we've had it. Jasmine says that the drive has five heads and three platters. We were given our choice of cables. A 2-foot cable is standard, and a six-foot cable is available for an extra $20. (Incidentally, the 2-foot cable is actually about 20 inches.) It claims a 30-millisecond access time, has auto head park, and built-in surge protection. It also has 2 switched AC outlets. Our office paid $1380 and $20 shipping.

DOUGLAS E CANTON JR ON 02/09
I have a DataFrame20 w/XP upgrade and would like to know if there is a SCSI connection direct to the CPU (or otherwise that would allow the Mac to realize the full potential of the drive's transfer rate (the external SCSI, fast as it is, is still a bottleneck). The cable for such a connection could be routed through the hole provided for the security attachment (above the mouse port). Preferably, such a connection would not require altering any of the Mac's circuit boards.

BERNIE URBAN ON 02/09
Suggest you discuss directly with service folks at SuperMac. We would be interested to get the news of such a change.

BOOK REVIEWS
by Robert C. Platt

After an unintentionally long gap, let's resume our coverage of the latest computer books for the Apple // and the Mac.

"The Third Apple" by Jean Louise Gasseé (HBJ, 1987 $14.95). Carl Sagan watch out! Apple's V.P. for Product Development is another engineer seeking to popularize science. This book was originally written in French back in 1985. An August 1986 address was added to update the book. Regarding the title, the first apple was Eve's and the second was Newton's. I'll let you guess who invented the third. Buy this book for musings about technology. Don't expect extensive hints about Apple's future product lines.

"Advanced Macintosh Pascal: Powering up with files, Quickdraw, the Toolbox and InLines" by Paul Goodman (Sams, 1987, $19.95). The Hayden "Macintosh Library", which brought you *Macintosh Revealed,* has been bought by Howard Sams. One of its first offerings is brilliant in concept, but falls apart in execution. This book is designed to cover using the Mac ROMs from Think Technology's Mac Pascal. The sample programs, such as a logger to keep track of your computer usage for tax purposes, are interesting. This book gives a much clearer overview of the toolbox routines than *Macintosh Revealed,* but in much less depth.

The problem is that the book was not proofread and contains obvious typos which escaped the spelling checker. For example, the word "most" is used instead of "must," and the description of GetCRefCon and GetCtlMax accidentally refer to *GetCtlMin.* Appendix A was added to cover Mac-Pascal version 2.0 and includes a sample program on Procedure pointers. However, both the program and its alleged "sample output" contain typographical errors. The appendix does not cover the *uses procptrs;* statement, which is necessary when passing procedure pointers to the toolbox.

The author can be faulted for his Pascal style. He does not isolate initialization code in a separate procedure. Page 115 introduces the odd convention of *const Handle=LongInt;* when proper Pascal would be: *type Handle=LongInt;* Goodman's approach gives an error message. Absent these typographical flaws, you will find the samples interesting. Anyone who can replicate *Inside Macintosh* and *Macintosh Revealed* in 287 pages deserves an award for conciseness.

MAC DISKETERIA NOTES
by Marty Milrod & Dave Weikert

This will be a rather lengthy article, and we beg your indulgence about its varied subject matter.

First, let us once again remind our new, novice, Mac users that all of the text documentation items used on our Mac Disks may be read by using MacWrite 4.5 in the Mac and by simply double-clicking on the text file. (The same is true for MacPaint 1.5 where the document may be stored in MacPaint format—the paint brush along the left-hand edge and one line across the icon page.) If you have any other commercial word processing software, the text materials within these disks may be opened by first opening your word processor and then from within the program "closing" the blank screen and "opening" the Mac Disk description from the dialog box which will appear in your word processor application.

Next, we have received a communication from the author of Disk Librarian 1.82a (on Mac Disk #81,) which should be important to those of you who use his program. John R. Goldin wrote, in part: "...My impression is that I have received more shareware paymentsn as a result of distribution through Apple Pi than through any other single users group. ...there will be no further updates of the program version beyond 1.82a. All my future efforts will go into DiskQuick [the commercial version of Disk Librarian, which will be sold by Ideaform.] For registered users of Disk Librarian ... Ideaform is offering upgrades to the latest version of DiskQuick for $15, the same update price they use for customers who purchase from them directly. (Users who registered before April 1, 1987 are eligible for a special upgrade price of $10.) Hard disk users in particular might appreciate one change: DiskQuick does not automatically catalog the hard disk. ..." Ideaform Inc. may be contacted at PO Box 1540, Fairfield, Iowa 52556 (515) 472-7256, and the list price for DiskQuick is $37.50, It is sure to be heavily discounted by mail order houses.

The Winter, 1987 Mac Disk Catalog containing comprehensive information about the entire WAP Mac Disk collection (through Mac Disk #80) is still available. The cost is $3.25 at the office or at general meetings or you may order it by mail for $4.75 inclusive of postage and handling. The catalog lists disks by (1) disk name, (2) description of disk contents, (3) alphabetic listing of files across all disks and (4) by "type of file" listing across all disks. We anticipate updating the catalog periodically.

In response to our request for documentation of the MacSevens program on Mac Disk # 80, WAP member Donald Kahler has written a short description, which will be added to the disk when it is next revised and is repeated here in synopsized form.

Mac Disk 80: Fun & Games XV
(Card Games +)

MacSevens Documentation. MacSevens card game can be played with one opponent or two opponents, or you can let the computer play itself. The latter is practically useless, since the computer plays so fast that you can't see what's going on.

After selecting the number of opponents, select Play the Game from the Sevens menu, and the computer will deal. The object of the game is to play all of your cards and catch your opponents with as many cards as possible, preferably high-count cards. Aces count three points against you (if you are caught with one), Queens count 5, and Sevens count 10.

To play, you put the cursor on a card and click the mouse. You must follow suit, or play the same denomination, i.e., a heart on a heart, or a deuce on a deuce. If you can't follow suit, you must draw a card from the deck. The Sevens are the important cards in this game (hence MacSevens!). When a player plays a Seven (by following suit or on another Seven), the next player must either play a Seven or draw three cards. You draw by clicking on the deck. If the second player has a Seven, the third player must either play a seven or draw six cards! Conceivably, if three players played Sevens consecutively and the fourth player did not have a Seven, he would have to draw nine cards! The computer takes care of insisting that you draw cards, and determines how many to give you.

The Queen is a sort of wild card, and can be played at any time, except when you are told to "play a seven or draw." When you play a Queen, you have the option of changing to another suit, or continuing with the same suit. You normally would change to the suit in which you have the most cards. But don't be surprised if the next player changes the suit to his option!

When one of the players plays the last card, that deal is over, and the computer totals the values of the cards remaining in the other players' hands. Totals are accumulated on subsequent deals, and if your opponents get ahead of you (have lower scores), you can keep playing until you are the winner! If you get hopelessly behind, just quit and start over. All will be forgiven!

In May, we are issuing five new disks. These are described below. Folder information, where appropriate, precedes the listing of program contents. Folder information is underscored, programs and files are printed in **bold** with shareware price information printed in ***bold italic*** print. Please remember to send, to the authors of the shareware, the requested fees if you decide to add the programs to your software library.

Mac Disk 91: Fun & Games XIX with Phraze Craze Plus

Zero Gravity Here's an odd one for you. You are in a spaceship in free fall. Click the mouse on the figure, manipulate it to the airlock, click again, and then maneuver it within the window for points. Inside the spaceship, remember Newton's law; outside the spaceship, watch out for strange outside influences! ***Shareware - $1 - 5 ($15.00 for source code.)***

GunShy 1.0 A shareware version of Mah Jongg, a solitaire-like game played with tiles, not cards. The end tiles on each row are free. Clear the tiles by clicking on matching

contd.

sets of free tiles. Use the option key to highlight the free tiles. See the extensive help menus for other ideas. Everyware—If you keep it, you have to give a copy away.

Tic-Tac-Toe-Too™ A strange implementation of tic-tac-toe which you play against yourself, not the computer. You get to select the size of your game grid, and you score every time you get three X's or O's in a row.

Golf 1.1 A solitaire game in which you play for the lowest score, just like its namesake. ***Shareware - $10.***

I Ching An electronic (and they say, statistically accurate) implementation of the Taoist book of philosophy and divination. ***Shareware - $15 and a disk for an enhanced version.***

Phraze Craze Stuff

PhrazeCrazePlus A better-than-we-have-any-right-to-expect version of one of today's favorite game shows. Spin the wheel, select your letters, buy vowels if you have to, but enjoy. About the only thing we don't have here are the host of prizes. Read the documentation to see how it works and how it got here. ***Shareware - $10.***

PhraseFile 250 phrases for the game, easily modified when you guess them all.

PhrzCrz.doc.mw The documentation mentioned above.

Mac Disk 92: Education II

MacFlash for Speed A no-frills arithmetic speed drill where you can set the type of problems and compete against others at the same level. Answer as many problems as you can in sixty seconds. The rapid pace makes it challenging for anyone. Drawback: it doesn't tell you the correct answer if you get one wrong. Advantage: it's written in MacForth, so if you hunger for MacForth examples, you can peek at the code. ***Shareware - $15.00 (if you use the program with students).***

MathMaster Folder

MathMaster An algebra study tool, and pretty amazing in its way. Factor numbers, solve simple systems of equations, simplify some polynomials and (amazingly) graph lines given EITHER the intercepts, the coordinates of a point and the slope, or the coordinates of two points. AND there's more—all algebra-related. If you're a teacher you can use MathMaster to set up study sheets with worked-out problems. If you're studying algebra, you can use MathMaster for assorted forms of study help. ***Shareware - $17.00.***

Demo is a sample worksheet produced by MathMaster. It shows the types of problems the program can handle and the gorgeous output.

.MathMaster Short Docs is a MacWrite file which documents the peculiarities of MathMaster. The program is picky about input, so make sure to read this file first.

Star.Chart Folder

StarChart Lets you plot a view of the heavens from any angle of view. You can speed up the plot by limiting the brightness of the stars to be included. Once the chart is plotted, you can draw lines on the screen to help you trace constellations. A nice feature lets you pick a constellation to view. You can also click on any star in the plot and get basic information about that star.

Star is the data file holding the scoop on the heavens.

Veggie Stuff Folder

Veggie With Veggie you can see into your own stomach, and judge how nutritiously you are eating—as long as you are eating a vegetarian diet. In this demo version, you can select from a limited list of healthy foods, and see how they score in terms of essential amino acids and other nutrients. The full version, available from the author, includes many more foods.

Veggie.mwrt and **veggie.laser** hold the documentation. Other files in the folder include data on the foods.

Mac Disk 93A: Fonts VI
Apollo Fonts - Lachine

This is a two-disk set of fonts, including 10 different typefaces on Disk A and 14 typefaces on Disk B. Each typeface comes in two or more sizes, ranging from 9-point to 80-point. All of the fonts are designed for the Imagewriter I & II printers. Disk A also includes a manual (identified by the "F" icon) containing written instructions and background on the Apollo family of fonts. A couple of the fonts generate special graphic symbols in place of letters, but most of the fonts in this collection are variations on the Athens, Courier, Helvetica, and Times fonts provided by Apple in the Utilities Folder of the System Tools disk that came with your Mac. A primary benefit provided many of the fonts in the latter category is the provision of larger sizes, which allows better high-quality printing with the Imagewriter. For example, adding the 48-point Athens font on Disk A to your System file permits better high-quality printing in a document containing 24-point Athens text. The typefaces listed below are found on the desktop in font "bags" with the names shown under the font-bag icons. The fonts on this disk are usable in your word processor or other application programs only after they have been installed in your System file. For that task you need the Font/DA Mover provided on the System Tools disk. The Font/DA Mover also allows you to get an on-screen preview of each font prior to its addition to your System file. (The Font Display 4.5 program on Mac Disk #48.3 also displays on screen and prints fonts that you might want to examine.) Please note that the fonts on this disk are distributed as shareware, so don't forget to send the registration fee to the author if you decide to add any of these fonts to your software library.

F Manual Double-click on this icon to read the instructions and background information on the Apollo family of fonts. This file also contains the shareware notice and information. ***Shareware - $15.00 "registration fee" for any or all of the Apollo fonts.***

About Lachine Double-click on this icon to read the instructions and background information on the Lachine "typewriter look-alike" fonts on this disk. ***Shareware - $5.00 for the Lachine fonts or $15 for the Lachine fonts together with the Apollo fonts.***

Apple I This font "bag" contains 18 and 36 point sizes of an attractive typeface similar to Athens but with some attractive variations in detailing. **Athens** This font "bag" contains 12, 18, 24, 36, 48, and 72 point sizes of the Athens font provided on the Mac System Tools disk.

Boxie A sans serif font that looks like its name sounds, in 10 and 20 points.

contd.

Courier The same font you get on the System Tools disk, but in 20 and 28 points.

Drawing A graphics font that draws lines and boxes, available in 9, 10, 12, 14, 18, 20, 24, 28, 36, 40, 48, 56, 72, 80 points.

Ellesmere A tall, thin, sans serif font, in 10, 12, 14, 20, 24, and 28 points.

Gavarnie A thin, sans serif font, in sizes of 9, 10, 12, 18, 20, 24, and 36 points.

Greenbay A very thick, sans serif font, available in sizes of 18 and 36 points.

Greg's Czech A thin font in 12 and 24 points.

Lachine A "typewriter look-alike font for the Imagewriter I & II," available in 9, 10, 12, 14, 18, 20, 24, and 28 points. This may be one of the best looking Imagewriter fonts since Boston II.

Mac Disk 93B: Fonts VI
Apollo Fonts - Lachine

Geneva The font you know and love on the Mac, now in sizes of 28 and 36 points. *Shareware - $15.00 "registration fee" for any or all of the Apollo family of fonts.*

Herford Similar to Courier and Times, in sizes of 9, 10, 12, 14, 18, 20, 24, and 28 points.

Hood River A horizontally compressed, sans serif font in 12 and 24 points.

Kendall A somewhat thicker, sans serif font in 12 and 24 points.

MacSymbols Instead of letters, you get graphics, such as a close box, a pointer, a question mark, and Mac buttons.

Madeira Another Courier-type font in sizes of 9, 10, 12, 14, 18, 20, 24, and 28 points.

Manteca A thick font with a slightly stenciled look, available in 18, 24, 36, and 48 points.

Norwood (Square Serif) A thick font that's thicker at the bottom of the characters, in 24 and 48 points.

Oblique An attractive font with more diagonal lines in the rounded parts of the characters, available in sizes of 9, 12, 18, 24, and 36 points.

San Francisco A jagged font that's good for writing kidnap or blackmail notes. Now you can write BIG notes with fonts of 18 and 36 points.

Silicon Beach A somewhat thick, sans serif font in 12, 24, and 48 points.

Sri Lanka (Kendall) This one comes in 9, 10, 12, 14, 18, 20, 24, and 28 points.

Swan Song This one has a cursive look, available in 12, 24, and 48 points. **Unical** A nice Oriental look in this one, in 18 and 36 points.

Mac Disk 94: Paintings IV

It has been a while (Disk #50) since we offered an assortment of Macintosh Art, so this collection is particularly welcome. Here we have an assortment of images from nature, some of them digitized, ranging from a fascinating Druidess to an owl, rat, snow leopard and a jaguar (not to be confused with the Porsche 959!) and not to mention two pages of trees and the teenage mutant Ninja turtles!* We'd like to thank the artists, most of whom have not provided their names.

* For those of us who came in late, a teen acquaintance tells me that the teenage mutant Ninja turtles were normal baby turtles without a mother. They were taken in by Splinter, a rat and master of minjitsu. One fine day (as always seems to happen in these sagas, some radioactive waste spilled on the turtles, who began to grow to human size. Splinter trained them in his art.

Finally, permit us to ask for your assistance in collecting more public domain, shareware materials. Please get any non-commercial materials which we may place in our disk collection sent to either of us at the WAP office; this is particularly needed in regards to graphics materials which you may have available. Please make sure that it is OK with the author of the material for Washington Apple Pi to include such material on our Mac Disk. Lastly, let me issue the caveat that we already have access to virtually all commercial BBS materials (e.g., CompuServe,) so please do not send us material available through those services. Thanks.

WAP TUTORIALS
by Robert C. Platt

WAP's wide variety of "hands-on" sessions continue into the summer. Why not use your spare time to sharpen your Apple skills? Also, now that the kids are out of school, consider WAP tutorials to maintain their computer interest throughout the summer. Call the office to reserve a place and then fill out the enrollment form in the back of the **Journal.** If enough youngsters are interested, we will sponsor summer-time courses for younger users on programming or other introductory topics.

Mac tutorial. Our two-session general introduction to the Mac will continue to be offered throughout the summer. This course reveals such useful skills as using the Font/DA mover, organizing your desktop and using a RAM disk. Because of demand, please phone the WAP Office with your reservations early.

Our first IIgs tutorial rescheduled. We have added several one-time tutorials to our summer offerings. The fee for these tutorials is $15 for members and $20 for non-members:

"Transition from //e to IIgs" - *Raymond Hobbs* - Saturday, June 20 - 1 to 4 p.m. Apple //e owners who are shifting to the IIgs are facing several problems in getting their software and hardware peripherals to work on the new machine. Topics will include: connecting disk drives to the IIgs disk port, using the /RAM disk and which controller cards are IIgs compatible. Bring the hardware and software you haven't been able to get running. This course should be valuable to //e owners who are in the midst of converting as well as those about to convert. Ray Hobbs is Manager of Financial Systems at Amtrack and has been programming since 1964.

"Introduction to Telecommunications on the Apple //" - *Allan Levy* - Saturday, June 6, 9 - 12 a.m. Learn the important basics of accessing other computers with a modem. Topics covered include: setting up your hardware;

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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. The fee for each session 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.

( ) June 2 - **WELCOME TO THE WORLD OF APPLE**
( ) June 9 - **HOW TO USE YOUR APPLE SOFTWARE**
( ) June 16 - **POPULAR APPLICATIONS: APPLEWORKS**

No Tutorials in July and August

Macintosh: Tutorials for the beginners are regularly 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, May 11 and 18
( ) Monday, June 22 and 29

Note: Prerequisite: The Macintosh Guided Tour.

Non-Regular Tutorials: The following tutorials are being offered in the next few months (at the office unless otherwise specified). The fee for these tutorials is $15 for each session within each tutorial ($20 each session for non-members).

( ) **Word 3.0: Style Sheets - Hank Taylor - Saturday, May 2, 9 - 12 Noon.** Fee $15 ($20). Word's formatting power.
( ) **Word 3.0: Hidden Text, Indexes, Table of Contents - Hank Taylor - Sat, May 9, 9 - 12 Noon.** Fee $15 ($20).
( ) **Word 3.0: Outlining & Column Features - Hank Taylor -Saturday, May 16, 9 - 12 Noon.** Fee $15 ($20).
( ) **Introduction to Apple II Telecommunications - Allan Levy - Saturday, June 6, 9-12 Noon.** Fee $15 ($20). Learn the important basics of accessing other computers with a modem.
( ) **Transition from //e to IIgs - Raymond Hobbs - Saturday, June 20, 1:00 - 4:00 PM.** Fee $15 ($20). This course is for those in the midst of converting as well as those about to convert.

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
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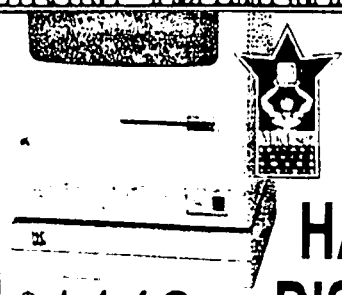

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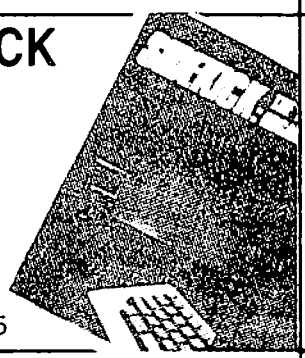

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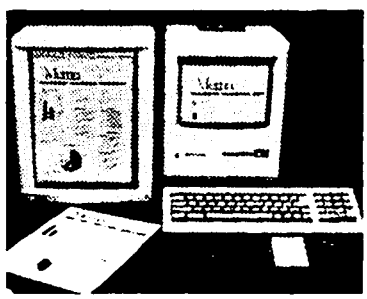

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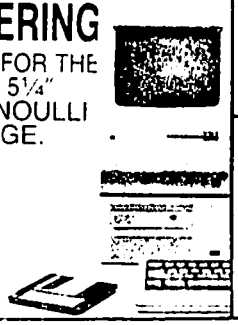

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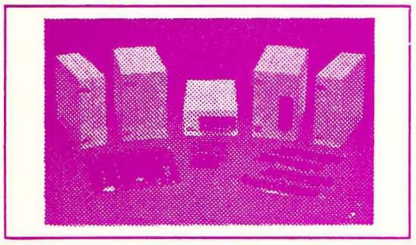

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