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Washington Apple Pi



The Journal of Washington Apple Pi, Ltd.

Volume 8

March 1986

Number 3

Highlights

Desktop Publishing
The REM-arkable REM
][in a Mac
Computerizing Your Taxes

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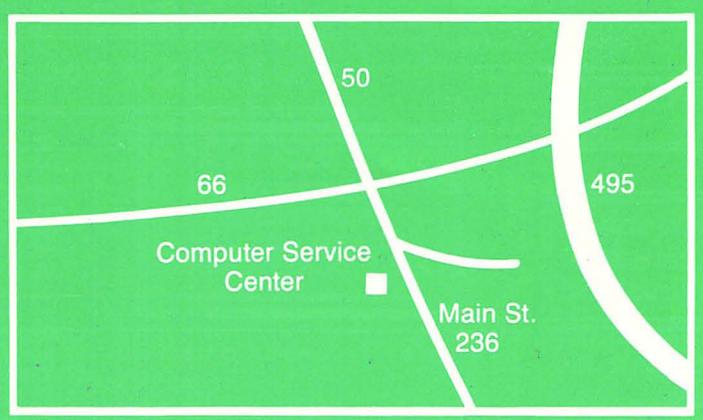
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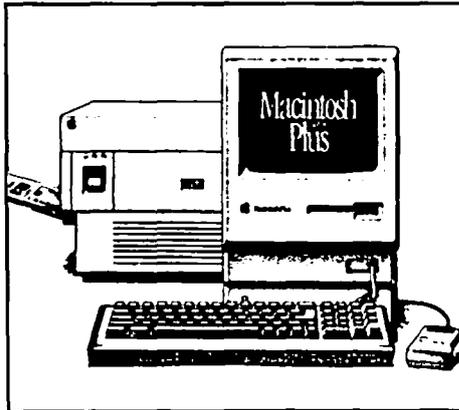
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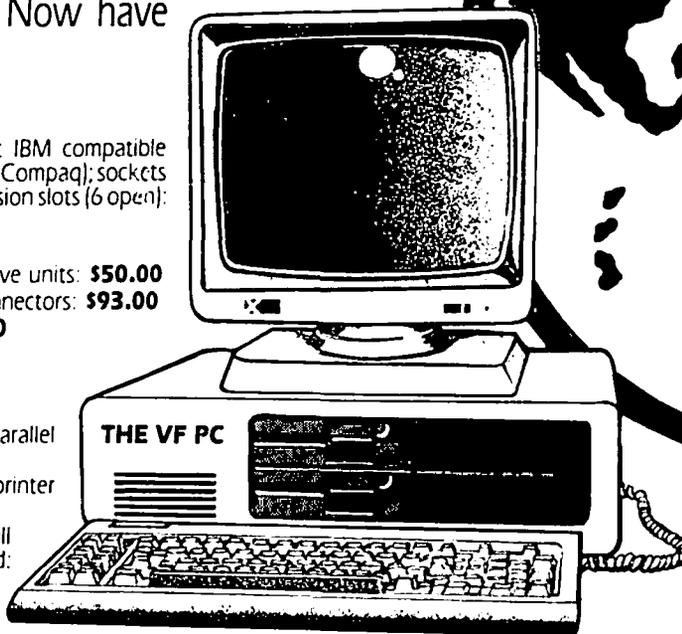
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EDITORIAL

Had some fun at the last meeting describing what the Urbans do in preparing the Journal. Some day we'll formalize it and prepare fancy cartoons of how it's done. We also initiated what promises to be a series on desktop publishing. For those of you who missed the event, we have Richard Rowell's version of the Apple // session, Brooks Leffler's coverage of the Mac portion, and Martin Kuhn, a brand new member, hits it from a different viewpoint.

We're gung ho on the new Desktop Publishing (DPub) SIG and we have a new Board on WAP's UBBS System 3 (986-4715). Finally, we seem to have struck a receptive chord, and there will be folks to comment on, teach and per-

haps be taught, the proper way of publishing a newsletter or whatever. See especially Jay Condren's article on what was covered at the initial DPub SIG meeting. Jay is willing to serve as Chairperson, so what are you waiting for?

Speaking of new Boards, all please take note that the EDSIG under the expert guidance of Peter Combes has also started an educational Board, and Peter is serving as SYSOP. Our interest here is in encouraging their use - the more Boards are used the more materials for the Journal. By the way, isn't it time for your first, next, (fill in the blank), article on your favorite topic(s)?

PRESIDENT'S CORNER

by Tom Warrick

January and February have been very busy and exciting months here at Washington Apple Pi. First, there were the Apple World Conference and the MacWorld and AppleWorld Expo (or was it "Expos"?), in San Francisco. With those events came the announcement of the Macintosh Plus and heightened speculation about Apple's next computers. Also in January we had our first meeting under the new, combined meeting format. The new format was a success, but everyone agreed there were several things we could do to improve it, and so we'll be changing the format slightly beginning at our March meeting. (See the chart on page 34 of this issue.) Then in February we had the first user group conference on CompuServe, which WAP chaired. It, too, was a success, and the next one will be on March 2.

WAP Meeting Format

Let's take care of WAP business before getting into the fun stuff. The *combined meeting* format we tried for the first time in January was a *success*. Perhaps too much so, in fact. Even though the weather was abysmal, we had more people (174, by my count) at the Apple // desktop publishing program than we've had at any general WAP meeting in the past year. The Macintosh desktop publishing program attracted even more people, 204 by my count. We *sold out* of all of the SigMac public domain software disks we had available.

Not surprisingly, the business meeting was quite crowded, but it made my heart feel good to have everyone *together in one place*. This was particularly true on this occasion, when the membership was being asked to vote on a dues increase and to appropriate money to buy a new hard disk for our bulletin board systems. (It appears, I am pleased to report, that we may be able to get an excellent system for *much less* than the \$3,500 the membership voted to authorize. Lee Raesly, Jim Burger and the BBS Committee deserve everyone's thanks for their efforts on our behalf.)

And Bernie's and Gena's presentation on how they put the *WAP Journal* together each month was one of the most interesting we've had in a long time. The presentation was highlighted by Bernie's sketches showing how the process works. You would particularly have enjoyed the one showing him with eight arms trying to deal with articles from people who have submitted them late!

We can do better, however. The principal problem we faced was in *moving people* in and out of the auditorium. In addition, because some people were in the auditorium before the business meeting, they got better seats for what followed. Most importantly, an hour for programs is simply *too short*.

Accordingly, *beginning in March*, we're going to try this: Journal distribution and disk sales will begin at 9:00 a.m. and go on throughout the morning as demand requires and our supply of volunteers permits. The dull, boring business meeting will be held in the USUHS auditorium from 9:00 to 9:30. From 9:30 until 11:00, we will have a program focused around the Apple // (and ///) in the auditorium, while a Mac-

oriented Q&A session takes place in the cafeteria. At 11:00 we will take a 15-minute break to allow everyone to change places for the next session. At 11:15, we will have a Macintosh-oriented program in the auditorium while the Apple // Q&A session goes on in the cafeteria. Those SIGs that meet after the meeting will start at about 12:45 p.m.

An important part of this new schedule is that some *announcements*, particularly those that are product-specific like Rich Wasserstrom's *Group Purchase* announcements, will be made during the *Q&A sessions* rather than at the business meeting. The hope is that the business meeting will cover announcements of interest the organization as a whole, with the Q&A sessions focusing on those matters of special interest so that you won't have to wait around for the Apple // announcements if that is all you're interested in.

Kudos!

Congratulations to WAP members *Ed Knepley* and *Bob Platt*, whose book *Modula 2 Programming* was named "*Book of the Month*" by Jerry Pournelle in *Byte* magazine last month. *Modula 2*, many say, is the programming language that Pascal should have been, and Ed's and Bob's book is an excellent teaching tool for this powerful and flexible language. Ed is a supervisory engineer for the government, and Bob is an attorney for Mesa Petroleum Corp. in Amarillo, Texas. (He even knows T. Boone Pickens!) Bob has served as WAP's first Vice President for SIGs and is currently on the Board of Directors. He also writes book review columns and travels farther to WAP meetings than almost anyone. Their book is available from Reston Publishing, Inc., a Prentice-Hall company.

Apple World Conference

On January 15-17, Apple Computer, Inc. brought together 2,000 representatives from its major constituencies—"key," i.e., large corporate, accounts; value-added resellers; dealers; user groups; K-12 educators; and universities—for a series of meetings in San Francisco to hear where Apple is headed in the *John Sculley era*. It was interesting to see how Apple handled an event this large, which must have cost them (by one guess I heard) \$10 million. By and large, we were pleased at what we heard.

First, Apple has begun to recognize the value and importance of *user groups*. The most powerful force in selling microcomputers today is word-of-mouth (advertising is far down the list), and user group members, who are better informed on the whole than non-members, are recognized in their offices and among their friends as excellent sources for recommendations as to what computers are worth buying. Also, user groups, which represent the distillation of the experiences of hundreds of thousands of users nationwide, can be an excellent source for ideas. To help build bridges to user groups and to be the focal point for contacts between user groups and people within Apple, Apple has created a "*User Group Evangelist*", whose title hearkens to the "software evangelists" that Apple used so successfully to build third-

contd.

party software developer support for the Macintosh. Apple's choice for this interesting job is *Ellen Petry Leanse*, who, coincidentally, turns out to be a friend of Jim Burger, WAP's general counsel and one of our review coordinators. Ellen will be at WAP's March 22 meeting, and has agreed (until her senses get the better of her) to sit in for a while with Bruce and Lee and Don and Bob on our Q&A sessions. So, if you've ever wanted to say something *direct to Apple*, here's your chance! (But be nice; we want her to come back.)

Two of the most interesting events at the conferences were *Steve Wozniak*'s after-dinner speech on what he did before he started Apple, and *Alan Kay*'s description of the Vivarium (which defies a simple description) and other projects he is working on at the frontier of technology and computer science. Few people in the world qualify as either geniuses or pioneers, but these men qualify as both. The Woz we all know, of course. Alan Kay was one of the people at the Xerox Palo Alto Research Center who created the Macintosh user interface that has now become the standard for the way people interact with computers. Apple captured both of these talks on videotape, and WAP will have them available for viewing (perhaps in your home) in the near future. (It turns out, incidentally, that Bernie and Gena Urban, who prepare the WAP Journal, are neighbors of Alan's mother. In fact, they bought from her encyclopedias Alan used as a boy. If WAP ever sets up a museum...)

The conference, particularly in conjunction with the Expo(s?), were excellent sources of rumors and gossip about where Apple is headed in the way of future products and market strategies. It was hard to separate what was said at the speeches and meetings from what was being said on the show floor, so what follows is a *mélange* grouped by subject:

Apple II: First, Apple II+ owners will be most interested in the statements John Sculley and Jean-Louis Gassée, Vice President for Product Development, made regarding *upgrade paths*. Apple is committed, they both said, to providing upgrade paths to people who own Apple computers. The need to let old Apple II+ owners get in on new hardware and software technology was one of the points user group representatives tried to impress upon Apple during our session in September; it appears that Apple listened. For Apple II+ owners, there is probably no way to economically add the cards and chips necessary to make it into a IIe. It appears as though Apple may give Apple II+ (and pre-plus) owners some kind of *price break* or similar deal on the next Apple II. What may be a test for this program was announced for the education market, which will be encouraged to trade in existing computer equipment (Apple and non-Apple) in exchange for credit on new Apple computers. The key to this program will be the reaction of the dealer network, which is going to worry what Apple will do with all those used computers. Sculley's and Gassée's statements were enough to induce me, at least, to *hold on* to my venerable Apple II (serial number 13,709) for a while to see what happens.

For Apple IIe owners, if you haven't yet upgraded to the "enhanced" ROMs, you will probably be induced to do so by the new software coming out to take advantage of MouseText and other features. Also, the Catalyst 3.0 Mac-like user interface is probably going to catch on. Although it is not as fast as the Mac (neither is an IBM PC running GEM), it is way

ahead of ProDOS in ease of use.

Apple is not stinting on development of new computers in the II family. It is generally known that Apple has a number of prototypes with different features and characteristics, so that right now no one — even no one at Apple — knows with certainty what the next Apple II family member will look like. But just as families tend to share certain traits, some of the characteristics of the next Apple II are known or can be guessed. It will use the *65816* microprocessor, which will allow it to run most of the Apple II software written for the 6502 or 65C02 we now all have, while at the same time allowing developers to write software for the 65816's more powerful 16-bit mode. Expect Apple to run the 65816 at the highest clock speed possible commensurate with reasonable economy in chip production, i.e., about ten megahertz, or ten times faster than the 6502 on the Apple II. Choplifter is going to fly.

Expect more than 128K memory as standard, with the option for additional memory boards. Every computer will probably come with a mouse at no extra cost. The Sony *3.5-inch disk drive* will be the standard. Expect a *SCSI interface* to be available. The slots are likely to be interesting. Apple would like to let all (or almost all) Apple II peripheral cards work with the new II, but at the same time it would also like to have slots with additional signal lines to accommodate the more powerful cards sure to come out. I've seen some non-Apple slot designs that would do the trick, but they are hard for the average user to cope with. The key question is: How often do people open up the back to get at their peripheral cards? Oh, and a last trivial detail: it will run *MS-DOS software*. What I'd like to see is for Apple to do MS-DOS emulation entirely in software, just to tweak IBM's nose.

Finally, there have been some intriguing rumors that refuse to go away that say that Apple will also come out with a small, low-cost computer in the \$500 price range. Technically and economically, it is quite feasible to reduce the Apple II to a few chips and use other techniques to keep the price way down. But this goes counter to much of Apple's marketing philosophy. Few computer dealers could stay alive selling Apple II systems whose list price is \$500.

Where is the *Apple IIc* going? Apple seems committed to it for the time being, despite everyone's prediction that it will be the next Apple label to fall into the Ultimate Bit Bucket. Perhaps European sales will keep it going. Apple has said that it will always try to keep two types of models of its main computer lines: an *expandable* model (e.g., the IIe) and a *portable* model (which the IIc is not). If the small, low-cost computer alluded to in the previous paragraph is a truly portable IIc-compatible computer, Apple may have something.

Macintosh: The Mac Plus is not the only Mac that is supposed to be announced in 1986. Remember the statement just made that Apple is trying to have one expandable and one portable model of each of its computer lines? The 512K Mac or the Mac Plus are the portable versions. During one of the talks at the opening session Apple displayed a number of slides quickly on a screen. One of them was a Mac, viewed from the rear, with an *open door* in the center. (Alas, it was dark inside.) Jean-Louis Gassée's license plate says, "OPEN MAC". Draw your own conclusions.

contd.

It seems likely that the next Macintosh will use a 68020 microprocessor. But because of incompatibilities between the 68000 now used on Macs and the 68020, particularly in the way it handles "exceptions," i.e., certain types of "unusual" events, some Mac software simply will not run. Apple uses the 68020 on the LaserWriter, and it is a better chip, though, so the 68020 has to be given the edge.

The next Mac will not have the screen in the same box as the computer circuitry. This means you get your *choice of screen sizes*, including up to 17 inches. Personally, a 17-inch screen is too big for my desk. Better would be a *full-page screen*, with a little extra on the top and side, for desktop publishing and for offices that need to be able to look at an entire page of a document. No other micro offers this except as a third-party add-on, if you can find it. If we lobby Apple for this, perhaps they can be convinced.

A *color screen* will also be an option. But, let's face it, do you really need color? If Apple can give us color with no degradation in screen resolution, fine, but I would much rather have a 1,204-by-1,204 bitmapped screen, i.e., almost twice the horizontal resolution of the Mac today, rather than colors I can't easily reduce to paper.

Expect *more voices*, particularly since the clock speed will be cranked up. One would hope that *four megabytes* of RAM would be the minimum size. *MS-DOS capability* seems inevitable.

Other stuff: Apple is headed toward a line of *common peripherals* that will work with both the // and the Mac. This extends down to the disk level—expect that you will be able to take 3.5-inch data disks from your Apple II at home and read them on your Mac at work.

Apple is going to buy a *Cray XMP* — perhaps the most powerful computer in the world—on which it will do *software tools development*. One of the great embarrassments Apple has faced with the Macintosh is the fact that native machine program development in a high-level language other than Fortran was not possible for months after the Mac came out. The utilities on the Software Supplement like ResEdit still are not "finished." Ideally, on the day the 65816-based "///" comes out, Apple would like to ship finished copies of the program development tools to every certified software developer interested in them. To make this possible, Apple could write a 65816 simulator on the Cray and have Dan Cochran and his people in Tools and Compilers develop the necessary assemblers, compilers, and utilities before the next // is actually ready. The power of the Cray would permit software designers to cope with the inevitable changes in the hardware as the project approaches completion. Besides, the Cray could run a heck of a bulletin board system.

The Apple World Conference was quite an affair. I would perhaps liken it to spending two days in the *Eastern shuttle*: the seats were very close together and the ventilation was poor. Every hour we had to get up and go to another crowded room. But you felt as if you were going somewhere!

The best party was sponsored by *MAUG* (Micro-networked Apple User Group, on CompuServe). The security people threw us out twice!

One of the oddest things at the Expo was a woman Roger Wagner Publishing had passing out literature while dressed up in a Playboy bunny costume. WAP's booth was near

Roger's, and we heard enough loud comments from passersby to know that this caused considerable ill-feeling among quite a few people, men and women alike. As one person said, it made the place look like an auto show. Roger, if you're reading this—c'mon now. You deserve better. Your products deserve better. And if this happens again, we'll sic Regina Litman on you—then you'll be sorry.

Finally, even though it will probably embarrass the people involved, I have to let you in on the fact that we have in our group a number of people of national stature in the Apple computing community. People from around the country — some of them very familiar names in the industry — came up to us and asked about Tom Vier, our Corvus and UniDisk expert; Jon Hardis, our Mac Q&A columnist and CompuServe coordinator; Walt Mossberg, our AppleWorks expert; and even Ron Wartow, our GameSIG chair. When Phil Roybal, a consultant for Apple, described the history of Apple-user groups relations, he asked if anyone present in 1986 was at the first such meeting in 1980. Only Bernie Urban, our Editor, could raise his hand. (Bernie was representing our friends at NOVAPPLE during the Conference, and was working for WAP during the Expo.) We are very fortunate to have these folks and so many other people just a local phone call away to help us out whenever we get in a jam with our disk drives, our Macs, Wizardry, or anything else. Thanks also to Tim Buehrer, Jim Burger, Joe Kelly, Steve Lurya, Tom Nichols, and Carol Walker for their many hours of work behind the WAP counter at the Expo. ☞

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EVENT QUEUE

Washington Apple Pi meets on the 4th Saturday (usually) of each month, both Apple and Mac. Library transactions, Journal pickup, memberships, etc. are from 9:00-9:30 AM and during the Q& A sessions (times for these vary according to the main meeting topic). The business meeting is from 10:30 to 11:00.

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:

- | | | |
|-------|----|--|
| March | 22 | - Apple //e SwyftCard - Raskin & Youell
- Spreadsheet Comparison for Mac
- Apple Evangelist - Ellen Petry Leanse |
| April | 26 | - Dvorak Keyboard for Apple and Mac |
| May | 24 | - Apple // open
- Hierarchical File System for the Mac |
| June | 28 | - Garage Sale |

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

General Information

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

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

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 |

MINUTES

SUMMARY OF JANUARY BOARD MEETING

The Executive Board of Washington Apple Pi met on January 8, 1986 at 7:30PM at the office, with Tom Warrick presiding. Plans are being made to meet with the landlord to

extend the lease of the present office space. The audit committee has asked that everyone who is involved with revenue collection or disbursements write a summary of the procedures used in the normal course of operations. Since the UBBS was put into operation in September, it has been modified extensively. Attempts are being made to get our money back for the Sunol hard disk, and the Board approved the probable legal action. Work is being continued to get the system back up by using floppies. The Board voted to asked the membership to authorize \$3500 for the BBS Committee to buy a hard disk system while attempts are being made to recover the original funds from Sunol. The BBS Committee was also authorized to spend up to \$1000 for two 3 1/2" drives plus controller cards. The Board agreed to pay transportation for Bernie Urban to attend the MacWorld Expo in California. Two local groups are interested in a federation of Macintosh users groups and in consolidating disk libraries and other services. Don Landing will be meeting with them again for further discussions. The meeting expressed by acclamation its appreciation of the excellent party hosted by Ed and Priscilla Myerson. The Board decided to raise the cover price of the Journal to \$2.50. The sale price will be subject to review by the Board. Disketeria prices will be discounted by \$1 per disk, both Apple // and Mac, when purchased in quantities of 5 or more. Mac disks will be reduced from \$7 to \$6 for normal price. The Board decided to recommend an increase in membership dues from \$20 to \$25 for renewing members and from \$27 to \$30 for new members. A committee was set up to examine the idea of a graduated rate structure for different categories of members. A motion to recommend to the membership the purchase of a Mac hard disk for use in Journal preparation was tabled until the next meeting. ☺

APPLE TEAS

by Amy T. Billingsley

The very knowledgeable Pat Nealy, Sales Manager of Clinton Computer, has agreed to host and speak to the March

Washington Apple Pi
Apple Tea

Wednesday, March 12, 7 - 9 PM

on Database Management with AppleWorks

Clinton Computer Classroom

6443 Old Alex. Ferry Road at Branch Avenue*

Clinton, MD

Refreshments

This should be helpful for beginners. Please RSVP to Amy Billingsley, (301) 622-2203. Be prepared to leave message. Bring computer if convenient (the more hands on, the better). Come early and browse.

* Directions: Exit 7A from outer circle of Beltway. Take Branch Ave. South 2.5 miles. Turn left on Old Alex. Ferry Road. Make an immediate right into the shopping center which includes Denny's and Pizza Hut. Pass those shops (you'll be parallel to Branch Ave.). Come to back of parking lot. Turn left. Clinton Computer will be in strip on your left. Enter center door (not the one on the far end of the strip). ☺

* March 1986 *

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
						1 No SigMac Meeting - see Mar. 22
2	3	4 Apple// Beginning Tutorial #1 7:30-9:00PM Office	5 Deadline for Journal Articles	6 SigMac 7:30PM-Lady of Lourdes; DisabledSIG 7PM-CCCC ->	<-Thursday 6 contd. GAMESIG 7:30PM Off.	8 DPub SIG 12 Noon Office
9	10	11 Apple// Beginning Tutorial #2 7:30-9:00PM Office	12 Executive Board 7:30 PM Office	13 STOCKSIG 8PM Office; Apple /// 7:30PM-Conv Ctr. Inn ->	<-Thursday 13th contd. FAC Slice 7:30 MRIID Ft. Detrick	15 FORTH SIG 10:00 AM Office
16	17 Mac Beg Tutor.#1 7-10PM Off; PI-SIG 8:00 PM Office	18 Apple// Beginning Tutorial #3 7:30-9:00PM Office	19	20 Pascal SIG 8:00 PM Office	21	22 WAP Meeting - Apple // & Mac 9:00 USUHS
23	24 Mac Begin. Tutorial #2 7-10 PM Office	25 BBS Comm. Office 7:30 PM	26	27 EDSIG 7:30 PM Office	28	29
30	31					

SIGNEWS

Apple /// SIG meets on the second Thursday of the month at 7:30 PM in the Convention Center Inn, corner of 12th & K NW. The next meeting will be on March 13.

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

Appleseeds is the special interest group for our younger members, age 9 and up. They meet during the regular WAP meeting.

DisabledSIG meets on the first Thursday of each month at the Chevy Chase Community Center, 7:00 PM. The next meeting will be on Mar 6. See their news elsewhere in this issue.

EdSIG - the education special interest group - meets on the 4th Thursday of the month at the office, 7:30 PM. The next meeting will be on March 27.

ForthSIG meets on the third Saturday of the month at the office, 10:00 AM.

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

LISA/MacXL SIG meets after the SigMac meeting on the 4th Saturday of the month.

PIG, the Pascal Interest Group, meets on the third Thursday of each month at the office, 8:00 PM. The meeting on March 20 will be on Apple Pascal and Artificial Intelligence (AI) programming.

PI-SIG meets on the third Monday of each month at the office, 8:00 PM.

SigMac Programmers meet on the 1st Thursday of each month at Our Lady of Lourdes School, 7500 Pearl Street, Bethesda, MD. Macintosh and Apple // meet together on the 4th Saturday (general meeting) at USUHS at 9:00 AM.

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

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

* April 1986 *

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
		1 Apple// Beginning Tutorial #1 7:30-9:00PM Office	2	3 SigMac 7:30PM-Lady of Lourdes; GameSIG-Off 7:30PM ->	<-Thursday 3rd contd. DisabledSIG 7PM-CCCC	5
6	7 Deadline for Journal Articles	8 Apple// Beginning Tutorial #2 7:30-9:00PM Office	9 Executive Board 7:30 PM Office	10 STOCKSIG 8PM Office; Apple /// 7:30PM-Conv Ctr. Inn->	<-Thursday 10th contd. FAC Slice 7:30 MRIID Ft. Detrick	12 DPub SIG 12 Noon Office
13	14	15 Apple// Beginning Tutorial #3 7:30-9:00PM Office	16	17 Pascal SIG 8:00 PM Office	18	19
20	21 Mac Begin. Tutorial #1 7-10 PM Office	22	23	24 EDSIG 7:30 PM Office	25	26 WAP Meeting - Apple // & Mac 9:00 USUHS
27	28 Mac Begin. Tutorial #2 7-10 PM Office	29 BBS Comm. Office 7:30 PM	30			

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	John Day (301) 621-7543	Games - Apple //	Charles Hall (301) 330-4052
	Dave Harvey (703) 527-2704	Games - Mac	Ron Wartow (301) 654-4439
	Robert Martin (301) 498-6074	Hard Disks	
Accounting Packages		Corvus & Omninet	Tom Vier (ABBS) (301) 986-8085
Accountant(Dec.Sup.)	Mark Pankin (703) 524-0937	Sider	Jaxon Brown (301) 350-3283
BPI Programs	Jaxon Brown (301) 350-3283		Otis Greever (301) 262-5607
	Otis Greever (301) 262-5607	Languages (A=Applesoft, I=Integer, P=Pascal, M=Machine)	
Home Accountant	Leon Raesly (301) 460-0754	A	Louis Biggie (301) 967-3977
Howardsoft (Tax)	Leon Raesly (301) 460-0754	A	Peter Combes (301) 251-6369
	Otis Greever (301) 262-5607	A,I	Jeff Dillon (301) 422-6458
APPLE SSC	Bernie Benson (301) 951-5294	A	Richard Langston (301) 869-7466
Apple TechNotes	Joe Chelena (703) 978-1816	A	Mark Pankin (703) 524-0937
AppleWorks	Jay Jones (Balt.) (301) 969-1990	A,I,M	Richard Untied (609) 596-8816
	Ken Black (703) 369-3366	A,I,M	John Love (703) 569-2294
	Ken DeVito (703) 960-0787	M	Raymond Hobbs (301) 490-7484
Communications Packages and Modems-Telecom.		P	Donn Hoffman * (412) 578-8905
Anchor Mark 12	George Kinal (7-10) (202) 546-7270	Forth	Bruce Field (301) 340-7038
	Jeremy Parker (301) 229-2578	LISP	Fred Naef (703) 471-1479
Apple Modems	John Day (301) 621-7543	MS Basic	Ray Hobbs(7:30-10) (301) 490-7484
ASCII Express	Dave Harvey (703) 527-2704	Math/OR Applns.	Mark Pankin (703) 524-0937
BIZCOMP Modem	Jeremy Parker (301) 229-2578	Monitor, RGB	John Day (301) 621-7543
General	Tom Nebiker (216) 867-7463	Operating Systems	
Hayes Smartmodem	Bernie Benson (301) 951-5294	Apple DOS	Richard Langston (301) 869-7466
MDM	Joe England (7-10) (301) 953-1949		John Love (703) 569-2294
Robotics Modem	Joan B. Dunham * (301) 585-0989		Adam Robie (301) 460-6537
SeriAll Comm. Card	Joan B. Dunham * (301) 585-0989	CP/M	Richard Untied (609) 596-8816
Smartcom I	Harmon Pritchard (301) 972-4667		Ray Hobbs (7:30-10) (301) 490-7484
VisiTerm	Steve Wildstrom (301) 564-0039	ProDOS	Leon Raesly (301) 460-0754
XTALK CP/M Comm.	Bernie Benson (301) 951-5294		Richard Langston (301) 869-7466
Computers, Specific			John Love (703) 569-2294
Apple //c	John Day (301) 621-7543	Printers	
	Scott Rullman (301) 779-5714	General	Walt Francis (202) 966-5742
LISA/Mac XL	John Day (301) 621-7543		Leon Raesly (301) 460-0754
			Joan B. Dunham * (301) 585-0989
Macintosh:		AJ 831 series	Joe England (7-10) (301) 953-1949
General	Steve Hunt (301) 262-9080	Apple Color Plotter	John Day (301) 621-7543
	Scott Rullman (301) 779-5714	Apple Daisy Wheel	John Day (301) 621-7543
	Donald Schmitt (717) 334-3265	Daisywriter 2000	Bill Etue (703) 620-2103
	Rob Clark (804) 850-2016		Henry Greene (202) 363-1797
Chart	Terry Monks (703) 471-4610	IDS 460	Jeff Stetekluh (703) 521-4882
Comm. & Modems	Steve Hunt (301) 262-9080	Imagewriter	John Day (301) 621-7543
Concertware	Skip Horvath (703) 536-4091	MX-80	Jeff Dillon (301) 434-0405
Digitizers	JoAnn Stewart (703) 527-4072	NEC 8023	Bill Mark (301) 779-8938
Excel	David Morganstein (301) 972-4263	Okidata	Michael Proffitt (301) 874-2270
File Vision	Steve Hunt (301) 262-9080		Dan Robrish (301) 530-4202
Hard Disk	David Jamison(day) (301) 589-8841	Scribe	Phil Leber (703) 378-4391
Helix	Jim Berry (703) 662-0640	Silentype	Bruce Field (301) 340-7038
	Harvey Levine (301) 299-9380	Spreadsheets	Leon Raesly (301) 460-0754
Inside Mac	Jon Hardis (301) 330-1422		Walt Francis (202) 966-5742
	Don Landing (703) 690-1010	Lotus 1-2-3	Walt Francis (202) 966-5742
Lang.-C,Pascal,XLisp	Carolyn Komada (703) 691-1986		Ray Hobbs(7:30-10) (301) 490-7484
MacDraw	Tom Berilla (301) 434-3256	Multiplan	Terry Prudden (301) 933-3065
MacLion (DBMS)	Mark Miani (202) 362-8123	VisiCalc	Walt Francis (202) 966-5742
MacProject	Jay Lucas (703) 751-3332	Sprdsht. 2.0(MagicCalc)	Leon Raesly (301) 460-0754
MacTerminal	Jon Hardis (301) 330-1422	SuperCalc Ver. 2.0	Leon Raesly (301) 460-0754
Multiplan	John Boblitz (301) 356-9384	Stat. Packages	Mark Pankin (703) 524-0937
	Don Landing (703) 690-1010		David Morganstein (301) 972-4263
	Steve Hunt (301) 262-9080	Stock Market	Robert Wood (703) 893-9591
MusicWorks	Walt Francis (202) 966-5742	Time-Sharing	Dave Harvey (703) 527-2704
OverVue	Skip Horvath (703) 536-4091	Word Processors	Walt Francis (202) 966-5742
Spreadsheets	J.T.(Tom) DeMay Jr. (301) 779-4632	Apple Writer II	Dianne Lorenz (301) 530-7881
Spreadsheets&Graphcs	David Morganstein (301) 972-4263		Leon Raesly (301) 460-0754
Sidekick	Bob Pulgino (202) 797-0879	Format II	Henry Donahoe (202) 298-9107
Word	Ray Hobbs(7:30-10) (301) 490-7484	Gutenberg	Neil Muncy Can. (416) 298-3964
	Marty Milrod (301) 464-2154	& Jr.	Harris Silverstone (301) 435-3582
Data Bases		Letter Perfect	Leon Raesly (301) 460-0754
dBase II	Paul Bublitz (301) 261-4124	& Simply Perfect	
	John Staples (703) 893-5985	Magic Window and II	Joyce C. Little (301) 321-2989
dBase II & III	Ray Hobbs(7:30-10) (301) 490-7484	Peach Text	Carl Eisen (703) 354-4837
	Jim Kellock (day) (301) 986-9522	PIE Writer/Apple PIE	Jim Graham (703) 643-1848
	Leon Raesly (301) 460-0754	ScreenWriter II	Peter Combes (301) 251-6369
DB Master	Dave Einhorn (301) 593-8420		E. E. Carter (202) 363-2342
Data Perfect	Leon Raesly (301) 460-0754	Supertext II	Peter Rosden (301) 229-2288
Data Factory	Bob Schmidt (301) 736-4698	Word Handler	Jon Vaupel (301) 977-3054
General Manager	Normand Bernache (301) 935-5617	Word Juggler //e	Carl Eisen (703) 354-4837
PFS	Bill Etue (703) 620-2103	Word Perfect	James Edwards (301) 585-3002
	Ginny Spevak (202) 362-3887	Word Star	Joe England (7-10) (301) 953-1949
QuickFile II	J.J. Finkelstein (301) 652-9375		Dana Reil (301) 350-3283
Q-Pro-4	John Staples (703) 893-5985		
VisiPlot	Leon Raesly (301) 460-0754		

* Calls up until midnight are ok.

"COMPUTER SHOPPER": A Magazine Review

by Merle Block

This article reviews the monthly magazine *Computer Shopper*, based on the February 1986, Vol. 6 No. 2, issue. The magazine is large (14" x 11", 275 pages), and is printed on newsprint. Subscriptions to Computer Shopper, Inc., 407 S. Washington Avenue, P.O. Box F, Titusville, FL 32781, are listed as \$18 per year (USA), but an insert card has a special of \$15 for 12 issues, \$26 for 24 issues, phone 1-800-327-9926. Single copies are \$2.75. I have seen copies during the first part of the month at the Pentagon book store, and some other DC area book stores, such as Walden's. The masthead date is one month after the available date.

Computer Shopper covers all brands of computers and peripherals. The main index and the classified ad index are arranged according to type of equipment. Besides the ads and articles, there are lists of User Groups, listed by states; Bulletin Boards, listed by phone area codes; and coming events, listed by dates.

I believe that most readers buy the magazine for the ads. It has very good ads for repair parts, chips, add-ons, plug-ins, etc. However, many of the articles are both interesting and informative. Contributors include Stan Veit (Asst. Publisher/Editor), Don Lancaster and Les Solomon. I enjoyed Stan Veit's series on the early history of the Apple, from the

viewpoint of the first East Coast dealer, and Don Lancaster's article with a simple and fast subprogram to shuffle playing cards.

The magazine make-up and editing leaves much to be desired: the February '86 issue omitted Apple from the main index, although there are articles on the Apple. The articles frequently jump from one page to another (Don Lancaster's February article goes from page 57 to 58, to 115 to 117, to 121 to 122). Classified ads are broken at the bottom of the column and continued in the next column, without a subject listed at the top of the page. (Reading the ads on page 227, one has to trace back to page 223 to find that the subject is "108 APPLE SOFTWARE PERIPHERAL".) The type size in the "Computer Shopper Mart"™ pages is sometimes too small to read without a magnifying glass.

Stan Veit's February Editorial lists the major topics to be covered in the following issues (subject to change): March - IBM compatible computers; April - hard disk backup; May - integrated software; June - the "rebirth" of the home computer; July - portable computers and printers; August - languages for computers; September - personal computers in schools; November - single board computers; and December - awards for the Computer Shopper's best buys of the year. ☞

WASHINGTON APPLE PI BULLETIN BOARD SYSTEMS

Bulletin Board Operator	Leon H. Raesly, L.C.S.W.
SYSOP Emeritus	Tom Warrick
Special Consultant	Barry Fox
Hard Disk Consultant	Dave Harvey
Programming Consultant	Rich Mlodoch
Library files Programmer	Mike Ungerman
BBS Files List SYSOP	Jack Mortimer
Group Purchase Files SYSOP...	Rich Wasserstrom
Indexing Committee - Chairman.	Emil Levine
Member	Bonnie Walker
Member	Jeff Berger

SYSTEM 1 (986-8085) SYSOP..	Joe Chelena
Hardware, Software, General & Lafayette Park Boards SYSOP.	Joe Chelena
CP/M Board Board SYSOP	Joe England
dBASE II Board SYSOP	Nick Veloz
Apple /// Board SYSOP	Carl Bowman
Comments/Sugs. Board SYSOP.	Lee Raesly

SYSTEM 2 (986-8086) SYSOP..	Larry Halfff
MAC Hardware, Software, & Gossip/Misc. Boards SYSOP..	Larry Halfff
Telecommunications & Telecom SIG Board SYSOP ...	George Kinal
Games/GameSIG Board SYSOP.	Ron Wartow
BASIC Prog. Board SYSOP	Mike Ungerman
AppleWorks Board SYSOP	Ken De Vito
Comments/Sugs. Board SYSOP.	Lee Raesly

SYSTEM 3 (986-4715)	
Desktop Pub. Board SYSOP....	Mark Walter
Press Releases Board	
Tech Notes Board	
EDSIG Board SYSOP	Peter Combes
Apple-Link Board SYSOP	Bernie Urban

SYSTEM 4 (871-7978) SYSOP..	Lee Raesly
The Classified SYSTEM - Hardware, Software, Misc. & Employment & Pi Officers/Volun. Boards	

SYSTEM 5 (890-8984) SYSOP..	Alice Allen
The Journal & Indexes SYSTEM	

SYSTEM 6 (703-450-6822)	
SYSOP	John A. Gersic
(The Manassas/Great Falls Slice SYSTEM)	
Hardware Board SYSOP	Bruce Johnson
Sftwr., Misc., Gossip SYSOP..	John A. Gersic

SYSTEM 7 (301-662-3131)	
SYSOP	Scott Galbraith
(The Frederick Apple Core Slice SYSTEM)	
(The Cracker Barrel BBS)	
Macintosh Board SYSOP	Kurt Holter

BBS Committee - Charirman	Lee Raesly
Members - Joe Chelena, Mike Ungerman, Barry Fox, Dave Harvey, Larry Halfff, Marty Milrod, Emil Levine, Dave Helfrick, Joan Dunham, Tom Warrick & YOU, if you attend!	

CLASSIFIEDS

HELP! Non-profit learning center in Rockville desperately needs your tax-deductible contribution of an Apple computer for working with adults who have learning problems. Call Mark at the Center for Unique Learners. (301) 231-0115.

FOR SALE: Macintosh XL, 2 Megabytes of RAM, 10 Megabytes of hard disk. Also, Mac Software: MacFortan, \$80; Omnis 2, \$75; Quartet, \$50; MS Chart, \$55. Call David (301) 972-4263.

FOR SALE: General Accounting software modules (published by Software Dimensions), latest versions, suitable for Apple][,][+, //e (and /// in emulation) - (1) General Ledger Accounting Module, \$150; Payroll Module, \$150. Or both at \$275. This is 55% off list. Call Norm (301) 262-7823.

FOR SALE: Full blown local area network. Corvus 20 meg hard disk drive with 4 transporter cards for Apple][-//e. Complete with diskserver and software for DOS 3.3 and ProDOS. Cables and connector boxes. Under 1 year old! New system sells for over \$6000. Must sell for \$3200 or make offer! Call David (301) 699-0301.

FOR SALE: Helix for the Macintosh, \$160. Call Howard Deutch (301) 340-8442, 7:30 PM to 9:00 PM.

FOR SALE: Microsot Softcard Premium System - Original cost \$650, sell for \$295. Includes original documentation, Ramcard, 80-column card with softswitch, softcard, CP/M and Microsoft Basic. Also, nearly 100% of WAP Journal back issues at \$.75 each. Carroll Sturm (301) 831-8704, evenings and weekends.

FOR SALE: Titan Neptune 80-column card w/192K, software for DOS, Pascal and CP/M, \$165; IBM Graphic Printer w/cable, \$240; C. Itoh 8510SP Printer 180cps draft and 120cps normal, \$325; Microtek Q-disk 128K RAM disk DOS or ProDOS ROMs with CP/M and Pascal software, \$150; Videx Function Strip (new), \$15; Videx Videoterm 80-col card w/softswitch, inverse char. chip and utility software, \$125; Nibbles Away II ver. C, \$20, RS232 modem cable, \$15; Apple Integer Card, \$45; The General Manager database management system, \$65; Microsoft Softcard II 6-MHz w/64K (new), \$225. Call Tom evenings only (301) 935-5520.

FOR SALE: Apple][Fortran and Pascal by Apple with 3 manuals and 6 disks, \$100; Viewmax-80 Preboot disk for Apple Writer II, VisiCalc, and Multiplan by Micromax, plus Apple Writer II disk w/manual, \$20; ProDOS disk and manual, 2 complete sets, \$20 each; Epson printer card, \$30. Reasonable offers considered. Call Andrew Hinley (301) 926-0060.

FOR SALE: Macintosh 512K with External Drive, presently under AppleCare (Extended Warranty) until August 86 (it is transferable), \$1595. Also, 5 Megabyte Profile hard disk (under AppleCare) with either Apple //e or Apple /// interface card (specify), \$439; Apple Access //, \$29; Apple Pascal Device Support Tools, \$10. Write or call Stephen Bach, Route 2, Box 89, Scottsville VA 24590, (804) 286-3466.

FOR SALE OR TRADE: Best Offer. Apple Writer II,

Ver 2.0 ProDOS, brand new, still in shrink-wrap. MicroBuffer II/S - Buffered serial printer interface w/32K of on-board RAM, used but in mint condition. I could use 256K dynamic RAM chips of 150ns or faster; AE clock card, unused DSDD disks, cash - make offer. Bob Oringel 262-1355 or 464-8348.

FOR SALE: Apple /// computer, 256K single drive, hardly used, great backup unit for /// user, \$750. Add printer, monitor and Advanced Version VisiCalc, \$850. Call Stuart Cohen (301) 774-9182, evenings. ☺

COMMERCIAL CLASSIFIEDS

FOR SALE: Keyboard cables for the Macintosh. 12 ft. long coiled cables \$12.50 and flat cables \$6.00 + \$.20/ft Custom cables made on order for any use. Jay Heller, Adaptation Electronics (301) 948-7440.

FOR SALE: Gemini 10X printer with interface, \$190. Mirage Professional WP software, \$20. Call Debra 299-6155. ☺

BYLAW CHANGES

Pursuant to Article XV of the bylaws of Washington Apple Pi, Ltd., notice is given of the following bylaw change:

On December 12, 1985, the WAP Board of Directors voted to add after the first sentence of Article V, section 6, "Expulsion": "Damaging WAP property or disrupting WAP services shall be grounds for expulsion."

The Board made this change in light of two recent incidents where members have been observed making deliberate attempts to crash WAP's bulletin board systems.

Meaningless Bylaw Change

Pursuant to Article XV of the bylaws of Washington Apple Pi, Ltd., notice is given of the following bylaw change:

On December 12, 1985, the WAP Board of Directors voted to amend Article XII, section 3, "Fiscal Year," from, "The fiscal year of WAP shall be from July 1 to June 30," to, "The fiscal year of WAP shall be from June 1 to May 31."

The Board made this change so that the bylaws reflect what has in fact been WAP's practice for many years, i.e., to have its fiscal year run from June 1 to the next May 31. ☺

THE BEST OF THE APPLE ///: Part 2

by David Ottalini, /// SIG Co-Chairman

This month, we complete our efforts at providing you with some of the best sources of information, products, dealers, etc. for our Apple ///'s.

THE BEST NEWSLETTERS/MAGAZINES

Not surprisingly, those groups listed last month also provide some of the best newsletters for us avid Apple /// users. Both the ATUNC and TAU newsletters are an excellent source of information. Both newsletters are available in the WAP library for /// SIG members to read. I can also recommend News and Views, the newsletter of the Apple Three Users International group based in Norfolk. This is the publication of Joe Dobrowolski, whose goal is to compile information from as many /// groups as possible and edit it together on as many tightly-printed pages as possible. I think the effort is noteworthy, but he attempts to put so much information into his newsletter that, at times, things tend to flow together and are hard to follow and digest. But it is kind of fun trying to wade through it all, just to see what sources Joe has pulled information from for that particular issue.

As for magazines, there are really only two that I can truly recommend (besides our own WAP Journal of course). As many of you guessed, On Three and Frank Moore's Three Magazine are the selections. With the January issue, On Three is again publishing on a regular schedule. Val Golding is its full-time editor. He was hired away from the A.P.P.L.E. Co-Op and it is obvious in the new January edition that he is working to make the magazine worth subscribing to. After so many disappointments from the On Three folks, its refreshing to see it publish on (what is promised to be) a regular schedule again.

The Three Magazine is the successor to the Three Newsletter, begun by Frank Moore last year because there were no general-circulation /// publications coming out regularly at the time. He promised to deliver his newsletter on time each week and he kept his word. And with the demise of the Postal Service's E-COM electronic mail, he decided to go monthly with a magazine format. Despite some troubles with the first issue, everything has gone well since, and Frank is looking at the purchase of a laser printer and other equipment to bring the print quality up to more professional standards.

I can truthfully recommend either magazine (but would go with The /// Magazine if I had to make a choice). Both have a good range of articles and are striving to provide additional tutorials, news and information, programs, etc. Both need more articles from the /// community (so what else is new?) and On Three tends to push its own products a bit too much. But both have a lot to offer and are well worth the investment.

On Three Magazine \$40.00/Year

4478 Market St., Suite 701
Ventura, Ca. 93006

The /// Magazine \$40.00/Year *

C/O Moore Enterprises
3201 Murchison Way

Carmichael, Ca. 95608

* (Includes all back issues from current year)

There is one Apple /// magazine-on-disk that I believe is still available (you can also get disk-of-the-month offerings from On Three). It's called Three Cheers. Two editions have come out so far, and despite some initial hope that there would be more, it's hard to say when, or if, a third edition might actually come out (there were rumors this past summer, but no evidence).

The magazine was originally published by the A.P.P.L.E. Co-Op but was taken over by a husband and wife team calling itself "Donovan's Reef." Their inability to continue regular publication has done them a lot of harm, despite some interesting offerings in the first and second editions. This author's own experience with the magazine is a good example of its problems. I submitted an article many months ago and have yet to hear if it's been accepted or not. My gut feeling is not to bother with a subscription until it can be ascertained the magazine will be published on its promised quarterly basis. You should still be able to get individual copies of the original issues. Write for prices.

/// CHEERS \$40.00/Year-Quarterly

C/O Donovan's Reef

12513 SE 216TH

Kent Wa. 98031 206-630-2343

BEST BOOKS

There are so few books out on the Apple /// that I could get away with listing all of them for you. But I think you are best served with three specific books, all of which have Business Basic as their primary subject.

The Osborne/McGraw Hill Guide To Your Apple /// is the first book on the list. The other two are by Eddie Adamis: Basic Keywords for the Apple /// and Business Basic for the Apple ///. The Guide covers only the Apple /// and not the plus version. The author is Stanley M. Miastokowski. It's a good, beginning-level text for new /// owners and good to have for us old fuddy-duddies who've had their machines around for awhile. It has a good overview of Business Basic and sections on the .audio and .graphics drivers that are excellent. Clinton Computer had a large supply the last time I looked.

The Adamis texts are straightforward, no-nonsense books that essentially describe Business Basic version 1.1, its key words and provides examples. The only other ///-specific book on the market is Using Apple Business Computers by Kenniston Lord Jr. I have it in my library but don't feel it's worth your money unless you are interested in lengthy Business Basic programs specifically for business purposes.

All these books are either available at local bookstores or you can order them.

THE BEST PUBLIC DOMAIN SOFTWARE

Now we're back to the point where subjectiveness really contd.

comes into play. This list contains some of my choices, but since this is the good ol' USA, after all, you may certainly disagree. There really is a lot of good PD software out there. Much of this is offered by the previously mentioned user groups or through Frank Moore. Other sources of ///-specific public domain material are various bulletin board systems like ///'s Company in Richmond, Virginia (804-747-8752) or MAUG on Compuserve.

This list has no particular order to it. I'll let you decide which is better for your purposes than the rest. I must also let you know that I have NOT tried all these and made my selections based on research and the ability of the software to do a particular and needed job.

Fixer: For those of you with early versions of Catalyst and need to de-catalyze your original disks.

Jeppson Dissambler: Perhaps his best program. Allows disassembly of Apple /// memory and disk blocks.

AppleCon: Converts Applesoft basic programs into Business Basic programs, but only up to a point.

Contemporaneous Usage Log: This Dan Wade program is designed for all of us ///ers who use their computers and need to keep track of the time for Uncle Sam.

Jeppson's Spooler: This little program lets you use your disk drive as a print buffer, so you do other things while printing.

Wade's SOS Block Editor: Another Dan Wade offering that allows the inspection and/or modification of any block in a file or on disk. TAU members only.

Helpstuff: Wade's Pascal utility that let you put a sophisticated on-line help-file and screen dump capability into your Pascal programs. TAU members only.

Jeppson's Codefile Utility: Converts Pascal code files into transmittable textfiles.

Jeppson's Pascal Patch: Allows the reassignment of the Pascal System volume to a hard disk. Versions 1.0/1.1 only. Wade has 1.2 version.

Character Set and Keyboard Layout Editor: Gives you control of your keyboard.

BEST COMMERCIAL SOFTWARE

Another arena for burning subjectivity, but here goes:

/// Easy Pieces: Integrated database, word processing and spreadsheet. Ease of use makes this a winner. (Haba Systems)

Catalyst with Discourse Spooler: Program switching utility for your hard disk. (Quark) Any votes for Selector ///?

Draw On Three: A graphics tool for the ///. Can use it to print foto files made with Business Graphics. (On Three)

Apple Writer or Word Juggler: Take your pick. Word Juggler has gotten higher marks but Apple Writer with WPL does the job.

VC Advanced Version: Some say there won't be a better spreadsheet program, but may only be available through remainderers.

Omnis 3 Data Base: Has gotten high marks. (D.A. Datasystems.)

Great Plains or BPI Accounting: I've heard both positive and negative on these. BPI no longer supports the /// version. Keystone has also gotten good marks for a new program.

Tools Times Three: D.A. Datasystems great series of Business Basic tools, including PowerKeys, a macro for the

///. (On Three's On Time upgrade may give PK a run for its money.)

Assembler: At this writing, rumored super-fast assembler from On Three.

Other Programs:

Access /// is a good telecommunications program now available in interp form through user groups as upgrade.

Directory Labler /// allows you to make diskette labels. (CompuCRAFT, Englewood, CO.)

Post Master looks like an excellent choice for those who need a sophisticated mail management program. (Sourceware, Littleton, CO.)

And for those with a desire for a tested BBS system, try **Let's Talk** from Russ Systems. It's used by Ed Gooding's ///'s Company BBS in Richmond with good results. Sun Data's InfoNet has also gotten good marks.

BEST ADD-ONS

Once again, no particular order here. All, however, deserve consideration for inclusion into your system.

- Cheap hard disk drives (10/20mb) from CMC Computer Systems.

- 3 1/2" 800 K unidrive for the /// (On Three has the driver).

- 512 K upgrade for the /// (On Three).

- Titan ///+2e (make your /// a //e to a point) (Titan Technologies)

- MS-DOS co-processor for the /// using PCPI Applicard and CP/M (D.A. Datasystems).

- //e Mouse Driver and card is also available, but uses in /// native mode are very limited (to On Three products).

That should just about do it. I'd like to mention that much of the older commercial software is many times available at a substantial discount from local computer stores or through auctions like the one that Rasmus organization holds in the DC area. You might also consider contacting the Association of Independent Microdealers (AIM) for their catalog of /// products.

I must emphasize, however that it's very important that we continue to support those companies that are keeping the faith with us by producing new products and services. Without them, we could not expect to keep the /// going for as long as we all know it should. ☺



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Q & A

by Bruce F. Field



Chuck Cronan of Shorewood, WI, wrote to describe a procedure he used to fix printer problems he was having with version 1.1 of AppleWorks.

"Having acquired an AppleWorks program and since my system includes a Grappler+ interface and Panasonic printer, I, too, was plagued by the cursed '80N' appearing at the upper left of printed data base and spreadsheet reports. However, I solved the problem without the help of Apple's modification program.

"From other sources I discovered that the problem was only on the STARTUP disk. By brute-force I looked at each file on STARTUP (the SYS files all load at \$2000 or 8192 decimal), byte by byte, using a short BASIC program, looking for three sequential bytes which spell '80N'; in decimal that is 56, 48, 78. I was lucky that it worked and didn't take more than a few minutes. If you work from a copy (please!, not the original) of STARTUP you will find four applicable bytes:

1. BLOAD APLWORKS.SYSTEM, TSYS, A\$2000

Address	PEEK	Character	POKE
11557	9	ctrl-I	0
11558	56	8	0
11559	48	0	0
11560	78	N	0

2. POKE null characters (decimal zero) in the four addresses shown. This is the string sent to the printer.

3. BSAVE APLWORKS.SYSTEM, TSYS, A\$2000, L\$1DF4

"That's it, it'll work like a charm. Evidently, the Ctrl-I character acts as a command to my Epson-like printer. In my case, my Panasonic interprets it as its ASCII equivalent, HT(=TAB). My printer skips eight spaces (default TAB) and prints the string '80N'. The patch above results in a string of nulls sent to the printer, resulting in nothing! Other interface/printer combinations may require different pokes; experiment, if necessary, but use copies of the disks."

Thanks for the information, Chuck. However let me remind everyone that version 1.2 of Appleworks (which is available from your dealer) has a menu option that allows you to set the printer startup string to anything or nothing. Choose (5) Other Activities from the Main menu, and (7) Specify information about your printer(s). Go through the procedure for adding a printer until you reach the Add a Printer menu to specify line feeds, top-of-page, etc. and choose (5) Interface cards, at which point you can enter whatever startup string you wish.

Q. I have an Apple Writer //e program which makes me ill due to its printing of mouse characters on the data line at the top of the screen of my enhanced //e. Where can I insert a POKE 49166,# or PRINT CHR\$(24) to get away from that alternate character set? Would Apple Writer's WPL help? I cannot use Applewriter under the present circumstances - it's too frustrating.

A. The problem is slightly more difficult than inserting a single POKE; however Steven Meuse published a short BASIC program in NIBBLE magazine, April 1985, pp. 63-64, that will fix the problem of mouse characters being displayed on the status line as well as being displayed when the cursor is over a capital letter. He also modified it to permit selection of 40-column text display even when an 80-column card is plugged in the machine.

Q. My Apple extended 80-column card will provide double-hires only for Revision B or later //e's. The 80-column card manual was copyrighted in 1982 - my //e was assembled in 1985 (enhanced) but the main board is a Rev. A. What gives? Can I complain?

A. Good question. For a short time after the introduction of the //e (early 1983) Apple was shipping //e's with Rev. A boards that did not support double-hires graphics. By May 1983 they were shipping Rev. B boards and offered to swap Rev. A boards for Rev. B if you could show that you had an extended 80-column card (any brand). I suspect that your Rev. A board may actually be Rev. B in disguise. Beg or borrow an extended 80-column card and try it out. You will either need to program in assembly language or buy one of the drawing programs that works with double-hires as Applesoft doesn't support double-hires.

Q. I bought one of the first //c's from a big Apple-only retailer because of its "compatibility" with my office machine, an early //e. The salesman didn't know the meaning of the word, apparently, but after a year of fiddling and upgrades I finally have the little turkey doing most of what I want it to do. The dealer sold me Mousepaint and, somewhat later, the ProDOS Users Kit for use on both machines. Neither seems to work well on the //e. He has said they are the right versions, but.. Both programs are based on ProDOS 1.0.1 (dated 1/1/84) and specify][+ or //e computers, but not //c on the packaging. I note that the //c System Utilities uses ProDOS 1.0.2 (dated 2/15/84). Can you tell me if 1.0.1 is a correct ProDOS for the //c?

A. The latest version of ProDOS as of this writing is 1.1.1 and this fixes several bugs in the previous versions.

Q. How can I instruct Apple Writer II to activate my 80-column firmware in my //e? Activation (PR#3) before booting the disk does not work. I suspect that adding a statement to the Hello program to activate the firmware on my 80-column card would allow this. Unfortunately the program is in binary format under DOS 3.3 and also includes a control character in the file name. I have tried adding a new Hello program to initialize the firmware to 80-columns then BRUN the first Hello program. The problem is that I cannot rename the binary file.

contd.

A. There is no simple way to use Apple Writer II in the 80-column mode on your //e. Apple Writer bypasses the normal text output routines and writes text directly to the screen, thus enabling the 80-column card before starting Apple Writer will not work. Some manufacturers of 80-column cards, Videx in particular, offer a pre-boot disk that modifies Apple Writer II to work with their brand of 80-column card. I don't know of a patch for the //e; one solution is to upgrade to Apple Writer //e.

As far as modifying file names in the DOS 3.3 directory, a disk zap program that allows you to edit any sector on the disk, can be used to directly modify the directory on the disk. The directory starts at track \$11 (17 decimal), sector \$0F (15 decimal) and contains 7 filenames per sector proceeding down to track \$11, sector \$00. For the user who does not wish to get his/her hands "dirty" with such detail, James E. Hopper wrote a program to edit or delete any filename in the directory. This program appeared in *Call-A.P.P.L.E. in Depth*, Volume 3, "All About DOS", pp. 143-153, and is also available from A.P.P.L.E. on diskette if typing in assembly language programs is not your favorite pastime.

Q. On my enhanced //e when I hold down the control key, closed-apple key, and reset simultaneously the computer does a diagnostic check of read/write memory. But, does it also check the memory on the extended 80-column card plugged into the auxiliary slot?

A. Yes, if the card is present it checks the entire memory on the card. From a disassembly of the firmware in the unenhanced //e it appears that it also checks the extended 80-column card. ☺

COMPUTER APPLICATIONS IN PUBLIC HEALTH USERS GROUP: Regional Meeting on March 5

Several officers in the newly organized Communications and Computer Applications in Public Health Users Group have scheduled a regional meeting of the group on Wednesday, March 5, 1986, at the main auditorium of the Uniform Services University of the Health Sciences (USUHS). The meeting which will begin at 7:00PM will include an organizational session, a software exchange and computer theater for demonstrations, and an informal gathering for individuals to meet one another. MS-DOS, CP/M, Apple DOS, and Macintosh microcomputers will be available for demonstrations of public health applications, including statistical packages. For further information, contact Dr. Holly Doyme, (301) 933-8390 after 6:00PM ☺.

The Generic PC: Fast Relief for IBM Sticker Shock

by Bud Stölker

Here's good news if you're shopping for an IBM PC-compatible computer: you can now buy more machine than you expected to get—for less money than you expected to pay.

You can, in fact, have your PC custom-tailored to your requirements, from software right down to the circuit board- and chip-level, at a price less than that of an off-the-shelf PC. And your machine will be not only cheaper; *it will be better.*

I can design for you an IBM PC/XT-compatible that adheres fully to IBM hardware and software standards, yet enhances those standards in ways that do not interfere with conventional operation or future expansion.

Your generic version of the IBM PC/XT will come with each component individually selected for cost-effectiveness, and tested for performance and quality. My PC's are better systems dollar-for-dollar than any other IBM clone you'll find.

And now you can get as much as three megabytes of free programs with the computer! Included is software for word processing, project, data base, and spreadsheet management, investment analysis, telecommunications, graphics for design, charting, and advertising, a Sidekick-like notepad and alarm clock, and even an array of video games. Hard disk systems have all software properly installed and linked by appropriate custom help screens.

Prices start at \$1240 for a fully warranted, fully supported computer with 256K RAM, two floppy disk drives, multiple serial and parallel ports, clock/calendar, monitor, bundled software, and lots of room to grow with you. Each system is customized to your requirements, and built to the highest standards. Support includes a system analysis so you don't buy too much or too little, extensive component testing, integration of a vast array of useful software you can use immediately, personalized instruction manual, after-sale checkup, and my firm commitment to quality and client satisfaction.

Check with me 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.*

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GAMESIG NEWS

by Ronald Wartow

Our able columnist, Barry Bedrick, encountered a slight detour on the physical highway of life this month, so I'm pinch-hitting. The March meeting will be on Thursday, March 6 beginning at 7:30 p.m. at the office.

NEW SOFTWARE RECEIVED - Reviews next month:

UNDER FIRE! (Avalon Hill for Apple // series with 64K) - Critically acclaimed wargame that comes with preset scenarios or roll your own. Mockingboard optional.

GULF STRIKE (Avalon Hill for Apple // series with 48K) -- Superpower confrontation in the Persian Gulf in this conversion of a popular board wargame.

FEBRUARY MEETING

Three members were told that they would be featured in an article to appear in the March issue of *Personal Computing* on people across the country who play adventure games. At the magazine's request, one of the three actually went to New York, was dressed up as a samurai, and photographed for the article. Two club members, one a regular GAMESIG participant, will be beta testing ORBITER, the forthcoming Spectrum Holobyte release for the Macintosh.

Programs demonstrated included THE HALLEY PROJECT (Mindscape) and UNDER FIRE! (Avalon Hill).

CORRECTION

Last month's "short takes" for Apple // series games was misleading in that the Infocom and the Blue Chip games are also available for the Macintosh.

CAVEATS:

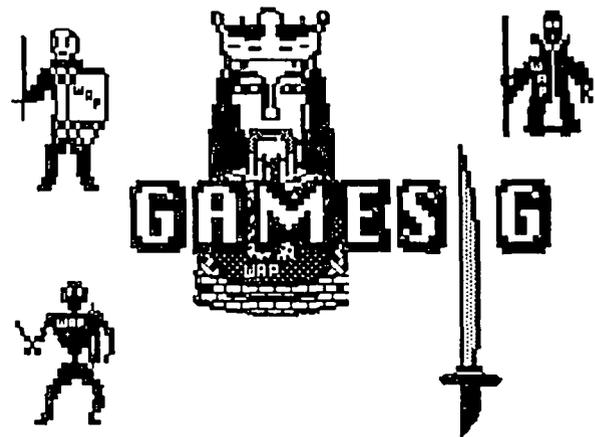
ALTERNATE REALITY--The City (Datasoft [actually HP Software] for the Apple // series and soon for Macintosh)

Members should be advised that this fantasy role-playing program is not actually a "game." Rather it is a character-builder disk for future scenarios and there is no goal to be achieved despite the implications on the box. Some of the program's commands and locations cannot be accessed yet, including magic. The company advises that the first scenario will be out in September and you probably will not need this disk to play the first and subsequent scenarios, although it may make the scenarios easier to play.

HACKER--Despite the clever beginning, this program becomes a logic, strategy game where you must acquire missing pieces of a secret document from spies all over the world. There seems to be no replay value and the total time for the game, once you understand the "logon sequence," is about 20 minutes.

HONOR ROLL

Every extensive GAMESIG Journal review has been on software donated by the various companies in the industry. In addition, the Journal is distributed to many software and book-software stores in the DC area. Several proprietors told me that customers scour the Journal for reviews before buying software. Just a few days ago, in a bookstore, I saw the January Journal issue lying on one of the Apple software shelves. While we recognize that companies benefit from exposure (if the review is favorable) to the club's several



thousand Apple owners and to area software outlets, this kind of user group-software producer relationship is a vital and important part of the information exchange which the club strives to perpetuate.

Recognizing this, as a "thank you," we now list the 18 companies that have donated gaming software for review since GAMESIG was revived in December 1984.

AEGIS DEVELOPMENT, AVALON HILL, BLUE CHIP, BRAINPOWER, BRODERBUND, CRYSTALWARE, FTL GAMES, HAYDEN, MINDSCAPE, ORIGIN SYSTEMS, PBI, PRYORITY, SIERRA, SILICON BEACH, SIR-TECH, SPECTRUM HOLOBYTE, SSG, and TELARIUM.

RECENT RELEASES AND PREVIEWS OF COMING ATTRACTIONS

FOR APPLE // SERIES:

Towers of Seven (Sierra) -- Fantasy Role-Playing (FRP)
Black Cauldron (Sierra) -- Graphic Adventure like KING'S QUEST

Championship Boxing (Sierra)

King's Quest II (Sierra)

Phantasie II (SSI) -- FRP

Wizard's Crown (SSI) -- FRP

Ogre (Origin) -- Futuristic strategy "war" game

Ultima IV - Part 2 (Origin) -- FRP

Goldfinger (Mindscape)

Sailing (Mindscape)

FOR MACINTOSH:

Flight Simulator (Sublogic)

Orbiter (Spectrum Holobyte)

FOR ALL APPLE COMPUTERS:

Universe II (Omnitrend) -- Strategy space adventure

Pixel's Revenge III - The Delicatessan Closes (Parser ST, Inc.) - Schmaltz

THE HALLEY PROJECT: A Review by Thomas Johnston

Opening the Halley Project (Mindscape, Inc.) package reveals a Mission Briefing on a cassette tape. "Oh boy, Mission Impossible," I say to myself as I load the tape player. "Dumb," I say as I toss the tape over my shoulder and boot up the disk.

contd.

"Delta one niner. We are lost behind Jupiter."

My Apple //c emits what sounds exactly like a broken radio transmission from space. After choosing a name for my star pilot, Aldebaran, I push the joystick button to blast off from the Secret Training Installation on Halley's comet. My first mission, "Land on Earth and return safely to Halley's."

The objective of the game is to complete 10 training missions to qualify for the Final Challenge. Each mission consists of landing on one or more of the planets or moons of the Solar system. Each successive mission has more and slightly harder objectives. You are not always told exactly what your objective is, rather you are given clues like: "Land on any planet smaller and always colder than Earth," or "Land on any moon with an atmosphere," (the hardest clue). This is where the education aspect is supposed to come in. The Mission Technical Reference Guide advises consulting your local library of antiquated, paper, mass storage devices to find books on the solar system. That's right, there's no educational documentation in the package. You must hustle it up yourself. Actually an almanac and some guesswork is probably sufficient.

Navigating around the solar system consists of consulting a radar screen and pointing yourself in the right direction by following the stars. (Radar in computer gaming has come to mean a view of what's happening around you; that is probably not possible in the real world, but is essential to the playability of the game.) This radar is a top view of the solar system, giving your approximate distance to your objective, and its direction in relation to the surrounding background stars. A simple star chart is included to help you recognize some of the constellations.

So I point myself in the direction of Sagittarius and accelerate into hyperspace. Yeeooww, and what an obnoxious hyperspace. My console flashes like a runaway strobe light. After several trips in this I find that I must hold my hand in front of my eyes to stand it. (Bad for epileptics.) Except that I have to look to read the distance traveled to know when to brake.

Actually, approaching the planets is the best part of the game. The programmers have created a working model of the solar system with the nine planets and most of their moons orbiting the sun. Although due to programming limitations the planets and moons are only black and white orbs with no detail (no spots, no rings) it is still quite fun to chase the moons around the larger planet, orbiting around to the dark side looking for the landing area.

Then the landing. To try to make up for the monochrome planets upon landing, we're offered a view out the window of the planet's surface. Here is the opportunity for the game to reward you with Ohh Ahh dazzling pictures for your efforts. Instead the graphics are unnecessarily crude. Worse, they are not well researched. Venus, for example, shows stars in the sky over the horizon. Venus is actually always totally covered by clouds. The surface is only now being mapped by radar.

The designers apparently did not consult the library enough themselves. The star chart even has its problems. It was apparently copied from a distorted flat map. The star positions are stretched out of their proper relationships. Leo, and Sagittarius, which are easy to recognize in the night sky

are unrecognizable on the star chart. Don't try to use this chart to find Halley's.

Upon completing the 10 training missions I was assigned a secret number and told to send it to Mindscape, Inc. for instructions for an 11th mission, the Final Challenge, which should arrive in four or five weeks. The good news for those of you who bought the program, the original deadline of December 31, 1985 has been extended to June 30, 1986.

Probably because of my familiarity with astronomy (I did see Halley's comet) I finished the game in one night and a day. After this there is nothing left to do. The educational value of the Halley Project is minimal. Buy a good book from National Geographic if you want to learn about the planets. As a game, the playability is spoiled by crude graphics and somewhat ruined by the obnoxious hyperspace. This is a shame because the basic program is quite good. To an excellent model of the solar system they have added nothing else of quality to bring life to the game.

By the way, you don't learn anything about Halley's comet. ☺

AUTODUEL: A Review by David Granite

Much like the movie 'The Road Warrior', AUTODUEL is set in a post-catastrophe U.S.A. Only the cities on the East coast have survived and these cities are separated from one another by an outlaw-infested wilderness. Your assignment, should you choose to accept it, is to courier packages through the outlaws and/or hunt the outlaws down. You can also undertake the national sport, AUTODUELING, where you and your armored, be-weaponed car compete against others in the arena.

As the game begins, you create your driver with specified amounts of driving skill, marksmanship, and mechanical ability. You must drive well to control your car, shoot well to get the enemy before they do you in, and be apt mechanically to obtain good salvage from the wreckage of your late foes.

As an amateur driver with no car, you can enter amateur night at the arena. They provide you a car. In it, you fight 5 antagonists, similarly equipped. If you win, you advance in driving, marksmanship, mechanical ability and prestige. If you lose, you are dead meat. You should start with good driving and marksmanship and no mechanical ability since you can go to mechanic school easily to increase your salvage skills.

Besides an ARENA in the cities, other buildings include some combination of TRUCK STOP (for rest, body armor, etc.), SALVAGE YARD (for selling found salvage), AMERICAN AUTODUELING ASSOCIATION (for courier assignments), GOLD CROSS (for healing and cloning--a clever save-game feature), GARAGE (for car repairs), JOE'S BAR (for rumors), and ASSEMBLY PLANT (for constructing your personal killer-car). Some cities will have extra buildings, e.g., F.B.I., PET SHOP, CASINO (you should visit to play poker). You can also go to Manchester, NH, to visit Origin Systems, the creators of the game.

contd. on pg 23

APPLE // DESKTOP PUBLISHING - JANUARY 25

by Richard Rowell

The January meeting of the Apple // group included a demonstration of the type of Desktop Publishing that can be done on these machines, and featured three software packages that allow the novice to produce excellent graphics-enhanced printed copy. Under the guidance of three WAP experts each of these programs was shown to produce flash, pizzaz and imaginative printed pages.

We approached Desktop Publishing as the procedure for getting an Apple //, //e, or //c to format a printed page, including font (type style) variation and graphic enhancement, in a quick, easy, inexpensive manner. Perhaps a dozen commercially available programs support this approach, but three seem to exemplify it: **The Print Shop**, **The Newsroom**, and **Fontrix**. With these three and your favorite word processor you can get started turning out your own flyers and newsletters in no time at all.

LOOK AT THE PRINT SHOP

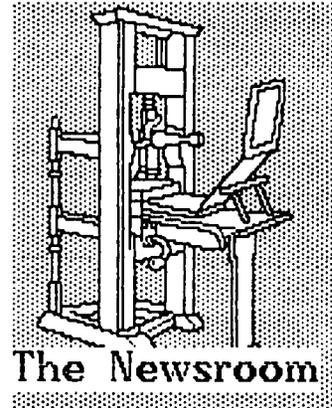
Gary Hayman demonstrated **The Print Shop** - an easy to use, menu driven program published by Broderbund. Gary led us on a tour through **The Print Shop's** menus for signs, banners, and greeting cards, including samples of the disk based fonts, borders and graphics. He also detailed **The Print Shop Companion** (by Broderbund) and **The Print Shop Apprentice** (included on WAP Disk #172). Gary has worked long and hard to assemble an excellent collection of **Print Shop** graphics on this same disk - a bargain at \$5.00 for a two-sided disk. With the quantity of public domain graphics appearing for **Print Shop** and with the number of additional utilities like the ones made available by Gary, this program is fast becoming a printing system.

FONTRIX

Kim Brennan demonstrated **Fontrix**, the most difficult to master as well as the most powerful and versatile program we considered. **Fontrix** is published by Data Transforms. The program disk allows for the creation of extended screen graphics (known to **Fontrix** as "graffiles") and intricate manipulation of fonts, including but not limited to, adjustment of spaces between characters, overlay or transparent mode, normal or inverse, and creation of windows.

The program disk contains eleven fonts, but this is only

the beginning as **Data Transforms** also publishes **FontPaks** - with thirteen disks currently available. Since many of the "fonts" are actually signs, symbols and icons graphic layouts can be readily designed with **Fontrix**. Kim's examples were so intricately detailed as to appear to have been generated on a MacIntosh.



Lee Raesly ran **The Newsroom** through its tricks. This two-disk program published by Springboard includes a primitive word processor and a photo lab for editing, altering, flipping and fine-tuning the hundreds of built in **Clip Art** photos. An additional **Clip Art** disk adds hundreds more pictures, and **The Graphics Expander** (also by Springboard) converts all of these **Clip Art** photos to a format usable by **The Print Shop**. Lee ran through a demo of the menu driven features of **The Newsroom** with his red plumed battle flag waving in the background.

The Newsroom uses a newspaper/journalism approach to printed copy with a photo lab, a copy desk, a layout desk, a printing press and a wire service. Five fonts are available - three large and two small. The text will word wrap around the photos as six, eight or ten panels are created to produce a two column newsletter. Be forewarned that **The Newsroom** text is actually hi-res graphics and the printed quality is a little ..., well, nevermind, the photos are easy to create and the program allows quick, easy, inexpensive newsletter production.

I would recommend any and all of these three programs for your use if you want to get started on sign and flyer production or on rolling out your own newsletter. The three presenters made everything look straightforward and easy as they have invested untold hours in honing their own skills, but don't worry, the publishers seem to have had the rest of us thumb-thinking klunkers in mind and all three programs truly are easy to use. (Well, let me reconsider **Fontrix** - it can keep you up late into the night).

One final warning on this kind of Desktop Publishing: stockpile your supplies. **The Newsroom** loves to gobble up data disks, **Fontrix** will always be sending you off to buy one more **FontPak**, and **The Print Shop** assumes that you have a warehouse of printer ribbons.

Questions on the software described above? Want to
contd. on pg 24

Operant Systems

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Zoomodem J1c (300 baud Micromodem compat w/software).....	125
US Robotics Password (300/1200 baud, auto-dial/answer).....	229
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Softcard II (includes CP/M 2.2 and M8ASIC).....	239
Titan Accelerator J1c (3.6 Mhz 6502C coprocessor).....	229
Speed Demon (6502C high-speed coprocessor).....	195
Applied Engineering Z-Ram (256K, CP/M, Ramdisk for J1c).....	325

MONITORS---

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

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COMMUNICATIONS---

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Z-term Professional (for CP/M).....	90
CospuServe Starter Kit (password & 5 free hours).....	25

ODDS & ENDS---

Print Shop/Print Shop Companion.....	36/29
Newsroom/Clip Art Collection.....	39/19
Pinpoint.....	42
Typing Tutor III.....	36
Flight Simulator II.....	36
Curtis Emerald Surge Protector (6 outlets & cord).....	45
Kensington System Saver Fan (w/surge protector).....	66
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Microsoft Word (what MacWrite should have been).....	119
Excel (best Mac spreadsheet available).....	255
Basic interpreter.....	99
Chart (presentation business graphics).....	85
File.....	119
Multiplan.....	119
MacEnhancer (has the ports Apple forgot).....	175
Filevision (graphics database system).....	119
Odesta Helix (database for the serious user).....	249
Dollars & Sense (accounting w/graphics).....	95
Assimilation Process Mac Memory Disk.....	24
Iomega Bernoulli Drive (5 meg removable cartridge).....	1395
MacLion (programmable database for Mac).....	239
MacForth Level II.....	169
Hippo C.....	99
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HERE COMES DESKTOP PUBLISHING

by Martin Kuhn

[Note on the author: A new member (#8020), long a journalist, editor and photographer on the Washington scene, a //e owner, finally motivated to join Washington Apple Pi because of intriguing but scattered press reports about doing your own typesetting on a personal computer, amazed and astonished to learn that the topic of his first meeting was going to be--of all things--desktop publishing! His account, mainly on the Mac with the LaserWriter, follows.]

"Desktop publishing," a personal computer applications area so new, and so hot that some corporations are stamping "secret" on their memos about it, broke into the open Saturday (January 25) before approximately 500 attendees of the Washington Apple Pi regular monthly meeting .

Apple, according to the business press, and statements of Apple executives as well, is looking to desktop publishing to provide the entry to the business market long sought for the Macintosh. Among corporate number-crunchers, IBM is already there. But if the corporate spreadsheets have IBM's flag on them, corporate publication departments represent a new emerging market. Word processing has paved the way; the next big step might be called "page processing," which includes in-house typesetting.

The LaserWriter has been called Apple's secret weapon. Incorporating, in its own computer software, actual printers' type, in typefaces publications people know and specify by name, the LaserWriter for the first time permits persons running a small publishing operation within an organization to set their own type, when they need it and exactly as they want it. They can handle it on the screen until they get it right--and play "what if" games with typography and design--and then produce it in camera-ready form with very acceptable quality, without going to--or paying for--an outside supplier.

And it's all possible at a price even an individual might be able to afford. The cost today, in round numbers, going in from zero, is generally put at \$10K. That's for a Mac, a LaserWriter, and some software, plus the usual odds and ends and sales taxes. But there are a lot of Macs already out there, and do you really need your very own LaserWriter? There are reports of copy shops and quick printers in California (where trends begin) installing Macs and LaserWriters to run off people's pages for prices like 30 cents each. If you have a Mac, and can get to a LaserWriter for your camera-ready copy when you finally need it, maybe all you need is PageMaker. Or ReadySetGo. Or MacPublisher. Or even just MacWrite and MacPaint (attractive work was shown at the January meeting by Paul Funk, using only these basic tools).

How Be It Resolved? The monthly meeting featured sessions on using personal computers to replace type houses or print shops, based on software and printers available for the Apple // and Macintosh. Apple // applications remain limited by low resolution and a lack of a passably typeset look, although a Synergetics program was reported by Leon Raesly that allows use of Apple Writer as a utility for using the LaserWriter. (Ed. Note: More on this in later issues of the *WAP Journal*.) But the Macintosh with a Apple LaserWriter

and full page makeup software makes a formidable combination. This account focuses mainly on the Mac-LaserWriter part of the meeting program, not least because of its promise for opening the small-to-medium organizational market. This can provide Apple with a broader business base, and I hold that anything that makes Apple a stronger "computer company for everyone else" will benefit us all.

I could imagine having real fun with a //e and the programs like Print Shop shown during the morning session had I not stood long ago in front of a California Job Case with a composing stick in my hand and learned to set real metal type. As a child I had a little printing press with rubber type, but that was only ok until the real thing came along.

Being able to produce real type is how one can distinguish between just having fun and having a professionally useful system, and it can be now be reported that the gap between the hack "type" styles in much of the personal computer software and the quality type available from a commercial typehouse has been bridged by the Apple LaserWriter. Unlike much of the earlier software, with cutsey "font" names not known in the real world of publishing, the LaserWriter came with two genuine typefaces built in--Helvetica, the most popular sans-serif face, and a modern roman text type called "Times," which is clearly "Times Roman," probably the most popular serif type (serifs are the little ears and feet on the letters).

Apple's new version of the LaserWriter, announced in mid-January and called the LaserWriter Plus, has five more commercial faces built in (ITC or Linotype), plus a collection of small ornaments, traditionally called dingbats by typographers. These dingbats were created by Hermann Zapf, a contemporary type designer who has also given us Palatino and Chancery Italic, two of the other faces that are also included in the new LaserWriter Plus package.

Typesetting an Example. The most-often-cited program in recent news reports about desktop publishing is PageMaker (by Aldus), about \$450 retail. PageMaker was discussed by Bernie Urban, who, with his wife Gena, has been producing the *WAP Journal* using PageMaker and the LaserWriter. Aldus has been using the *Journal* as an example of what can be done. At a session just before the main set of desktop publishing demonstrations using the Mac, Bernie gave a run-through of how the *Journal* is produced, using these new tools, on a very tight one-month cycle.

Other programs with attractive features demonstrated at the meeting included ReadySetGo (by Manhattan Graphics), shown by Jim Graham, \$125 retail (\$55-\$65 mail order); and MacPublisher II (Boston Software Publishers), \$150 retail, demonstrated by David Morganstein. MacPublisher will handle 96-page documents, and will run on a 128K Mac, with an automatic save feature, said to be unusual in personal-computer software. Leon Moore demonstrated Microsoft's Word, using the Imagewriter to produce page proof and the LaserWriter for final type. Hands-on experience with at least two programs, it would seem, would be necessary at this

contd.

point to determine which might be best for a given application.

What's coming? Bernie Urban reported hopes of taking better advantage of the page makeup capability when a new 11x17 inch monitor becomes available. But PageMaker's current 16-page limit - unless removed - will still be a hindrance for a publication of the *Journal*'s size (72 pages, plus cover, for the January issue).

Persons not yet using real typesetting will be pleased at the greatly improved appearance of their material as produced by the LaserWriter. But those who are already working with real type will need to be convinced that the LaserWriter is good enough. I predict that that side-by-side comparisons will show that the LaserWriter yields a typeset look of quality excellent enough for most work that is to be published at the scale contemplated here. Pages can be produced camera-ready for either electrostatic (Xerox) or offset reproduction.

Upping the Ante. Actual digitally typeset pages, produced from the Mac files by Linotronic typesetters (\$30,000 each and upwards) set for high-resolution work (up to 2,400 dots per inch) will be superb but somewhat costly. Linotronic computation time, as well as printout time, can be considerable, noted Jay Condren, who discussed interfacing with professional typesetting equipment. Raster-scan information from the Apple must be converted to the vector graphics form for compositional computation, and then reconverted to the Linotronic's high-resolution raster scan for final film or paper exposure. (I think I have this right.) Depending on the number of image elements to be manipulated, the processing time per page can run to tens of minutes on expensive equipment, and printout time adds more minutes to that. It is not to be expected that much digital typesetting of this sort will be used except for the most critical applications.

All of the software for the Mac demonstrated at the meeting could be used to produce a small newsletter of good quality with a professional look. Larger productions, such as Apple Pi's own *Journal*, appear to need larger displays and adequate page capacity without excessive disk-swapping. If full page makeup is needed, and if it becomes at all complicated (in terms of incorporating many pieces of art or graphic elements) faster routines will also be needed. But the technology is here now, in a very useful form, and, for many, at a very attractive price. And it should be noted that the LaserWriter works just fine for generating type in single-column widths for conventional pasteup techniques.

A market restraint may be the lack of appreciation and know-how among people who have never learned to use real type professionally. Users of real type--editors, designers, printers--have had 500 years to make almost every possible stylistic mistake and to learn from each other's successes as well as failures. The 500-year history of movable type has resulted in the development of printing conventions that, when honored, give us pages that not only delight and entice the eye but work so well the reader need not even notice.

(An example of one such convention is that underlining words in copy means italics are to be used for the type. Metal type technology did not permit underlines to be inserted under individual words without knocking the whole line cockeyed, and the letter forms of real type were designed so that lines of

type, with descenders, would lie too tightly together vertically to take underlines without looking cramped.)

For many, moving to desktop publishing will mean learning new rules, new skills, new standards, and a new vocabulary--kerning, killing widows, rivers of white, letterspacing, leading, picas and points, ems and ens--and developing design talents not needed as long as copy can just be "sent to the printer for them to do." A few may not like it. But many others are about to discover a fascinatingly creative field. ☺

AutoDuel contd. from pg 19

Constructing your car in the assembly plant is crucial. You can try for speed, killing power, protection, or all 3. A really tough baby can cost a lot, so be sure you have enough cash. The vehicles range from sub-compact to van with commensurate space and carrying power. You have choices in body frame, shock absorbers, armor, power plant and tires. (Hint: undercarriage armor is pretty useless and just weighs you down). Never drive your old car into the assembly plant, as it will be taken from you; park it in the garage--you may need it again.

Weapons for your car range from the ever-handly machine gun to lazars front and back. It's also nice to be able to oil slick or smoke screen pursuers. Then again, you may just let them get close to blast them with the flame thrower or lay mines in their path. My last car, >LAZERBREATH<, a modified Dodge RAM pick-up truck with super power plant, extra-heavy shocks, steel-plated armor, solid tires, and a Dolby stereo system, had many of these weapons.

This game is an excellent meld of arcade and strategy. As you gain in skill and prestige, you are offered more lucrative (and dangerous) courier assignments. As you complete the assignments, you get more clues about the end game. Conversely, or at the same time, you can enter arena contests in various categories, depending on the price of your vehicle. (Hint: make your car's value just up to but not over a category, so that you are the best equipped in the arena.)

This game is engrossing, and can be played over and over for different goals. While this game cannot, of course, compare with PIXEL'S REVENGE, I do give it a 9 (out of 10) rating. ☺

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DPub SIG

by J Condren

The Desktop Publishing SIG, Washington Apple Pi's newest Special Interest Group, met for the first time on Saturday, February 8 at the Pi office. Future meetings for the new SIG will be on every second Saturday of the month, from noon to two, at the Pi office in Bethesda. Everyone is welcome to join, not just Mac owners, and we would especially like to see some Apple][owners, as well as anybody who can program in PostScript. The SIG has also started a "DPub BBS" within the WAP board. Mark Walter is the SYSOP.

During the past year, the hot new buzz-word has been "desktop publishing"; yet a clear definition is hard to find. For the past year, I have helped several government management companies to produce contract bids with the Macintosh. All five major competitive bids for which I was under contract resulted in awards. This work involved the Macintosh and LaserWriter, many new graphic software applications, and high-end output devices such as Allied Linotype's Series 100 typesetting machines. While most people think of desktop publishing as a watered down, cheaper version of standard publishing, it is really a new industry of its own, growing from the roots of three previously separate industries: microcomputers, typesetting, and the line-board artist. Without a working comprehension of all three arenas, it is impossible to fully understand desktop publishing as it is evolving.

Most of us are already familiar with the capabilities and limitations of computers; for many, however, graphic board art and typesetting are somewhat foreign. This will be one of the areas which we hope to address at the SIG's meetings, on our BBS and in this column. We will examine new software and hardware, keeping up with all new developments, as better page-layout and graphic programs become available, and as faster printers with higher resolutions are marketed. We also want to help everybody take advantage of the possibilities of desktop publishing, and will try to solve any problems people are confronted with.

Our first meeting was a rather informal get-acquainted session during which we discussed the many items presented below. Future meetings will be more structured, and we will generally have a specific topic planned in advance. However, at this meeting, we were able to talk about a lot of topics, which strengthened my belief that desktop publishing is a large field and not just limited to newsletters and fliers but also the Fortune 500 business market, as witnessed by USA Today's use of the Macintosh for the graphics in the paper, and government management companies developing the use of graphics in proposals for multi-million dollar government contracts.

We saw some vivid examples of what the LaserWriter and MacDraw are capable of, and compared these drawings as printed on both the LaserWriter and the Linotronic 100, a typesetting machine from Allied Linotype which prints with a resolution of up to 1270 dots per inch (dpi). Allied now has two machines, the 100 and the Linotronic 300 (which has a maximum resolution of 2540 dpi), which, with the help of a

PostScript Raster Image Processor (RIP), can be connected to the AppleTalk LAN and print documents as easily as the LaserWriter can.

Also discussed were some differences between using a Macintosh-based system and Kodak's Ektaprint Electronic Publishing System (KEEPS). Kodak's laser printer, like the LaserWriter, has a resolution of 300 dpi. It uses a three-button mouse and the monitor is 19 inches across, but otherwise resembles the Macintosh (black on white screen, with icons, pop-up menus, and windows). It also comes with a hard drive and a full-page scanner. However, a single-user system costs \$79,500, while a Macintosh, LaserWriter, hard disk and ThunderScan cost only about \$7,500. We compared several line drawings that were scanned and then printed on both systems and found the output from the ThunderScan-LaserWriter system to be better than the output from KEEPS. Unlike the Macintosh system, KEEPS has a maximum resolution of 300 dpi; Kodak decided not to market any typeset quality output device.

Two new text programs were also discussed. Type/Net, from Type/Setting Net/Work, Inc., lets the Macintosh emulate the internal codes which drive any of Allied Linotype's machines, obviating the immediate need for typesetting firms to buy a newer PostScript-compatible machine, and also giving them the ability to develop documents at separate locations and print them with one machine.

The second program is JustText, from Knowledge Engineering, which is a very powerful page composition program. The programmer, Bill Bates, explains in the documentation that Apple's QuickDraw to PostScript conversion routines (the LaserPrep file, which is downloaded the first time you print after turning on the LaserWriter) were very limiting. JustText, therefore, generates its output directly into PostScript. This allows the user to take advantage of all the LaserWriter's many powerful effects which so far have gone unused. Included in version 1.0g of JustText is kerning, automatic hyphenation, a background spelling checker, full control over justification tightness, leading, and page layout. He also is working on several other programs, including LaserPaint, which will allow MacPaint-like documents to be produced for the LaserWriter's 300 dpi resolution, giving you full control over every LaserWriter dot, and LaserDraw, an object oriented graphics program optimized for PostScript and the LaserWriter.

Our next meeting will be on March 8th at the WAP office from noon to two. We hope to see you all there. ☺

Apple // Desktop contd. from pg 20

complain about what a "-" produces from ICONS on FontPak #2? Need advice on Apple desktop publishing? Call any of the presenters, or call me at 231-9086. (Ed. Note: See also the calendar reference to the Desktop Publishing SIG and the new BBS on System 3, 986-4715.) ☺

LAP COMPUTERS AS APPLE ACCESSORIES

Part 4: Build Yourself a Serial Interface Switchbox

by George Kinal

In this installment, I want to continue along the lines I followed in the January issue, applying the "Quick and Dirty" interfacing principle to construct a serial peripheral switching box (one of the peripherals being, of course, your lap computer).

First, a correction and an apology. In that article, I said that the lap computer does not need or care about the handshake leads. That is simply not true! The RS-232 connector which plugs into the lap computer should also get the "Quick and Dirty" handshake treatment, that is, tie pins 4,5,6,8, and 20 all together (see also October WAP article by Nancy Harvey). The lap computer needs its Clear to Send (pin 5) activated in order to transmit data. The original advice to make both ends of a computer-to-computer cable the same thus is worth following.

Now, suppose you have acquired several peripherals with serial interfaces, e.g. a modem, a printer, the lap computer, maybe a plotter, etc. Even with a Mac or a //c, you may have more peripherals than serial ports on your Apple. The worst case of course is when you have a //e with only one serial interface card, most likely a Super Serial card (SSC). After a while, it gets pretty tedious swapping cables. And Apple would have you believe that to change from the printer to a modem demands that you turn around the jumper block plug on the card!

Aha, say all those accessory vendors. Noooo problem.... Just buy one of these handy dandy RS-232 switch boxes. It used to be that people wanted \$150 for these gadgets, though if you look through the Computer Shopper you'll see places selling them now for as little as \$40 (for a two way switch). I suppose that's a not unreasonable price for a switch that switches ALL 25 lines..... But we've all been paying attention to the Quick and Dirty principle, haven't we, class? And so we know that for most serial interface applications, only a few wires are necessary. (Besides, if the //c can get away with only 5 pins on its serial connector, why should the //e need 25?). Come on, you say, where did we say anything about why a switch only needs 3 or 4 poles to do RS-232 transfer? Well, it's part of the Quick and Dirty principle: whenever possible, satisfy handshaking requirements **ON THE END OF THE CABLE, AT THE CONNECTOR.**

If you have a modem, and you don't need unattended auto-answer operation, only three wires are needed to actually connect it to the computer: data sent, data received, and a common ground. Likewise for the lap computer. A printer is the only exception: it needs to connect its "printer busy" handshake (usually pin 19, 20, or 6 - see your printer manual) to an appropriate handshake sensing pin on the serial interface. All ground wires can be connected together, so no switching is needed there. So, for most applications, a switch with only three poles is needed (if you want to switch the computer's handshake output as well, you'll need four poles: four plus the unswitched ground equals the //c's five wires).

You won't find three pole switches at Radio Shack anymore, though they are pretty common from commercial electronics suppliers and surplus. Here, another principle of the RS-232 interface will save the day - the one that says you can't do any harm by interconnecting, mis-connecting, or shorting various RS-232 leads. This principle will let you use two Radio Shack double pole switches (part # 275-1386), and yet it won't do any harm if you don't turn both knobs simultaneously. Use one switch for the data wires, the other for handshake(s).

Now wire the switches to the appropriate connectors. The Table below shows the data and busy handshake pin numbers for various Apples. As an illustration, the diagram shows a switchbox arrangement for three common serial peripherals and an Apple SSC. With the Table and the material in the January article, plus the documentation for your printer, it should be straightforward to design the equivalent for a //c, a Mac, and for other types of peripherals. Notice that on each peripheral connector, "Quick and Dirty" handshake strapping has been applied to keep each peripheral happy, except of course for the printer busy lead. The printer assumed here is an AJ-831, modified so that a busy signal appears on pin 20. (Note: because of the potential ambiguity of the busy handshake when the SSC jumper is in the "Terminal" position, I suggest you use the "Modem" position instead. The wiring in the switch box itself will take care of the "null modem" crossover.)

TABLE: KEY PIN CONNECTIONS
ON APPLE COMPUTERS

Signal	Apple SSC Jumper Block in "MODEM"	Apple SSC Jumper Block in "PRINTER"	Apple //c	Mac
Data In	3	2	4	9
Data Out	2	3	2	2
Busy Handshake (Low = busy)	5	19 or 20	5	7
Signal Ground	7	7	3	3

Notes to Table:

1 - Pin 8 may be used in lieu of pin 5 for busy handshake. The SSC actually does not require the Quick and Dirty strapping shown here.

2 - Most modems do not require the Quick and Dirty strapping shown here.

3 - There is no standard as to the "printer busy" pin. 5, 6, 19, or 20 might be used. Strap all other handshake pins together as shown.

With a switch box like this, and a male DB-25 connector available for the lap computer, the kinds of data exchanges I've written about in this series are easily accomplished on short notice, without lots of cable swapping, lifting the Apple //
contd. on pg 31

ELECTRONIC STOCK TRADING AND RECORD MAINTENANCE:

A Preliminary Review of Schwab's "The Equalizer"TM and Alternatives by George Kinal

INTRODUCTION

The collection and analysis of security prices and trading data, and the maintenance of records of your own trading activity, are "natural" applications for your Apple's computational, data base management, and telecommunicating capabilities. In fact, it is the computer's ability to perform all three kinds of activities that make it so powerful a tool. A program that "integrates" these functions is especially interesting. After all, you can obtain stock prices from the newspaper, plot price trends by hand, and keep manual (paper, filing cabinet) records. Charles Schwab & Company's "The Equalizer", however, does all this for you, automatically and electronically.

I gave a brief presentation at the October WAP meeting of the capabilities of this software package, and promised a more extensive review. Although my review is not yet complete, due to a disk quality problem that I will explain later, I thought it would be valuable to present this preliminary review now. I think I can say enough about the subject to help those readers thinking of getting into "on-line trading" and similar activities. One additional apology: this review is biased by my predominant interest in telecommunications. The WAP StockSIG is better qualified to comment on and review those aspects of The Equalizer that have to do with other activities related to securities trading. I also want to emphasize here that The Equalizer is NOT a program that does trend analysis or directly suggests whether you should buy or sell. Obviously, no securities dealer is going to sell you any program or service that could in any way be interpreted as providing trading recommendations. The program will help you get the raw data, but you still have to make all the decisions.

In addition to the preliminary review, I also describe below some alternative methods for accomplishing many of the same functions as provided by The Equalizer.

SUMMARY OF WHAT 'THE EQUALIZER' IS AND DOES

The Equalizer is a program for the Apple //e (128K mandatory) and //c. It will not run on the][+ series, nor on a //e without the extended 80-column card. Only a Super Serial card can be used with external modems, though it appears from the documentation that Hayes, Novation, and SSM internal modems will also work. Only one drive is necessary, although a second drive greatly reduces the need for disk swapping. There are three disks: System, Data, and Communications.

This program, or more accurately, integrated set of programs, assists you in doing three kinds of activities related to trading securities. First, you may obtain a variety of information or data, such as price quotations (current and

historical), and information on the corporation whose stock you might want to buy. The telecommunications function is key to obtaining these data, using several different networks and data base services accessible by telephone line and modem. Second, The Equalizer provides for the entry, transmission, execution, and confirmation of transaction orders. Your trading instructions are transmitted via TYMNET, directly to Schwab's computers, and confirmations of trades are sent to you using an electronic mail mode. Third, The Equalizer contains a data base function, so that records are kept of your portfolio and its changes. Data necessary for tax returns is also processed and reported.

TELECOMMUNICATION ASPECTS OF THE EQUALIZER

As mentioned, The Equalizer can be configured only for a //e or //c with 128K, and only with certain hardware combinations (albeit the most common ones, particularly the Super Serial Card and Hayes Smartmodem or equivalents thereto). To configure the program, in addition to defining the modem type, you must provide the local telephone numbers for TYMNET access, TELENET access, and passwords for Schwab and for Dow Jones. Information about all of these is provided at the time of purchase. The program "knows" which telephone numbers and passwords to use for which function. For example, the Schwab computer is accessed only via TYMNET, whereas Dow Jones and Warner Computer Systems data are accessed by either TYMNET or Telenet. The telecommunications functions are performed in a rather mysterious, "transparent" way. If a call attempt fails, several repeat attempts are made automatically. In the "Research" module, there is a "Dow Jones Terminal" mode, which allows you to use your Apple for any Dow Jones Service function. Essentially all other telecommunications roles are fully automated, "hands off" on the user's part. Some users may find such complete automation a bit sterile and unsatisfying, but I suppose many users will be delighted. As Bill Cook has put it, do you prefer stick or automatic transmission?

A PRELIMINARY REVIEW

I tested the telecommunication functions of The Equalizer using a borrowed Apple //e, Super Serial Card, and an Anchor Mark XII modem (which is essentially Hayes Smartmodem compatible). Connection and logon via TYMNET to Dow Jones and to Schwab were efficient and trouble-free. Although I wonder what will happen to the software's utility if TYMNET, for example, ever changes its command structure, I cannot find fault with the way the program works at this time.

One positive feature of The Equalizer is the documen-

contd.

tation. True, it is not perfect, and in the initial excitement of getting set up, it is easy to enter a password wrong, miss a parameter, or attempt to submit a trade order before a portfolio has been established on disk. But if you read the manual and follow it step-by-step, the program(s) will work as advertised.

Or rather, they should work. This review is in fact preliminary because at the time of writing, I did not have a complete working set of the three disks. Schwab's original shipment had a bad System Master Disk. This was promptly replaced, at which point I was able to test many of the telecommunication functions. I was not able, however, to test on-line trading, because the Data disk was also found to be defective. [NOTE: As of late December, I have received a replacement Data disk. A future article will report on further tests of the complete package, particularly the on-line trading.]

This is a good time to discuss backup/copy protection features. The main menu includes provision for making backup copies. You can make unlimited copies of the Data and Communication disks (on which your critical portfolio and tax data bases are stored), but only two copies of the Master disk. I believe this is a reasonable compromise between the legitimate need of the user to back up data, and the publisher's interest in preventing unauthorized duplication. It should be admitted, though, that there seems to be very little purpose served in preventing dissemination of copies. Without valid passwords and account numbers, an unauthorized user would find the disks to be of no value whatsoever....

GENERAL ASSESSMENT

PRO -

1) The Equalizer holds forth the prospect for automating virtually everything that an individual investor might need in the way of information collection management.

2) For the computer layman (the "rest of us"...?), the level of integration and automation of communication functions is ideal.

3) The tax record-keeping function in particular can save even a relatively small-time investor many tedious hours of hand calculation and research, particularly when reinvested dividends are involved.

4) The arrangement for making backup copies is reasonable.

CON -

1) Program is limited to the 128K //e or //c, and Super Serial card. It seems to me that, with a bit less integration, it would have been possible to squeeze the same functions into 64K, thus opening up the target market to][/]+, Franklin, etc. owners. Accommodation of the 6850 ACIA interface card family (CCS 7710, Apple Comm., SSM, AP-SIO, etc.) should also have been pretty easy, considering that the Micro-modem uses a 6850.

2) Almost every function requires more disk swapping than seems reasonable. In fact, if the software designers had gone to five, instead of three, disks, any given function could probably have been performed with no disk swapping. Disk swapping also increases the chances of losing vital functions from disk damage. For example, it seems to me that reading Electronic Mail shouldn't require the Data disk. Disk swapping is the flip side of the attempt to fully integrate all the functions.

3) My experience also suggests a possible problem with disk quality control. Since these were early samples, I trust that current "production" copies are not defective.

4) The complete integration is all well and good. But the data collected and managed by The Equalizer does not appear to be transferable. It would be nice to be able to take the portfolio, trading, and research data and use it in other applications programs. At a minimum, Schwab should publish information on the file formats, and let users develop utility programs.

5) Finally, a philosophical note. Schwab has adopted a policy which amounts to charging for the purchase of the program, and then charging fees for the various services as well. Granted, one could just as readily think of the purchase price as a registration or initiation fee, intended to discourage casual dabblers. Still, even though the list price (\$200) is not, when judged by the complexity of the software, unreasonable, it is high enough to be a deterrent. What I mean by this is that while many people I know are willing to gamble \$75 or \$100 on software they're not entirely sure they need, they will not gamble \$200.

ALTERNATIVES TO THE EQUALIZER

In a way, there is no directly equivalent alternative that I know of. No software package for the Apple // family at least sufficiently integrates and automates data base and communication functions in the specialized formats appropriate to securities trading. That's not to say that you couldn't set up AppleWorks or SuperCalc 3a, for example, to do the record-keeping and data manipulation, and write AE-Pro macros to automate on-line trading. Well, actually you can't do the latter because Schwab does not provide the information necessary to access their computers except buried within The Equalizer's code.

Very conveniently, the December 1985 issue of CompuServe's ONLINE TODAY magazine focused on "online brokerage and banking", of course limited to those services available via CompuServe. I refer you to that magazine for a description of Quick and Reilly's "Quick Way" service. It's kind of interesting... Schwab and Q&R are the two largest discount brokerages, and both are offering services which are functionally similar, but implemented very differently. Quick Way is available on CompuServe (GO QWK). It allows you to enter orders, send mail, maintain portfolio and tax records. The disadvantage relative to The Equalizer is that CompuServe, not your computer and disks, maintains the data base. (But, is that really a disadvantage, considering that The Equalizer's data is not transferrable to any other application anyway...?) QuickWay involves a surcharge over and above CompuServe's on line charges, and there are both sign up and annual fees. It's difficult to make a cost comparison between these two approaches.

Electronic trading is available via The Source as well. In addition, Max Ule provides a free-of-charge quotation and order placement service at 300 baud, however available only after hours for next day execution. With the possible exception of persons with unusual schedules, or who cannot telephone a broker during the day, I just don't see the value of "electronic" order placement for next day execution (though it might be "fun" to try once or twice).

contd. on pg 68

THE REM-ARKABLE REM

by Gary Hayman

The REM statement is a REMarkable and highly valuable tool. You can use it in your programs, not only to provide comments explaining what is happening in a line statement, identifying your variables, showing where the program is branching to, but also as a technique to provide program identification, titles, divisions/sub-divisions, comments, credits, and even insert a little art in your listings. If you ever have tried to read someone's program, you probably have thanked them immensely if they include the REMs. How many of you have tried to read your own program at a later time, realizing that you don't know what's going on and wishing you were sage enough to have included your REMs the first time around.

Some of us, knowing how to use the statement, just plug it in without attention to its possible AESTHETIC PRESENTATION. This discussion is pointed to the REM statement that occupies an entire program line by itself, not the one that you attached to the end of a program line - that will be covered in a later discussion.

The purpose of this article is to help you understand REMs, make your REM statements neater and give you one or two other ideas of how to use them. You might think of presenting your REMs as you would present a fine bottle of wine - with class.

SINGLE LINE REMS

Suppose we wanted to insert a single line REM into a program. Let's learn by doing. Go to the computer, Boot DOS (I use 3.3 myself) and type the following (just a reminder that a RETURN <CR> does not appear here but it IS to be typed at the end of each line):

```
NEW
20 REM FIRST FORMULA
30 CT= 21 - LEN AS / 2
40 REM NEXT FORMULA
50 RN = INT(RND(1) * 100) + 1
```

Now LIST this program. Notice how it is slightly difficult to read the REM statements. For better eye appeal they need to be set apart from the program slightly. Add this to the program then LIST.

```
21 REM
22 REM
31 REM
32 REM
41 REM
42 REM
```

Now see how the REM statements are set apart from the rest of the program. Don't you see how your eyes are quickly attracted to the "worded" REM statements. Already we have an improvement - there are better ones to come.

Insert this into the existing program:

```
18 REM***** (18 "*" )
19 REM* *
20 REM* FIRST FORMULA *
```

```
21 REM* *
22 REM*****
```

Now LIST it. Notice how nice the statement is set off. You might use this for a title to your program contained in an attractive looking box, or perhaps to mark where a subroutine or an important part of your program begins. You could actually put much information, such as copyright, author, dates, etc. and it would stand out impressively.

If you don't want the sides of the box then just eliminate the "*" in line 20 and also type:

```
19 REM
21 REM
```

HURRAY FOR CONTROL-J

A couple of examples ago we used a bunch of blank REM statements to provide room around a worded REM statement of interest. There is an easier way of doing this. Let's use the Control-J -- <CTRL-J>, made by holding down the CTRL key while typing a "J" - you knew that, didn't you?

Type this (some spaces left out on purpose):

```
NEW
10 REMTHIS IS LINE NUMBER ONE
20 REMTHIS IS LINE NUMBER TWO
30 REM<CTRL-J><CTRL-J>THIS IS LINE
NUMBER THREE<CTRL-J><CTRL-J>
40 REMTHIS IS LINE NUMBER FOUR
50 REMTHIS IS LINE NUMBER FIVE
```

Now LIST. Notice how line number 30 stands out. The two <CTRL-J>s before and after the comment cause the computer to do a line feed (that is what a <CTRL-J> is), thus causing the comment to be nicely separated from the rest of the pack. Let me predict that if you are not using this technique now, you will soon find it fantastically useful to you in the future.

Let's say that you are writing a program which will use various subroutines. You like to place your subroutines starting with lines 1000 and above. If the first line of your subroutine is a REM (single line type) and contains <CTRL-J>s before and after the comment to set it apart, you will be able to easily find it during a LIST. On the quickly scrolling screen, it stands out because of the space around it. Likewise, when listed to the printer, your eyes find it easily.

Try this (type exactly - don't include any extra spaces):

```
NEW
1000REM<CTRL-J><CTRL-J>SUB TITLE
CENTER<CTRL-J><CTRL-J>
2000REM<CTRL-J><CTRL-J>SUB WAIT
FOR KEY PRESS<CTRL-J><CTRL-J>
3000REM<CTRL-J><CTRL-J>SUB
GENERATE RANDOM NBR<CTRL-J>
<CTRL-J>
```

Now LIST this. Even with the addition of program lines between the above numbers the titles of the subroutines stand out.

contd.

NUMBER ONE ON MY LIST

Now here is a great use for this technique which will have you jumping up and down. The first line of my programs I number as "1" and include a REM statement identifying the program name (file name), such as:

```
1REM<CTRL-J>MY PROGRAM
      (the <CTRL-J> is important here)
```

Now whenever I want to do a SAVE, all I have to do is type LIST 1, type SAVE, (go into the ESCAPE-EDIT mode) press the <ESC> key then the "I" - 3 times - until the cursor is on the same level with the title, press <SPACE> (this exits the ESCAPE-EDIT mode), then press <REPT> while holding down the right arrow until the trace is through (COPY mode), then <RETURN>. The computer will do the SAVE beautifully. This technique is quicker than you may think and you never, never make a mistake in the spelling of your program and save a file with the wrong file name - will all those that have done that please raise your hands. I can feel the wind caused by all your lifting arms from here. This is especially handy if you are writing your program and saving as you go - you should, you know. It is also handy if your program name is something like - INT4ES7.BIG.SR. Those are the ones that you are bound to make errors with.

Repeating the technique:

```
type LIST 1
press <ESC>
raise cursor with multiple presses of "I" (3 if you
used only one <CTRL-J>)
press <SPACE>
copy title with <REPT> and right arrow
press <RETURN>
```

A limitation though. Your file name can't exceed 26 characters and spaces. Normal file names (DOS 3.3) are limited to 30 characters and spaces. Can you live with that?

I don't know if you noticed, but up until now I have been keeping the characters and spaces after the REM at a limit of 23 for a reason. But you say, "Hold-on pardner! Just look at line 3000, you have 27!" Well Tex, <CTRL-J>s don't count as a character when counting the numbers of spaces occupied on a line; after all, they do not move the cursor to the right - only down. They do count for something else. I'll tell you later on. The reason I alluded to the above is that on SINGLE LINE REMs there can only be a combination of 33 characters and spaces. Some of these spaces are taken up by the line number, some by two spaces after the line number, some by the characters REM and the space that follows it, and the remainder by the comment.

LEARNING ABOUT REMS

Let's do something else. Type:

```
NEW
1REM***** (put in at least 90
      "")(no spaces please)
10REM***** (ditto)
100REM***** (ditto)
1000REM***** (ditto)
10000REM***** (ditto)
```

You can, if you desire, use the <REPT> key plus the "" to add the 90 or so "". The exact number is not too important, however, don't go adding over 240 - there is a reason.

Later! Now LIST 1. Notice what has happened.

1. The line number has moved over one column to the left, to column 1 - where the cursor was.
2. There are now 2 spaces between the line number and the "R" - there was none before.
3. There is a space between the "M" and the first "*" - there was none before.
4. The first row contains 26 "*" - it starts in column 1. (This is the reason for the limit of 26 for my title save example that I presented earlier.)
5. The second and later rows start in column 6 - not in column 1.
6. The first, second and later rows stop in column 33. The first row contains 33 characters and spaces - including the line number.
7. The second and later rows contain up to 28 "*" - no more.

When you list 10, 100, 1000, and 10000 everything is the same except as each line number advances a magnitude, there is one less "*" on the first line only - the other lines stay the same - 28 "*". Remember the number 28. We are going to use it later.

MULTI-LINE REMS

You will find that there will be many times that you would like to include a stand-alone REM statement that may take up more than one line when listed. This is where the messiness usually occurs. I have seen words split in the middle carried over to the next line making a great program a little "eye sore", needlessly. Here is how to fix it so that your creative programs look beautiful too.

TRICKS AND TREATS

POKE 33,28 is your REMarkable trick. Remember that "28" that I asked you to keep in mind? Well, here it is. As you probably know, when you POKE 33 with a number between 1 and 40 - (DANGER, never above 40 or less than 1 or you might destroy your program) - you are effecting the width of the text window. The default setting is 40 in memory location 33. When you change the number contained in memory location 33 it sets the right margin a certain position away from the left margin. Your left margin is normally in column 1. You saw, when you ran the program with all the "*" that most of the listed lines contained 28 of them (Point - 7), while the first line of the listed REM statement contained 33 characters and spaces (Point - 6). Since the majority of our multi-line REM statements will contain 28 characters and spaces, let's make it easy on ourselves so we don't have to count too much and so that we can see our REM layout easily.

Type this (<CR> stands for carriage return. I mention it here to avoid confusion when you see the cursor jump to the next line early. Of course the other lines end in a <CR> too):

```
HOME
NEW
POKE 33,28
10000REMWATCH-THE-TESTING-OF-MY<CR>
```

Notice what happened when you reached the last "-", it started on the next line so that you had 3 characters appearing on the second line, i.e. "-MY". Now type TEXT (which can-

contd.

cels the POKE 33,28 and returns the text window to its default setting) and LIST. Observe, the line number shifted to the left, two spaces were inserted after the line number (one of these spaces created when the line number shifted to the left), one space was inserted after the REM, everything is on one line which, if you count, now contains 33 characters and spaces.

Now type this (be very careful and go slowly):

```
HOME
POKE 33,28
1000REWATCH-THE-TESTING-OF-MY
  (STOP! NO CARRIAGE RETURN)
  (when you get this far with three characters or
  spaces on the second line press <ESC>, press
  "M" once, press "J" three times, then press
  <SPACE>. What this does is move the cursor
  to the next line and places it in column 1.
  From now on, the remainder of the REM text
  will only contain 28 characters and spaces.
  CONTINUE TYPING)
NEW-SYSTEM-FOR-ENTERING-REM-
  (no <CR>'s until the end)
STATEMENTS-AND-HAVING-THEM--
LOOK-GREAT-ON-THE-SCREEN.<CR>
```

The "-" stand for spaces. I have put them in so that you can see that each line, other than the first and last, must have 28 positions occupied with SOMETHING.

Here is how it looks on the screen while you are typing it:

```
HOME
POKE 33,28
1000REWATCH-THE-TESTING-OF
-MY
NEW-SYSTEM-FOR-ENTERING-REM-
STATEMENTS-AND-HAVING-THEM--
LOOK-GREAT-ON-THE-SCREEN.
```

Now type TEXT to normalize it and then LIST and look at the great listing (we will still improve on it in a moment). Notice that from lines 2 down, what you see, when writing the statement, is what you get. You can actually design the appearance of your statements by adding spaces at appropriate places.

COOL RULE

Here are the rules for making a nice looking REM multi-line stand-alone long text comment:

1. POKE 33,28 to reduce the screen width.
2. Enter your line number followed by "REM", (no spaces after the REM) followed by your comment until the cursor reaches column 4 on the next line. If you have to, to prevent breaking of words in the middle from line to line, type spaces till you reach column 4. This means that you will have three characters, three characters and spaces, or three spaces standing by themselves on the second line of typing. EXACTLY THREE PLEASE!
3. Now press <ESC>, "M" once, "J" three times, and <SPACE> to move the cursor to the beginning of the third line.
4. Resume typing your REM statement making sure that there are no word breaks. If there are, back-up (use left arrow) to the end of the previous word and then type spaces until the

cursor reaches the first position on the next line.

5. When you are finished with the statement, type the normal <CR> and then TEXT to return to the default text screen mode.

That's all there is to it. It's easy once you have done it a couple of times.

PROMISED IMPROVEMENT

Let's put our friend <CTRL-J> to work for us in this example. Type this:

```
HOME
POKE 33,28
1000REM<CTRL-J><CTRL-J>WATCH-THE-
  TESTING-OF-MY <-- (use <ESC> technique
  here to get to the next line)
<CTRL-J>NEW-SYSTEM-FOR-ENTERING-REM-
<CTRL-J>STATEMENTS-AND-HAVING-THEM--
<CTRL-J>LOOK-GREAT-ON-THE-SCREEN.
<CTRL-J><CTRL-J><CR>
```

Now normalize by typing TEXT and LIST. Neat! Notice that the <CTRL-J>s don't show, they only moved each statement down a line or two - three or four or more, if you want. You can create a lot of eye catching white or black space, depending upon if you are viewing screen or paper, which make your REMs more readable. However some limitations do apply.

A BEEP FOR YOU

Just like your line statements, REM statements cannot include more than 255 characters, spaces and control characters. Although the <CTRL-J>s do not count when determining your individual line length, as you can see, they do count for the total length of your REM statement. Not to worry, your nice APPLE will beep at you if your statement is getting too long. The beeps start at the 248th character. Just end your statement at a convenient place. You may want to back up to the end of the previous line, and start a new REM statement on a new numbered line. You will probably get about 8+ lines of REM statements before the beeps begin.

ANOTHER TECHNIQUE

You will notice in the above technique, whether you use the <CTRL-J>s or not, when listed, the first line of the REM statement is indented from the following lines. If you desire to have an even left margin you can do this.

1. POKE 33,28
2. Enter your line number followed by "REM", (no spaces after the REM) followed by your comment until the cursor reaches column 4 of the next line. Then type spaces only until the cursor rests under the first character after the "M" in REM. Continue to type your lines of comments ENDING EACH IN COLUMN 3 AND RESUMING EACH WHERE THE SECOND LINE RESUMED - FILLING IN WITH THE NECESSARY SPACES. Don't permit words to break. Back up, if necessary, and use spaces as a fill as I described earlier.
3. End with a <CR> and type TEXT to normalize the window.

Although this technique will give you less available characters per line, the second and later lines will match the number of characters and spaces in the first line, you will have
contd.

an even left margin for your comments.

I would also recommend the use of the <CTRL-J> here too. It belongs after the "M" in REM and is repeated for each line in that same column.

THE UNEXPECTED BENNIE

When using the techniques above THAT INCLUDE the <CTRL-J>s, a very interesting thing takes place when you LIST to your printer. The comments are lined up to the left of the page.

Now, hold on to your hat. If you should adjust the left margin on your printer through your printer interface board, let's say 5 columns in, and do a listing - all program lines will start 5 columns in but YOUR REMS - where each line is preceded by a <CTRL-J> - WILL BE FLUSH TO THE LEFT OF THE PAGE. Wow! Does this really set the REMs apart from the pack and allows you to find things in a hurry.

You may ask, how do you do this? I respond - read your printer interface manual for exact directions. I'll tell you how I do it. I turn on the printer through the interface card (I own a Grappler +) with a PR#1. Then I send a <CTRL-I>"5L" from the keyboard. Then, I LIST.

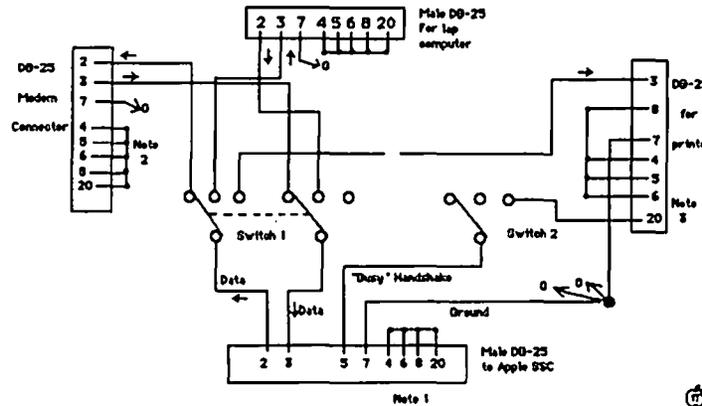
THE END REM

Well, that's enough for now. Experiment with this and I am sure that you will have some REM-arkable REMs of which you will be proud.

Lap Computer contd. from pg 25

lid, etc. When my lap portable is home, in fact, I keep it plugged into a spare power pack (P.S. - the TI power packs (part # TI AC 9201) now being sold in many places for around \$3 are a perfect match for the lap computer) and the DB-25 from my switch box.

Next time, I'll give the details of a patch to CP/M that lets you use the lap portable as an external keyboard, for example with Wordstar. I encourage readers to leave comments or questions on this series on the WAP bulletin boards, by mail, or in person at the meetings.



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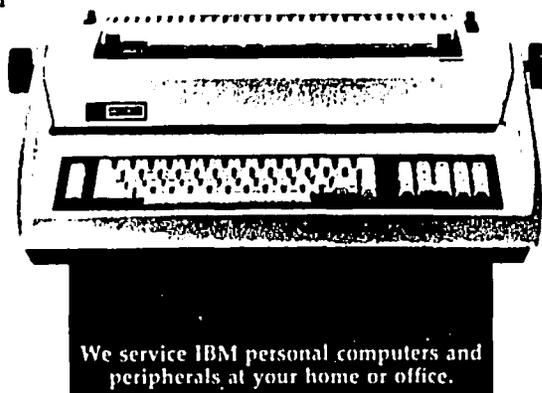
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DMP UTILITIES: A Review

by Mark Blass

Although I primarily write correspondence, I'm a stickler about the appearance of my printed output. I dislike the unesthetic, skimpy dot matrix characters which spew from most dot matrix printers.

Apple users who, like me, wish to improve the quality and flexibility of their printers should consider buying DMP Utilities from Vilberg Brothers Computing. I've been using DMP Utilities for almost a year and have found it to be a satisfactory solution to mundane copy.

At its most basic level, DMP Utilities is an easy-to-use font downloader which relieves the user from the onus of typing in long printer-control strings. But it is much more. DMP Utilities contains a character editor program with which the user can create either special characters or entire font-sets. Finally, the program has a utility that enables the user to convert hi-res character fonts into files that can be saved and downloaded to the printer.

DMP Utilities is DOS 3.3-based and supports the Apple DMP, Imagewriter I and II, and Epson FX and JX printers. My version (4.7) is specific to the Imagewriter and, although the Vilbergs no longer mention it in their advertising, it is a good idea to identify your printer when ordering DMP Utilities. My program manual specifies that the Apple Parallel Interface Card, Grappler+, Microtek (611, GX, and Dumpling GX) and Apple Super Serial Card are supported. The //c's built-in card is also supported. Again, if you're not certain about the compatibility of the current version, call the Vilbergs for advice. Finally, DMP Utilities will work equally well with either one or two disk drives.

DMP Utilities comes with a program disk, a data disk containing font sets, a 67-page manual, printed labels for a set of user-produced back-up disks and a small reference card which lists the character editor keystrokes. Both disks are unprotected. I personally feel an obligation to the Vilbergs for producing such a neat program and wouldn't think of letting my copy be pirated. Besides, the price is so reasonable for what you get (\$50 from the Vilbergs, less from some mail-order houses) that almost any aficionado can afford it.

DMP Utilities is completely menu-driven. A main menu is used to select one of three activities: printer setup, character font editing and hi-res font conversion as well as program termination. Sub-menus take the user easily through each of the program's modules. The Vilbergs have added a reassuring click to echo each menu keystroke.

The workhorse of DMP Utilities is the printer control module. On the Imagewriter the user can specify from menu: horizontal spacing (7 modes from 72 to 160 cpi), left margin, vertical spacing (2, 3, 4, 6 or 8 lpi), page length (dependent on the number of lpi), page skip (the amount of space at the bottom and top of pages), enhanced and/or expanded typefaces, uni- or bi-directional print head sweeps (unidirectional for more precise dot location), a choice of 6 alternate foreign language character sets and either one or two custom character sets from a data disk. If the primary character set characters

are not more than 8 dots wide, a second partial set can be loaded (ASCII 32 to 111). If only caps are required in the alternate set, the user can mix fonts within any word processor program that can send control characters from the keyboard. Favorite settings can be stored on a data disk for quicker setup.

The DMP Utilities font disk that accompanies the program contains 24 fonts, each of which is fully illustrated on a separate page of the manual. Included are a standard set that is a good basis for customizing, a computer-style font, Greek, italics, script, fat face, stencil, super and subscript fonts, plus three 16-dot wide fonts which are printed as proportional-2 and which give a tighter dot cluster.

After a font has been brought into memory and other menu selections made, it can be downloaded to the printer via menu commands. The user has the option of printing the entire font as it is being downloaded. The font then stays in the printer memory until the printer is turned off or a different font is downloaded.

If those 24 fonts aren't enough, the user can either convert hi-res fonts from other programs or create his own using DMP Utilities' other modules.

The conversion module allows the user to convert either Applesoft Toolkit or Higher Text][style fonts. I have converted 6 fonts from Penguin's Complete Graphics System small fonts disk, including Hebrew and Katakana. Once converted, these fonts can be stored on a data disk and accessed the same as the 16-dot fonts supplied by Vilberg Brothers.

Finally, the DMP Font Editor module allows the user to create either fixed or proportional width fonts or custom characters from 1 to 16 dots wide. Character sets can be created from scratch or existing fonts can be downloaded from disk and modified.

Editing is done on the Character Editor Screen. The upper left quadrant contains an editing box in which a large representation of the working character can be manipulated. The bottom half of the screen shows important editing keystrokes. The cursor can be controlled either by the arrow keys or the familiar I-J-K-M diamond. The O-<-N-U keys allow diagonal moves while the asterisk key or space bar toggles a dot on or off. Other keyboard commands allow the mass movement of all dots, screen blanking, test printing of a letter or disk loading/saving.

The DMP Utilities manual clearly discusses each feature of each module. It is, for the most part, well written, although Appendix B (Word Processors and DMP Fonts) is a bit foggy. Before I purchased the program I had telephoned the Vilbergs and one of the brothers patiently answered my questions. I suspect that they will give a reasonable amount of support to any purchaser in need of help.

I have used DMP Utilities with both Bank Street Writer and AppleWorks with no problems. It is easy to use and gives high value for the dollar. DMP Utilities, Vilberg Brothers Computing, Inc., 4201 Hegg Avenue, Madison, WI 53716, (608) 221-0842. ☺

SQUARE-ROOT ROUTINE FOR FORTH

by Chester H. Page

Most computation routines for engineering problems involve taking square roots at some stage. Even "trivial" problems like finding the time of fall of an object, the hypotenuse of a triangle, or the area of a triangle from the lengths of its sides, require square roots. We can, of course, use Floating-point FORTH, or BASIC (!), if we are desperate.

The simplest way to compute a square root is by Newton's iterative approach. Start with a "guess", divide it into the original number, average the quotient with the "guess", and repeat this cycle a number of times sufficient for the purpose at hand. In floating-point, the cycle can be repeated until the approximation (improved "guess") is as close to its previous value as desired. In integer arithmetic, we can continue until the approximation is within 1 of the quotient obtained when dividing for the next step. Even using 1 as the first guess will work, but can require a large number of successive approximations. We need a simple routine for obtaining a reasonable first guess.

The first procedure I tried for the initial approximation was to generate a sequence of test numbers by successively doubling them, comparing with successive halvings of the original number, and stopping when the numbers cross. Thus if the original number is 1500, the sequences are

1500	1
750	2
375	4
187	8
93	16
46	32
23	64

When these numbers cross, they cannot differ by more than a factor of 4, so each is within a factor of 2 of the desired root. The preceding operations are fast, and the resulting first approximation yields very rapid convergence in the Newton iteration.

Changing from a factor of 2 to a factor of 10 in getting the initial approximation roughly doubled the overall speed of the square-root operation. A rough series of tests indicated that 10 was about optimum, being faster than 5 and faster than 20.

Since the square of any number larger than 255 is above the range of single-precision numbers, the square-root routine must be double-precision to be of any interest. This will provide for taking roots of numbers up to 4E9 (4 followed by 9 zeros). Small numbers can be scaled by adding pairs of 0's to get full precision in the answer, which has been scaled by a factor of 10.

The required division operation will be division of an unsigned double-precision number by another unsigned double, giving an unsigned double quotient. This is analogous to dividing an unsigned single by another unsigned single, for which there is, surprisingly, no word in FIG-FORTH. The unsigned division is the mixed precision U/ with the stack effect (ud u>>>u1 u2). When we want

unsigned single-precision division, we have to create an operation as 0 SWAP U/ to convert the dividend to an unsigned double. A similar operation is needed in our case, with conversion of the dividend to unsigned quadruple precision number to allow use of UD/, and then discarding the double-precision remainder, keeping only the quadruple. With a double-precision vocabulary (see this Journal, Jan. 1986), we can use the following screen for the square root operation.

SCR # 1

```
0 \ SQUARE ROOT OF DOUBLE-PRECISION NUMBER
1 : UD/UD ( ud1 ud2—ud3) 0. 2SWAP UD/ 2SWAP 2DROP ;
2 : START# ( d1—d) \ get rough approximation to start iteration
3   1. BEGIN 2SWAP \ x(i) d(i)
4   10. UD/UD \ x(i) d(i)/10
5   2SWAP 10. D* \ d(i)/10 x(i)*10
6   2OVER 2OVER D< UNTIL \ repeat until d(i) < x(i)
7   2DROP ;
8 : ROOT ( d1—d) 2DUP START# \ d1 r(1)
9   BEGIN
10  2OVER 2OVER \ d1 r(i) d(i) r(i)
11  UD/UD \ d1 r(i) d(i)/r(i)
12  2OVER 2OVER D- DABS \ d1 r(i) d(i)/r(i) abs. difference
13  1. D> WHILE D+ 2. UD/UD/ \ d1 r(i+1)
14  REPEAT \ repeat while difference > 1
15  DMIN 2SWAP 2DROP ; \ retain INT(sq root of d1)
```

The root operation requires about .3 second; the following test took 29 seconds.

```
: TEST 100 0 DO 4.000000000 ROOT 2DROP LOOP ;
```

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BASIC -> PASCAL TRANSLATION: A Review

by Robert V. "Pete" Rusk

Back when the Earth was still molten I 'hired' an Apple][+ to help with my business bookkeeping. Applesoft, 48K RAM and disk drives were the hot new licks at the time, and spreadsheet was a household chore; so I rolled my own bookkeeping system in Applesoft BASIC.

Then came Pascal. "Oh boy!", I said, "Easy to edit! Overlay! Call-by-name!". Well, yes: but why mess with success? My bookkeeping system is a BIG wheel to re-invent, and it cripples along quite nicely, thank you. So When Woodchuck Industries advertised their P-TRAL BASIC to Pascal translator in the WAP Journal, I bought; and yes, Virginia, it (almost) does translate BASIC to Pascal. 'Almost' because you have to assist in the translation process and because all disk operations are left as an exercise for the student.

Translation is a multi-pass affair that requires operator attention and proceeds slowly enough that Woodchuck Industries and I recommend using a speed card and fast drive. The manual is complete, concise, and well written with just a trace of an English accent. Operation is easy enough that no further comment is needed here. Two versions of the non copy-protected programs are provided to accommodate 64K and 128K Apple][s. The price is right and the license agreement is very reasonable. Woodchuck has provided one update to my 'Pioneer' version free, and offers an upgrade to the professional edition for just \$25 Real Soon Now.

Having said that P-tral works at least as well as advertised and expected, however, does not tell the whole story because, depending on need, the underlying concept may be faulty. Can BASIC be (almost) automatically translated to Pascal?

Yes. The question is whether or not it should be done at all, and if so, for what reasons. This is because the best structured and elegant BASIC translates to Pascal source code that compiles and runs, but would drive Dr. Wirth or Dr. Wo to suicide. My BASIC becomes Pascal that is truly arcane and just as difficult to edit as BASIC.

If your goal is execution speed or the ability to keep source code confidential, consider an Applesoft compiler instead of P-tral. If you have a number of large stand-alone BASIC programs that you want to run under the Pascal operating system almost without further ado, buy P-tral, write your I/O routines and enjoy. For integrating a number of interlocking BASIC programs to take advantage of the power of Pascal and its operating system, P-tral is best considered a programmer's aid that can save a lot of typing and some skullsweat if it is used properly.

The correct procedure for attacking large interlocking programs is to begin by deciding how you want the final Pascal to look, and edit the BASIC into rough chunks that approximate the desired form including segments, inclusions, library functions, and overlaying. Then translate these chunks with P-tral and read through them to check your BASIC editing and Pascal planning. When you are happy with the program integration then use a P-tral translation as the basis for editing the Pascal program(s) into final form.

As for my bookkeeping system translation project, forget it. If anything, it is going to be translated to ProDOS because I have realized that the data structure is both wrong for Pascal and impossible on the Apple Pascal operating system. ☹

Washington Apple Pi Meeting Schedule Beginning in March

	9:00	9:30	11:00-11:15	12:45	2:00
Auditorium	Business Meeting	Apple II Program	Break	Macintosh Program	
Cafeteria		Macintosh Q&A Session and announcements	Break	Apple II Q&A Session and announcements	Special Interest Groups

Journal distribution and disk sales begin at 8:45 and go for as long as demand (and the supply of volunteers to handle the demand) permits.

BEST OF THE APPLE ITEMS FROM UBBS

by Euclid Coukouma

Recovering Lost Data

FROM ERIC RALL ON 01/05

Sometimes...just sometimes, it is possible to make a good copy of a ProDOS or DOS 3.3 disk that has an I/O error. If the I/O error is caused by a bad epilogue or checksum in the header, you can do the following:

- 1) Boot a DOS 3.3 System Master.
- 2) CALL-151
- 3) *B942:18
- 4) 3D0G
- 5) RUN COPYA

That should do it! Location \$B942 normally contains a \$38 which is a set carry. That's what picks up your error. If you insert a \$18 (clear carry) you've just told DOS 3.3 that everything is ok and it should ignore the error. The copy will not have the error that the original had. Of course, if the error was something more severe, then this won't work. But then again it doesn't hurt to try. Just remember to always write protect the original before attempting to copy it. That's just common sense and has nothing to do with the patch.

Hard Disk Partitons and ProDOS

FROM WALT MOSSBERG, ON 01/06 TO MIKE UNGERMAN

Backup // DOES allow restoring by volume into a new volume of different size. That wasn't my problem, as it turned out. Backup // worked just fine. My problem, I'm informed by First Class Peripherals, is that ProDOS can't handle unequal-sized large volumes on the same drive. Thus, I got the cataloging errors. It's a new ProDOS bug which FCP says they and Apple discovered in the past few weeks. The solution is to do still one more reformat, this time making the two volumes equal. I did it, and all is well. I now have two ProDOS volumes of 9072 blocks each instead of one at 9952 and one at 8192. All files are intact and each volume catalogs accurately and consistently. Incidentally, the new version of Copy][+ (6.0) worked perfectly through all of this as well. As for Pro-COPY, I'm through with it. Don't use it any more. Copy][+ is more powerfull, and hasn't any bugs that I can detect.

FROM LEE RAESLY ON 01/07 TO WALT MOSSBERG

Walt, I am also told that the Sider will work fine with one VERY large ProDOS disk, and the other the smallest possible. I have had no problem with this combination.

Franklin & ProDos

FROM MIKE UNGERMAN, ON 01/11 TO BRUCE FIELD/ALL

I saw your article on modifying the ROMs to get ProDOS up on a Franklin. Actually, a software patch is much easier to accomplish for the average user. The following patch was published in a letters column in A+ for ProDOS 1.0.1 It should be valid for 1.1.1 if you can find the offset for the same code. I haven't tried it on 1.1.1, but I helped a friend get it up on his Franklin. On the User's Disk, sector edit: Track \$1 Sector \$C Starting byte \$B4 from: \$AE B3 FB to: \$A2

EA EA. Track \$1 Sector \$9 Starting byte \$59 from: \$69 0B D0 03 to: \$69 0B EA EA. Once modified, this version of ProDOS can be transfered to any other disk. It would probably help to have the full parameters of where in the ProDOS image this is located, but "frankly" I took the easy way out...it works!

Copy][+ Bug -- WARNING!!!

FROM WALT MOSSBERG, ON 01/20 TO ALL

ATTENTION! URGENT WARNING! DO NOT use the "Alphabetize" function on the new version (6.0) of Copy][+! It contains a major bug that can screw up your directories now and into the future! (Attn: Mike Ungerma -- Incredibly, it's the same bug that ruined Pro-Copy). (Central Point is being informed of this.) Bugs were discovered. But for now, DO NOT Alphabetize your directories with Copy][+ (v.6). If you have already done so, you must copy all affected directories to a new volume, delete original, recreate directory file on volume where it was in first place, then copy all files back into recreated directory. Only alternative fix is to re-sort/ alphabetize all affected volumes and directories with an alphabetizer/sorter routine known to work right. Only one I know of is on a utility called "CAT.DOCTOR".

//e Duodisk

FROM TOM O'HAGAN, ON 01/18

I have a //e with the duodisk drives. Since last spring I have had a intermittent problem when I boot-up, format, or access a disk from within a program I will occasionally get a write protect or other error message. These messages are totally false. I get around it by leaving the disk drive "door" open and shutting after the head starts spinning. I have had the drives to Computer Age on Georgia Ave twice in early and late summer. First they adjusted the speed then they replaced the analog board for a total of \$117. Neither idea accomplished anything but a funds transfer from me to them. Does anyone have any ideas?

FROM BRETT PARKS, ON 01/20 TO TOM O'HAGAN

I had a problem that sounded like yours recently. Had a data disk for SuperCalc 3a that I could read with the old Apple drives, but not a new duo disk drive. Using a disk inspection program called "COPY II+ (v6.0)" on the duo-drive Apple, found that track 0, Sector FF would not validate. However, running the same program on the machine with the old Apple drives did not turn up a similar problem. Does sound like the duo-drives got a bug in 'em someplace, don't it? I solved the problem by saving the files I needed to a new disk.

FROM LEE RAESLY, ON 01/20 TO TOM O'HAGAN

Tom, when I first got my Apple, I had intermittent trouble with the drives not booting. I had an off-brand monitor (actually a cheap TV!) and had it placed on top of the drives. Several trips to the dealer did not help at all, as they worked perfectly there. Wrapping a piece of wood with 6-7 layers of aluminum foil and placing it between the drives and the monitor solved the problem.

contd.

II+/E IMeg Bd

FROM DOUGLAS E CANTON JR ON 01/08

The Apple upgradable memory board for the // series is shipping (Old news? If so just ignore). I spotted it at Computer Age with a sticker of 279 or something like that. I only wish products for the Mac would flow faster.

Ramworks

FROM JON CHURCH

I am having trouble using Ramworks with Modula-2. I have limited success using it as a ramdisk but what is particularly irksome is that the software sent with Ramworks will not change the root volume correctly. I would greatly appreciate any help.

FROM HENRY DUBESTER, ON 01/28

Have just recently installed Ramworks II from Applied Engineering, and have encountered the following problem when installing WordStar into Ram. WS.com and associated files needed to run Word Star are loaded into drive C: When I enter the WS command to run the program it loads fine, but when I change the logged drive to B: where I have my files, it first spins drive A: then B: and recognizes the original WS program in Drive A: and no longer needs to go to C: Has anyone encountered this problem, or have a solution?

FROM JOE ENGLAND, ON 01/29 TO HENRY DUBESTER

Henry, I believe that WS needs to be reinstalled to use drive C. Go to the menu of WordStar features part of the install program and tell it that the default drive for program files is C. Thereafter it should know where to find it.

Apple Flakes

FROM MIKE UNGERMAN, ON 01/11

So what do you do if your Apple goes flakey on you? Besides give up and take it off to the \$50 per hour folks. In my case, I had a][+ which had intermittent key operation, but no apparent problems with the key switches. After doing the remove the cards and clean the contacts trick, I decided to swap around some of the IC's. Being very careful to avoid static electricity, I got out my trusty jewelers screwdriver and swapped around chips of the same designation. This has some validity in that not all circuits on an IC are used by the circuits in the Apple. Many chips have multiple gates and logic circuits; not all in use by the Apple in the location they are installed. So by swapping, the problem will either go away, or move to the new location giving a different indication and identifying it as the culprit. In this evolution, the problem was gone, and much time in the shop and \$\$\$ were not spent! Happy swapping!

FROM TOM VIER, ON 01/13 TO MIKE UNGERMAN

Mike, sometimes all that is needed is to push all the chips down in their sockets without swapping. The thermal cycling and vibration will cause chips to creep out. I keep mine on all the time, but then my location doesn't have power failures or lightning strikes...

//c Clones

FROM ERIC RALL, ON 01/13

I received a flyer from Central Point Software for a Laser 128. They claim that the Laser 128 is compatible with all the

Apple software they tried including: PFS series, Appleworks, Prodos, Flight Simulator II, etc. This machine has all the standard //c features PLUS a parallel printer port, a numeric keypad, and 10 function keys. AND..... you get a standard Apple 50 pin expansion slot! The price indicated is \$395 (price does not include monitor). I called both Central Point and Applied Engineering. Central Point claimed that the Laser 128 is not compatible with RAMWORKS. Applied said they would contact Central Point to see if the Z-Ram would fit. AE also said that if the Z-Ram board would not fit they would consider modifying the board to fit the Laser 128. Central Point and AE promised to keep me informed.

FROM THERON FULLER, ON 01/22

Just talked to a friend who just found out from Applied Engineering that AE is coming out with an Apple //c clone for \$395. The AE clone will have 6 ports, or slots for expansion. Don't know any more than that right now.

Apple II vs IBM

FROM TOM O'HAGAN, ON 01/28

Thought I would try to get some dialog going over one of my pet complaints. Apple is always being put down compared to IBM and others. How much of this is the fault of the software houses who write 95%+ of their software to the lowest common denominator of 48K/64K Apples when there is a sizable base of //e-c Apples out there with 128K and if we add in all the Ramdrives which are not that much different than AST 6 PACK or Quad Boards, the software companies could really write some high powered programs. They just don't want to limit their market and the cat keeps chasing his tail. How many upgrades would there be if popular software was developed which required it? Any feedback?

FROM TOM VIER, ON 01/29

Part of the problem is that most software houses do not write vertical market applications for the Apple// line. Personally, I had to use an IBM-based program to do some printed circuit board artwork since nothing was available on the Apple // (yes, there are some for the Mac, but no Macs here at work). There's nothing like AutoCAD either. Sorry, but the Apple // is not taken seriously by the business community whether you or I like it or not.

FROM BRETT PARKS, ON 01/30 TO TOM O'HAGAN

I'm in a work environment here, and operate both with IBM and Apple equipment. For the most part, most folks here would normally prefer to use the Apple equipment, and do so, unless the software they must run is only offered in an IBM format. We also have some older CP/M machines that are still in use. I prefer the Apple myself, but it could be better. The 128K limit is really a farce, as this machine I'm on now is a 1 meg Apple. Now, if I could only get a Spreadsheet that would really use all that memory..... Or unprotected software that I could re-configure to use that memory as a fast disk drive. If I'm forced later to go to all IBM stuff here, it will be software, not hardware that will be the driving force behind the move.

FROM LEE RAESLY, ON 01/31 TO BRETT PARKS

Brett, The latest version of The Spreadsheet 2.0 will grab all memory from any 128K card, as well as from AE's RAMWORKS! I use it all the time. Lee..

contd.

Linefeed Stripper

FROM DAVE BETTWY, ON 01/30 TO ERNIE LANE

If you can save the downloaded file as a text file, then you can do what I do. I edit the file with my word processor, Apple Qriter, and do a global replace of all Control J's with nothing.

Cordless Phones

FROM DONALD KAHLER, ON 01/28

I have a Uniden 4000 cordless that works fine as a portable phone. I tried shutting off the power to the phone, shutting off the switch on the phone, trying different cable hook-ups, etc., and finally discovered that the portable phone had to be totally disconnected from the phone line before my modem would work at 2400 baud!

Dollars & Sense Upgrade

FROM ROBERT W. WOOD JR., ON 01/15

I recently upgraded my past Dollars & Sense Program (64K //e Version) to the newer (128K //c (or e)) version. The new version has several improvements/enhancements...

1. Ability to transfer data to AppleWorks (Via DIF).
2. Uses a 3.5 disk drive (boot from 5.25 with Program on 3.5).
3. New much nicer way to use something called descriptors (old automatic entry items).
4. Use of Apple Key (and use of Return vs "P" to accept).
5. Will interface with Moneylink (for electronic banking).
6. Can read older versions of data disks (made under old versions of the program).

Cost:\$34.95 (including S&H). Procedures: Send in all old program disks AND the documentation to include the binder. Send to: Monagram (ATTN: ROPD Department), 8295 La Cienega, Inglewood, CA 90301 (Tel (213) 215-0529)). They will accept VISA/MC.

Printing Messages

FROM GARY HAYMAN, ON 01/09 TO TOM VIER

Tom, reference printing out messages on the printer while you are online. With my terminal program I could save a multitude of files to disk, each as a separate file or with good engineering through the BBS, create one file and look at it later with a word processor. But suppose there are several messages on the board that I would like to respond to while posting a message. If I did what you suggested, I would have to log off, load my word processor, print the messages, and log back on to make my new message - hoping that I could get on. So now you know that sometimes there is a reason to have the printer on for brief periods to capture material for immediate reference. If there is something long, like something from the Library, one should use the capture buffer and save to disk for later processing.

Calling VA BBS (300 Baud) at 1200 Baud

FROM MATTHEW J. EGAN, ON 01/06

Once I read about the new Pi BBS in Great Falls I started trying to access it (since the Maryland numbers are long distance for me) but have failed miserably and totally. I have one of those DAK cheap modems (Prometheus clone) and hope I am not being punished for my being a skinflint. Here's what happens: When I dial the number, and presuming it's not busy, it rings; then my modem emits its normal high pitched tone, followed by the customary switch to an obnoxious squawk, but the squawk never ends, just keeps on going (no wonder DAK calls it a "Duck") until I get tired of it

contd. on pg 40

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]] IN A MAC (The Apple][+ Rides Again!)

by Lawrence Husick

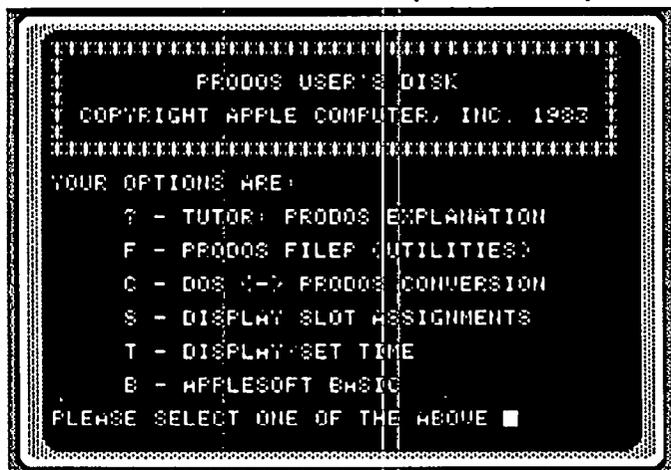
As a long-time owner of an Apple][+, and a recent purchaser of an Apple //c, I was overjoyed to read in a recent issue of *MacUser* about a program which would permit me to run my Apple][programs on my 512K Macintosh.

]] in a Mac, by Computer Applications, Inc. of Raleigh, NC is a well-crafted program which magically transforms my sleek, user-friendly Macintosh into a warm-hearted, familiar Apple][+. The screen even looks like an entire well equipped computer desk for my old Apple.

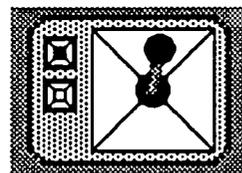


]] in a Mac Apple][Keyboard

File Edit Disks Options Help



The]] in a Mac Screen and Menu Bar



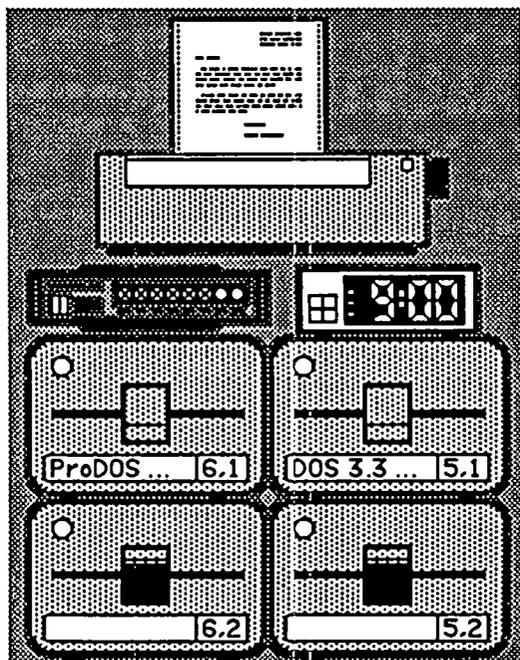
]] in a Mac Joystick (Mouse Controlled)

In addition to four simulated 5.25" floppy disk drives (each is a 146K file on a Mac disk), and a keyboard on-screen (which can be used instead of the Mac's keyboard, though I can't image wanting to), the simulation has a joystick/mouse, annunciator lights, a clock, and a full ports. The port assignments are:



Inside]] in a Mac

- Slot 1 - Printer Card
- Slot 2 - Modem Card
- Slot 3 - 80 Column Card
- Slot 4 - Clock Card
- Slot 5 - Disk Drive
- Slot 6 - Disk Drive
- Slot 7 - DOS RAM-Disk
ProDOS RAM-Disk



]] in a Mac Hardware (on-screen)

The cards are emulations of common ones for the Apple][, including a parallel card for the printer, a communication card for the modem, a Videx VideoTerm for the 80 column card, and a ThunderClock.

Operation

Working the Apple][emulation is as easy as operating a "real" Apple. Perhaps it is really easier, since the Mac desk accessories, "Cut & Paste", and other functions still work, even in Apple][mode. In addition, few people have 4 disk drives, a clock, a serial card, a parallel card, and all of the other features of]] in a Mac. An example of the ease of operation is the loading of the simulated disk drives. The menu says it all:

contd.

Disks

-  Remove disk from Slot 6, Drive 1
-  Insert a disk into Slot 6, Drive 2...
-  Remove disk from Slot 5, Drive 1
-  Insert a disk into Slot 5, Drive 2...



Create an Apple][diskette...

The only difficulty in operation of the program is in the startup phase. Because the master disk is copy-protected, and is a "key disk", it must be inserted in the drive every time][in a Mac is started. This is more than inconvenient, it is, in my opinion, irresponsible of the manufacturer to have this protection scheme. At least the scheme permits a "backup" to be made, but this backup will not run without the original disk, thus rendering it all but useless.

The package also includes an Apple][utility which transfers disks by a cable between the Apple][and the Mac. This utility, while easy to use, proved entirely unreliable in operation. In 4 tries, it failed to correctly transfer a ProDOS disk to the Mac. Luckily, another supplied utility allows conversion of Macintosh files to the][in a Mac format, so that I could use Red Ryder to transfer the files, and the import them to][in a Mac.

Performance

The emulation seemingly runs all "well behaved" Apple software (that which does not use the old NMOS 6502 undocumented OpCodes). This includes Applesoft BASIC, Integer BASIC, and machine language, under DOS 3.3 and ProDOS. For example, the PHONE LIST program from the DOS System Master disk ran without a hitch:

```
⌘ File Edit Disks Options Help
APPLE COMPUTER, INC. PHONE LIST
PROGRAM CURRENTLY CONTAINS 0 LISTINGS
ROOM FOR 150 ADDITIONAL LISTINGS
THE PRINTER IS OFF
YOU MAY CHOOSE FROM THE FOLLOWING:

1 SEARCH FOR A LISTING
2 LIST THE ENTIRE FILE
3 ENTER NEW LISTINGS
4 DELETE A LISTING
5 PRINT A LISTING
6 PRINTER ON/OFF
7 EXIT THIS PROGRAM

WHICH: █
```

The manual (45 pages and reasonably complete), claims that the emulation runs at "35 - 40%" of the speed of a real Apple][. During Benchmark tests, the actual performance of compute-bound tasks was within this range, while I/O-bound tasks ran at about 28% of real Apple speed. However, speed is not a real issue in the program since you can always use an Apple][for "full speed" applications.

A real value of the program is the ability to learn to program in Applesoft BASIC, Integer BASIC, and 6502 assembler. For less than the price of MicroSoft BASIC, you get two BASICs, and a lot of fun. All in all, not a bad deal.

In addition to the Master disks and utility disk provided with the package, the producer advertises that there are 5 public domain disks of Apple software available for \$9.95 each, or all 5 for \$44.75. If many members of SigMac were to purchase the emulator (a group buy?), then the WAP library could be transferred to Mac disks. The wealth of Apple][software would then be available to the "Mouse Crowd".

Information

][in a Mac, by COMPUTER: Applications, Inc., 12813 Lindley Drive, Raleigh, NC 27614 (919) 846-1411.

Emulates Apple][+ 64K, Parallel Card, Serial Card, Clock, 4 disk drives, RAM disk on a 512K Macintosh. ☺

A Friend in Need by Steven Brecher

Laura Smith, manager of MacTutor Magazine (and wife of publisher/editor Dave Smith) called me this morning to ask about submission of my column. As usual, I asked what the absolute latest deadline was. She said, in an unsteady voice that suggested tearful determination, that they'd had a "set-back": their office was burglarized last night and all their equipment, software, submissions -- everything -- was taken. (For those who don't know, MacTutor is a Macintosh programming journal.)

Laura said the next issue of the magazine might be late by a week or two.

The shock and bravery in her voice really affected me; she is one of those rare people whose purity of spirit and goodness strike one anew each time one meets her. She and Dave, who quit his job last year to spend full time nurturing what was then a tiny magazine, have worked night and day and have succeeded in making MacTutor an important resource of the Mac community. Their dedication has been and continues to be a labor of love for the potential of the Macintosh and an instance of the best kind of entrepreneurial spirit.

I'm sure Laura and Dave and those who work with them will overcome this setback. If you have a subscription, I'd suggest that now would be a good time to extend it. If you've been thinking of subscribing, now would be a good time to send in your subscription. It is what I know of Laura and Dave and what I heard in Laura's voice this morning, rather than my association as columnist, that leads me to make this suggestion. MacTutor, \$30/yr, P.O. Box 846, Placentia, CA, 92670.

(From MAUG™, 30-JAN-86. Reprinted with permission.) ☺

SIGMAC NEWS

by Brooks Leffler



Mac Section

Desktop publishing using all sorts of Apples was the topic for the joint meeting of SigMac with Mother WAP on January 25. Topics of club-wide interest are covered elsewhere in this issue; this report deals only with the presentations on desktop publishing for the Macintosh.

Bernie Urban had rounded up a group of publishers and suppliers, each of whom use or sell different software to accomplish similar ends. Each described his software from his vantage point.

Paul Funk showed a set of templates and generic graphics he has devised to use in the creation of inexpensive but attractive newsletters using only *MacWrite*, *MacPaint*, and the *Imagewriter*. He has packaged them under the title *Newsltr*, which he markets privately at \$29.95.

"About 80% of all news is predictable, and can be planned for," says Paul. His material includes layout templates, mast-head ideas, art for regular column heads, postal indicia formats, "thought starters", and guidelines for folding self-mailers. He moves all elements into *MacPaint* so that the whole publication prints with the same quality.

Leon Moore uses Microsoft *Word* to publish *Velo-Voice*, an 8-16 page bicycle racing club paper issued 10 times a year. The windowing and columnizing features of *Word* make it ideal for Leon's publication, which is mostly type with few graphics and a minimum of pasteup.

Leon has found that by using the "Tall Adjusted" page setup and *LaserWriter* fonts, he can approximate the finished laserwritten product on his *Imagewriter*. On-screen and IW quality is not as good as with IW fonts, but spacing and proportions are very close to LW output, so layout is much easier. He suggests *The Printed Word* from Microsoft Press as a valuable reference for anyone publishing and using this software.

Jim Graham uses *ReadySetGo* from Manhattan Graphics to publish a booster letter for the Woodbridge High School Band. Jim described the creation of the newsletter in this journal several months ago. At the meeting, he chose to demonstrate the workings of *RSG* instead of repeating himself, replicating an item from last month's journal, Dave Morganstein's article on *Excel*, which Dave created using *MacPublisher* and Bernie actually published using *PageMaker*. Jim showed that *RSG* could create a pretty good replica of Bernie's journal layout.

Jim's view of *RSG*: For the money (about \$65 from the discount houses), it's an excellent and satisfying program; while there are still some problems in version 2.0, they aren't debilitating. The software requires a 512K Mac and has a 32-page limit.

Dave Morganstein had been asked to discuss/ demonstrate his use of *MacPublisher* in preparing the same journal article, but decided he didn't like the article, so made no presentation except to point out that version 2 of *MacPub*, due out last fall, should be released this February. It requires only 128K, has a 96-page capacity, and has both automatic save and auto

pagination.

Bernie Urban rushed in where Dave hesitated, and demonstrated the layout of Dave's article using the high-priced (\$400+) spread, Aldus' *PageMaker*. This program is loaded with features which make layout easy and flexible, but unlike those discussed previously, this one doesn't have word-processing capability, working instead with text files imported from other software.

Bernie pointed out that he doesn't use the 16-page capacity of the software because of the erratic flow of material from contributors; rather, he sets up the journal one article at a time.

Finally, Jay Condren from Allied Linotype discussed the recently announced *Linotronic 100* package, combining Mac software with a 1200-dot laser printer to provide high quality, high speed text, graphics, and composition, at a cost of \$37,500!

One unique feature of this package is the way in which three levels of speed/quality are accommodated: each drop in quality simply skips more dots in the 1200-dot matrix, instead of using a coarser matrix. Draft quality, for example, prints only every fourth dot. While the *Linotronic* system was developed primarily for the printing industry, soon it will be possible for Mac users to have *Linotronic* prints made from disk. A list of printers equipped to provide such service will be forthcoming. ☺

Best of Apple BBS contd. from pg 37

and break the connection. Is there perchance something special about the VA BBS - is it maybe broken - or have I happened upon some deficiency in a modem that seems otherwise to be performing admirably?

FROM TOM VIER, ON 01/08

Matt, the Great Falls Pi Board is 300 baud only. You have to switch your communications program to 300 baud BEFORE sending the ATD string to the modem! This will cause the modem to originate the call at 300 baud. If you talk to the modem at 1200 baud, it will originate the call for 1200 baud. Originating modems DO NOT adjust their speed, the ANSWERING modem does this (if it can). If both tried switching, they'd be fighting back and forth all day. So there is nothing wrong with your modem. ☺

MAC Q & A

by Jonathan E. Hardis

Q: How do I get a copy of *Inside Macintosh*?

A: The "final" version has been published by Addison-Wesley. You can get it at area bookstores, such as the (University of) Maryland Book Exchange and B. Dalton, or call 617-944-8660 for phone orders. The three volume paperback set costs about \$70, and the hardbound coffee-table edition goes for about \$80. Note that the information in this version does not include information on the Mac+. A fourth volume may be published. In the mean time, read the Macintosh Technical Notes. (To order at other bookstores, the ISBNs for the three volume set are 0-201-17731-5, 0-201-17732-3, & 0-201-17733-1. The hardbound edition is 0-201-17737-4.)

Q: How do I get the Technical Notes?

A: You can subscribe to paper copies for a year by sending \$25 to Macintosh Technical Notes, Apple Computer, Inc., 20525 Mariani Avenue MS3-T, Cupertino, CA 95014. Apple encourages user groups to distribute them, too, as long as no money changes hands in the process. We will coordinate distribution through the Thursday SIGMac programmers' group.

Q: What new features does the Macintosh-Plus have?

A: A new 128K ROM, 800K internal disk drive, 1M of RAM, expandable to 4M, a SCSI (Small Computer Systems Interface) port on the back, a new style keyboard, and different serial port connections. The new system software includes automatic disk caching (you don't need Turbo-Charger or MacBooster any more). Also, the Control Panel desk accessory was redesigned, the new Key Caps DA now adapts to the different keyboards and fonts (finally, there is a "new Key Caps" that works well!), and a new Chooser DA better selects printers and deals with AppleTalk.

Q: What's in the new ROMs?

A: From Tech Note 57: A faster Resource Manager. Future applications have a new technique to be able to start running in a hurry. Commonly used resources are now in ROM, instead of in the System file. There are new calls to allow programs to look for resources faster. Quick-draw was optimized for speed rather than for space. (The old ROM was cramped.) Some primitives run 2-3 times faster than before. (On the other hand, the WAP contingent at AppleWorld Expo found that some primitives run slower!) Bugs were fixed. Fractional pixel widths are defined for fonts to allow you to draw Laser fonts on the screen better. Text written in color is handled better. And a new font numbering system allows for more fonts. MacPaint's bucket and lasso functions are now in ROM, so other programs can use them easily.

There is a "zoom box" feature for windows, similar to the "close box" feature, that allows a window to grow to full screen. This should be the new, standard way of doing so, replacing double-clicking in the title bar. Menus that would have gone below the bottom of the screen now scroll. There is a new math package for fixed point fractions. Previous math packages are now in

ROM, too. There is also a floating point string conversion package.

The new Hierarchical File System (HFS), as well as the old (MFS), and their Open and Close dialog routines, are now in ROM. There is a SCSI port Manager. You can now abort disk swapping with Command-period. The Memory Manager is revised to add speed and more features. There is a standard List Manager, for selecting some things out of lists.

The idea is that programs should check to see if they are running with the new ROMs or the old. (Address \$28E has \$FFFF for the old roms, \$7FFF for the new.) If you have an old ROM, they should take that into account and still function normally. Finder 5.1 is such a program.

Q: Is the Finder in ROM now?

A: No.

Q: Does the Macintosh Plus have a fan?

A: No.

Q: Is Steve Job's name still inside of the back cover?

A: Yes.

Q: Is the Mac+ an interim machine? I'd hate to buy it if it will be made obsolete in six months by a super 68020, slotted, color Mac.

A: For the time being, the Mac+ is Apple's \$2500 machine (in round numbers), and the 512K Mac is Apple's \$2000 machine. I think in 9-12 months, the 1M Mac+ will be the \$2000 machine, and the 4M Mac+ will be the \$2500 machine. With the XL, Apple discovered a market niche for a \$5000 machine. And you are right, it will be a lot fancier, whatever it looks like, than the Mac+.

If the Mac+ does what you want a computer to do, you can buy it with the insight that Apple has, in the past, kept new models around for about two years. If you really want color and want a machine that compares with a Sun or a micro-Vax II (larger and faster machines than a Mac), Apple may have such a product later. It will not compete directly against the Mac+.

Q: Will the 512K Macs come with the new ROMs and the 800K internal disk drive?

A: Not for a while, if ever. For now, they are selling off old stock. Later, they may build more. When that happens, I would expect them to use the newer parts, though that isn't guaranteed. It's clear that if money is no problem, you should get the new model. (It will cost just about as much extra to upgrade later.)

Q: What upgrade paths are available?

A: There are three upgrades offered to owners of older machines. You can get just the new ROM and 800K internal disk drive for about \$300 (list). There are no restrictions on who might buy this. Additionally, you can get the new Mac+ motherboard (with 1M of RAM and the SCSI interface) for about \$600 if you have an

contd.

Apple 512K motherboard. Those with 128K models, third party, or do-it-yourself memory upgrades will be charged about \$800. The latter comes with a new back section of the case. The new keyboard is a separate, user installed item. (No more external keypads, included in the new keyboard, are being made.)

Q: How can Apple do this to us! I can't afford this upgrade!

A: Then don't get it. If your present machine suits your needs, or if you just use it for a hobby, there is no requirement that you buy anything else. The 512K Macintosh will continue to be supported. And as always, you can expect the price of the upgrade to be reduced in 6-12 months.

Q: I have a 128K Mac, and I was hoping to upgrade to 512K after the January announcements. What about me?

A: The 512K motherboards are now out of production, at least until the buying surge of Mac+'s and upgrades is over with. Some new 512K upgrade boards remain in dealer stock. You have to hunt for them.

Alternatively, try this. Dealers will be collecting used 512K boards as their owners get Mac+ upgrades. Since the extra cost for a Mac+ upgrade to a 128K owner is \$200, try offering your dealer \$200-250 for a used 512K board. He can run diagnostics on it before you take it home, and you can ask for the "pick of the litter". If he's on the ball, you can also agree on a private warranty. They can swap another used 512K board if yours fails within an agreed upon period of time.

Q: What if I recently bought a Mac or an Apple upgrade?

A: A rebate is in effect, until May 15, if you bought either product between Nov 17 and Jan 15. The rebate is for buying additional upgrades, not for what you've already purchased. You can get \$150 back from Apple if you buy the \$300 ROM/Disk upgrade kit, and \$300 back from Apple if you buy the \$600 Mac+ motherboard kit. If you bought either the 512K Mac or the 512K upgrade kit after Jan 15 and paid the old price for it, I'd kick up a fuss to try to get the rebate rights, too, if not an outright refund.

Q: What are the details on the new XLisa upgrade (downgrade?), trade-in program?

A: There's a lot of confusion on this now. The only thing for sure seems to be the effective dates, which will be April 15 through August 31.

Q: Is all software upwardly compatible to the Mac+?

A: There are still problems in that not all old software works with the new Hierarchical File System. However, they should still work if you run them using 400K (One-sided) disks. Other than that, the only problem case I've heard of so far is Red Ryder, which is said to hit a bug in the new ROM. The next version should work around it. (Additionally, Red Ryder version 7.0 now has a confirmed bug in the XModem routine. Scott promises to fix it in version 8, which he says will have lots of new stuff.)

While not a problem with the Mac+ as such, Finder 5.1 requires applications to follow certain rules that were

not enforced in the past. If the application's Finder resources are numbered wrongly, the Finder will get very confused and do strange things, even bomb. This is most likely to be a problem on hard disks, where large numbers of applications have to coexist correctly. I don't know which are the culprit applications, yet. But I'll mention them, and patches you can apply to them, as I find out. It's always wise to make frequent backups!

Q: Why are MacPaint and MacWrite now sold separately?

A: Other companies wanted a piece of the action. Microsoft, for example, has a special promotional package of Word which can only be bundled with the Mac+. (The dealer cost is \$50.) Apple felt that the old system was discouraging people from writing new and better word processing programs. Expect to see additional MacPaint-like programs, too. On one hand, this may lead to the Great American Word Processor that the Mac now lacks. On the other hand, we may lose the sense of commonality that MacPaint and MacWrite have given us.

Q: Are 400K external drives still available?

A: Only as stock on hand. Apple is only shipping 800K capacity external drives now.

Q: Can I upgrade my 400K external drive?

A: Apple sent out mixed signals at the beginning. But the answer at least for now is no. They expect you to buy a new 800K external drive instead (\$375 at 25% off of list) and recoup some of the price by selling your 400K drive. However, I predict that within 9-12 months Apple will offer such an upgrade, once dealers are over the crunch of Mac logic board upgrades and once sales slow on the more profitable products that use the 800K mechanisms.

In fact, you can do the upgrade yourself. I did, for about \$250. I've yet to verify (as of press time) that the device works on a Mac+. But if I do, I'll write up the details for a future Journal.

Q: How do I use an Apple 800K external disk drive on my old Macintosh?

A: If you have only 128K of RAM, you can't. (At least, it is "not recommended".) If you have a 512K machine, see your dealer and ask to copy the "Macintosh™ System Update" disk that came with his January 16 AppleGram. The disk contains System version 3.0, Finder 5.1, and the HD-20 (HFS) patches. If you boot your machine with it (from the internal drive!), you will be able to use the external drive, too.

Apple instructs you to copy the System, Finder, and HD20 files from this disk to any other application disks you want to use with the external drive. Of course, you'll lose your fonts, Desk Accessories, and installed hard disk drivers, so you'll have to recreate the System as you like it. The new files are not guaranteed to fit on all old disks, and you may disrupt someone's brilliant copy protection scheme. So, back up everything very well before you try it, and allow plenty of time for experimenting.

Note: If you only plan to use the 800K external drive to read and write One-Sided (400K) disks, you likely won't need to copy any files. Just boot with the special disk, and go about your business with your old disks.

Note: "Two-Sided" (800K) floppy disks use HFS, the

contd.

new file system. For a discussion of software that has problems with it, see page 58 of the February Journal as well as the Mac Q&A column.

Note: If you try real hard, and I won't tell you how, you can format an 800K disk with the old MFS. This is not recommended!

Q: Does this mean that I can use Finder 5.1 on a 512K Mac?

A: Yes. Finder 5.1, System 3.0, ImageWriter 2.1, and Font/DA Mover 3.0 are now the "official" versions for both the 512K Mac and the Mac+. You don't have to use them, and my advice is: if it isn't broken, don't fix it. But if you insist on being a pioneer, install them all together! (Note that the external drive update disk does not contain any Imagewriter driver. You'll have to scrounge for that, separately.) 128K owners are about to be squeezed, since new software is supposed to be released with this configuration. Be very cautious about using this new software along with hard disks that don't support HFS (yet), such as the HyperDrive.

Warning: Only Font/DA Mover 3.0 knows about the new Font resources for the new, enhanced font manager. Do not use the older versions on any new System file, and change over to version 3.0 as soon as possible.

Q: Can I use "single sided" disks in the 800K disk drives?

A: Yes, all disk drives will read and write single sided disks. The issue becomes clouded when you ask if you can format "single sided" disks on both sides. In most cases, you can at least try to. I've heard that some brands have notches in the plastic to prevent it, but I haven't come across any, yet.

But, in no uncertain terms, Apple says in the Mac+ manual that you will regret the day you did so when you lose all of your data. At least for now, I disagree. Single sided disks may only be inspected at the factory on one side, and you have no claim against the company if the second side (the top side) is bad. But the best inspection of a disk is done by the read/write head in your disk drive. If it successfully formats, it works!

Unlike other floppy disks, the 3 1/2" disks can never be inserted upside down. The danger with the bigger ones was that the pressure pad opposite the read/write head would scratch the "bad" side. When you turned the disk over, the "good" side could get scratched as well. (In the same vein, your old 3 1/2" disks may have a scratched "bad side", but new ones should be in better shape.)

All floppy disks wear out, and you always risk losing your data on them. Double sided disks should be expected to fail twice as often as single sided disks. There are twice as many sectors, and one bad sector kills the whole disk. (Indeed, I've found that about twice as many "single sided" disks fail to format on both sides (1 in 15-20) as on one side. So far, one 1 out of 6 true "double sided" disks have failed to format for me, too.)

ALWAYS keep adequate backup copies of all your important files. If you can't recover it, you didn't need it.

By the way, the office sells real double sided disks in bulk for \$2.10 each.

Q: Do third party 800K drives work on the Mac+?

A: I've personally seen the Mirror Magnum work. Larry Moss of Haba confirms that their drive will work, also. I don't know if these brands use the new and faster method of built-in speed control that the Apple disk uses. By the way, if your Haba disk is too noisy, call Haba Customer Service. There is supposed to be a fix for the problem.

By the way again, I was wrong last month. Still only one disk at a time will spin.

Q: What are the connections to the Mac+ serial ports?

A: See the connector information elsewhere in this issue.

Q: What kind of connector is this funny 8-pin mini-DIN?

A: Hard to find! The 8-pin mini-DIN connector is now found on the serial ports of the Mac+, the ImageWriter II, and the Apple personal modem. You can call Jay Heller, who should have an ad in this issue. He makes cables to your specification. You can also buy an Apple dual mini-DIN cable (M0187), cut it in two, and add your own connectors to the fresh ends. The 8-pin to 9-pin adapter cable (P/N 699-0372) seems harder to find. H-B associates, 800-423-3014, is a source of the mini-DIN connector. Hoisden America (415) 322-5454, and Harbor Electronics (203) 438-9625, also supply cables.

Q: What adapter cables come with the Mac+?

A: None. But with the upgrade kit you are supposed to get *one* of the 8-pin to 9-pin adapter cables. A second one will cost extra. You might want to just replace the whole cable instead of buying an adapter.

Q: Is it true that the serial ports are losing their +5 and +12 volt power pins? And what does that mean?

A: Despite what I said at the meeting, yes, both the +5 and +12 volt connections are gone from the serial ports. (They are still found on the other ports, but be *very* cautious about drawing power from them. This is meant to be a hint - the additional features require more power.) This affects all peripherals that were powered by the Mac. Others, such as the MacBottom hard disk, sensed the power to tell when the Mac was turned on. Most MIDI interfaces (except Southworth's) used this power, as did Thunderscan. Thunderware will market an adapter accessory, getting power from a wall outlet, for about \$20. Other third party vendors will also make powered adapter accessories. Apple did add a DTR output signal line, which can be made to assert +12. Just don't try to draw any current from this connection!

PCPC is working on a software-only modification to the MacBottom to get around the change. And if you never sent in your MacBottom registration card to PCPC, do it NOW. If you never got one, call 800-MAC-BUTT and tell them who you are. They want you to get the new software with all the changes in it (including HFS, hopefully).

Q: How do I turn a 1M Mac+ into a 4M Mac+?

A: First the good news - it won't require a board swap. The bad news (well, bad only if you can't live without 4M of memory) is that Apple won't offer such an upgrade until the price of 1MByte SIM (Surface Inline Mount)

contd.

memory modules come down. (They are only available now in small quantity, at high expense.) These modules have eight of the new megabit chips mounted in one convenient package, and the packages (4 of them) fit in sockets on the Mac+ logic board. (Presently, the Mac+ has 256K SIM modules.) If you are an electronic hobbyist and want to be the first on your block to have a 4M Macintosh, you'll also have to change a strap on the logic board. It's unclear to me exactly how to do this. But if you want to experiment, remind yourself that it's meant to be easy enough for a dealer tech to do. (On a 1M machine, the memory image repeats four times because address bits 20 and 21 aren't tested. You have to make them significant, and also move the screen RAM from the first 1M bank of addresses to the fourth.)

Q: Will the Apple HD-20 hard disks now use the SCSI port or the disk drive port?

A: They will use the disk drive port, at least for the foreseeable future. (Ed. Note: Apple reps have stated that HD-20 hard disks are not upgradeable to the SCSI.) Andy Hertzfeld says that, all things considered, the difference in speed would be "less than a factor of two". Further, the SCSI port is "only slightly slower" than the Hyperdrive connection.

Q: How do the speeds of the new hard disks compare?

A: It's still a bit too soon to get a complete run down. The Hyperdrive Mac+ version and upgrade won't be out until around March (or so they say), and some of the others haven't hit market yet, either. But the Micah internal drive does do something better than a lot of the others. Most hard disks have a 2:1 interleave. That is, during reading and writing the disk controller will skip a sector in rotation for each one it reads or writes. This gives the computer time to process the data. The Micah is fast enough to use 1:1 interleaving. That is, no sectors are skipped in rotation. This makes the Micah drive communicate 2-4 times faster than a disk on Apple's SCSI port. It's reputed to be about 1/3 faster than AST's newly announced 74MB SCSI disk, which has the advantage of faster inter-track seeking.

Going back to the HyperDrive, the ROM update, required if you change your MAC's ROM, is supposed to cost about \$90. The cost will be between \$200-\$300 if you also want to update your Mac's motherboard to the Mac+ variety. If you have an older, soldered-in HyperDrive (not the newer clip-on variety), your situation isn't clear yet.

Q: What's the story on the (cheap!) Warp Nine internal hard disk?

A: Check with the company for the latest information, but I'm told that it is a self-installed kit. There is no warranty except on the Rodime drive mechanism, and that is between you and Rodime directly. A boot from a floppy is required.

Q: Can the LaserWriter be upgraded to be like a LaserWriter+?

A: For the time being at least, the LaserWriter+ exists *only* as an upgrade to the base model of the LaserWriter. The upgrade consists solely of new ROMs. They are installed at a dealer. The new ROMs contain more fonts, allow for more easily downloadable fonts, and fix bugs.

Q: Anything new on MultiMac?

A: Andy Hertzfeld reports that the author went to extremes - jumping into the ROM directly in over 200 places (once is too much), modifying the then-current Finder, and doing other things that will make his efforts wasted on the Mac+ and later products. (Not to mention that many programs don't work with it, as is.) Since commercial prospects for it now seem dim, it may show up as shareware.

However, it turns out that Andy himself has been working on a similar project, which he demonstrated at the Expo. It's called "Servant", and extends Switcher. Servant will also handle the functions now performed by Finder, and it will provide for multitasking (different programs running in different window). Particular attention is being given to background print spooling and background modem control (for file transfer). He hasn't sold it yet, and it isn't very far along. So don't expect to see it anytime soon.

Q: Now that the new ROMs can be used by the 68020 microprocessor, what can you tell us about putting a 68020 in a Mac?

A: Be wary about putting a 68020 in a Mac, or buying such an "upgrade" from a third party, such as Levco! While it will run a lot of software faster than the 68000, there are some products, such as MacWrite, that will fail to run at all. (MacWrite uses the Trap instruction, which works differently on the '20.) The on-chip cache may affect programs with self modifying code, and too much software assumes critical timings that will no longer be the same. It's one thing to buy an extra 68020 based "Mac" to crunch numbers, but it's quite another to convert your only Mac, burning some bridges forever.

Q: Why does printing proportion differently between the LaserWriter and the ImageWriter?

A: LaserWriter printing corresponds to "Tall Adjusted", where the ImageWriter prints in equal pitch horizontally and vertically. The usual "Tall" printing on the ImageWriter scrunches text together horizontally, since it looks better (to some people) that way.

Q: Help! It seems that my HyperDrive lost a drawer of files.

A: Scott Recker reports that GCC told him to try the following. With the Manager, start creating new drawers. When the HyperDrive becomes almost full, you may suddenly be able to open your lost drawer.

Q: The Apple symbol in the menu bar is blinking. What does that mean?

A: The alarm clock has gone off. It seems that SideKick might have something to do with it. (A Happy New Year message?)

Q: I have several Excel worksheets on several disks. I'd like to be able to print a report consisting of portions from each. How do I prevent a page-eject between each portion?

A: You should create a new worksheet with external references to the regions of each you wish to print. To indicate which disks the subordinate worksheets are on, preface the file name with the disk name and colon. For example, =Disk:Document!Area.

contd.

Q: In Excel, how do I avoid #REF! errors when I have to use "complex" external references?

A: Reserve a portion of the worksheet for "simple" external references to all the external references you will need. Then, within the worksheet, make internal references to this area.

Q: I want to print 1" tall mailing labels. How do I set the page length on the ImageWriter to be 1"?

A: It's a bit more complicated than that. What you want to set are called PREC resources. You can define (almost) any page height and width that way. Quick and Dirty Utilities Volume 2, from Dreams of the Phoenix, is said to have a tool to help with this. We'll know more after it ships, shortly.

Q: Can I use the HP LaserJet printer on the Mac?

A: SoftStyle markets Laserstart, a print driver for it. Mel Beckman came up with a trick to handle the problem of its small graphics memory. When you get the flashing code indicating memory overflow, push the Formfeed button to eject the partially printed page. Then, replace the sheet in the paper tray, face down, top to the far side, and press Continue. Voila! He is suprised at how well the halves register with each other.

Q: How do I totally erase an Apple HD-20 to start over?

A: Here's an undocumented trick: Run the Hard Disk Test application, and hit Command-D just after you start it up. You'll get additional commands, including a button marked DSTRCT, for "Distructive Test". The test will run for over an hour, thoroughly erase the disk, and test it as well.

Q: Help! While trying to reformat my Hyperdrive, I got a message, "A hardware timeout error occurred while testing the Hyperdrive controller logic", and so on.

A: It's a bug in the software. GCC recommends the following, using the latest software (#411 Manager). (1) Boot from Hypersystem 1. (2) Double click on the Manager, while holding down the Command and period keys. Wait for the beep. (3) Choose Format when the dialog box comes up. (4) After the format, abort the disk test. (5) Turn the Mac off, then on - don't just use the reset button. (6) Recreate the Startup drawer.

Q: My MacBottom started squealing and chirping for no apparent reason. How do I make it stop?

A: Steve Mahler relays the following from PCPC. Turn off the drive, disconnect it, and turn it over. Make sure that it is unplugged. Shine a flashlight through the slots on the bottom and find, right in the middle, a 1/8" diameter ferrite rod which touches the bottom of the motor shaft. With an unbent paperclip, push this rod a wee bit into a new position on the motor shaft.

Q: Can a broken mouse be repaired, or do you have to buy a new one?

A: Bart Thomas reports seeing the following list in the Princeton Mac User Group Newsletter:

New Ball (Part number)	699-8001	\$9.00
Retaining Ring	815-0409	1.80
Cable	590-0320	21.00

Reconditioned Mouse 661-96155 36.00
The article contained other information on the repair of mice.

Quickies: Thunderscan software is at version 3.1 ... Borland is saying 2nd Qtr for Turbo Pascal ... The new spelling checker Spellswell fails on long documents; send in your registration card to get a free upgrade. (Insist that you get a version that will run under Switcher.) ... To get Excel on hard disks, copy the master with Copy II Mac, then install from the copy; this way you won't run out of "installs" when you have to reformat the hard disk ... The "Mock" package of DAs is now up to version 4.2, which supports HFS and the LaserWriter better ... Launcher in BatteryPak has been fixed to work with more applications; call Battery's Included for update information (not final as of press time) ... MacTerminal 2.0 is a free upgrade at your dealer; bring in your old disk ... The only difference between version 1.03 of Home Accountant and 1.02 is that the copy protection was removed; if you've received your disk marked BACKUP, you can return it to Arrays/Continental for a free replacement; call them for details ... OverVUE is no longer copy protected; your dealer can update your distribution disk with the new version ... FreeTerm version 1.8 implements the fast downloading method (now called Fast-Track™) that I discussed in the November Journal ... If your MacBottom fails to work with the new ImageWriter driver, go back to the old ImageWriter driver and call PCPC for update information ... If your 10MB HyperDrive software doesn't have a print spooler or caching, contact GCC for update information ... The Mac's battery is not a AA cell; read the label ... And finally, many thanks again to the people on MAUG™ who provided much of the information used in this column. ☺

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MacNovice Column

by Ralph J. Begleiter

"Tax Time"

Form **1040** Department of the Treasury - Internal Revenue Service **1985**
U. S. Individual Income Tax Return

For the year January 1 - December 31, 1985, or other tax year

Many of you are thinking ahead to tax time right now, and if you're a MacNovice, you're probably wondering how you can put your Mac to work for you at the cumbersome and time-consuming job of tax preparation. You may think that using a computer for tax preparation is strictly for computer experts, but there are things you can do to make your tax preparation effort easier and faster.

Perhaps the easiest way to use your Mac at tax time is to purchase one of the many tax-preparation software packages already on the market for the Macintosh. They range in price from less than \$50 to several hundred dollars, and they profess to do just about everything but actually pay your taxes!

There are several software packages which duplicate IRS forms right on your screen (using MacPaint), and allow you to simply enter data into the appropriate places. The computer then figures out most other entries, based on the data you insert. Finished forms are ready for submission to the IRS. Other tax-preparation packages simply offer spreadsheet templates which accomplish similar goals, but don't actually print out final tax forms which you can send to the IRS.

In this column, I'd like to suggest ways to use your Mac at tax time without buying a commercial software package. If you've already become adept at using your spreadsheet program for other purposes, you could create your own templates which compute tax entries. But that's a task befitting more a MacExpert than a MacNovice. For the "rest of us," we can use our Macs to simplify what is probably the most tedious task at tax time: compiling the raw data we need to figure our taxes.

Use your spreadsheet to create a "Tax Worksheet" into which you can enter transactions all year round. The spreadsheet will sort them, organize them, and compute totals for you if you set it up correctly.

On the facing page is an example of this kind of worksheet, made with Microsoft's "Multiplan".

Set up categories for "contributions," "income," "taxes," and so on, allowing space for adequate descriptions of each item, personal check numbers (if you wish), and totals for each category. Use your spreadsheet to "define" the entries in each category. (For instance: "define" "contributions" in two separate categories: "cash" and "kind". This will give you the totals to insert directly into your itemization for the IRS!)

The example shown here may not exactly suit your own needs. You may have other types of deductions. The advantage of using a spreadsheet program for this effort is that you can always add new categories during the year, without

disturbing the rest of the collection. You can make adjustments in the column widths, and other aspects of the worksheet's appearance.

When you're ready to print your worksheet, first use the sorting capability of your spreadsheet to automatically sort all your entries alphabetically, or by number, date or amount. Then print your sheet and use it to complete your tax return... or give it to your accountant. You'll both appreciate the time savings!

Using a spreadsheet program to prepare tax worksheets is probably the least complex way to do the job. Other basic software programs can do more.

If you already own a database computer program (there are literally dozens now available for the Macintosh), you can make your tax work even easier. A database will not only keep track of all your transactions, but will compile appropriate totals; even compute results if necessary. And you can make additions and changes right up to the deadline, if you like. The database program will automatically take the changes into account, re-arranging your worksheet printout and computations.

Here's an example of how to set-up your database format for tax-time recordkeeping (this example was made with Stoneware's "DB Master"):

Category	Contributions/cash	Item	Date	Amount	Remarks
Who?	TxpRA	Charity ABC	11/15/85	45.00	Cash contribution to Charity ABC. Paid by check # 1015.

If you set up the form to accommodate common tax-time categories, you'll automatically be "reminded" by the format each time you make an entry to enter all the information. That will help you be sure all the information needed is right at hand when tax-time approaches. The "remarks" area allows you to make a note of unusual information, such as a description of the purpose of a contribution, or the valuation basis of

contd.

Multiplan Tax Template			
1	2	3	4
1	Contributions	Charity	\$15.00
2		Charity	\$20.00
3		Charity	\$100.00
4		Charity	\$150.00
5		Charity	\$15.00
6		Charity (furniture donation)	\$25.00
7		Charity (toy donation)	\$20.00
8	Sub-Total Contributions (Kind)		\$310.00
9	Sub-Total Contributions (Cash)		\$35.00
10	TOTAL CONTRIBUTIONS		\$345.00
11			
12	Employee Business Expenses	Contract Lawyer	\$0.00
13		Contract Lawyer	\$0.00
14	Sub-Total Taxpayer A		\$0.00
15	Sub-Total Taxpayer B		\$0.00
16	TOTAL EMP. BUSINESS EXPENSE		\$0.00
17			
18	Automobile Expenses	Total Business Miles Driven	6,748 miles
19		Miles reimbursed by Firm (@20¢)	1,904 miles
20		Miles not reimbursed	4,844 miles
21			
22	Child Care	(School year care)	\$1,580.50
23		(Summer Camp)	\$150.00
24		(Summer Swim Camp)	\$10.00
25	TOTAL CHILD CARE		\$1,740.50
26			
27	Dividend Income	Stocks & Bonds	\$19.86
28			
29	TOTAL DIVIDEND INCOME		\$19.86
30			
31	Interest Expenses	Insurance Loan (Policy #123-45-67)	\$174.09
32		Mortgage Loan	\$3,513.21
33		Car Loan 1	\$415.79
34		Car Loan 2	\$1,058.17
35		Bank (Checking Overdraft)	\$4.27
36	TOTAL INTEREST EXPENSES		\$5,161.26
37			
38	Interest Income	ABC Savings & Loan	\$337.65
39		DEF Savings & Loan	\$245.15
40			
41	TOTAL INTEREST INCOME		\$592.80
42			
43	Tax Refunds	Maryland Tax Refund	\$100.00
44			
45	TOTAL TAX REFUNDS		\$100.00
46			
47	Itemized Taxes	Sales Tax (New Car)	\$581.75
48		Sales Tax (Refrigerator)	\$38.25
49		Federal Tax Amendment	\$55.00
50		Maryland Tax Amendment	\$20.00
51		Sales Tax (Store Charge Account)	\$16.11
52		Real Estate (House)	\$1,000.00
53	TOTAL ITEMIZED TAXES		\$1,711.11
54			
55	I-R-A Income	Interest (Taxpayer A)	\$55.92
56		Interest (Taxpayer B)	\$158.93
57	TOTAL I-R-A INCOME		\$214.85
58			
59	Medical/Dental	Dental Care	\$102.00
60		Eye Exam	\$55.00
61		Group Health Insurance Payments	\$400.95
62	TOTAL MEDICAL/DENTAL		\$557.95
63			
64	Miscellaneous Deductions	Safe Deposit Box	\$45.00
65		Publications (Newspapers)	\$103.35
66		Liability Insurance	\$58.00
67		Uniforms	\$22.68
68		Licenses	\$0.00
69	Sub-Total Safe Deposit		\$45.00
70	Sub-Total Publications		\$103.35
71	Sub-Total Uniforms		\$22.68
72	Sub-Total Insurance		\$58.00
73	Sub-Total Licenses		\$0.00
74	TOTAL MISC. DEDUCTIONS		\$229.03
75			
76	Miscellaneous Income	Capital Gains	\$365.52
77		Lottery Winnings	\$33.00
78	TOTAL MISCELLANEOUS INCOME		\$398.52
79			
80	Wages/Salaries	Taxpayer A	\$0.00
81		Taxpayer B	\$0.00
82	TOTAL WAGES/SALARIES		\$0.00
83			
84	Taxes Withheld	Fed Tax W/hold	\$1,233.75
85		FICA W/hold	\$739.05
86		State Tax W/hold	\$748.05
87	TOTAL TAXES WITHHELD		\$2,720.85
88			

some stock or material contributions.

Of course, the more flexible the database program is, the better you'll be able to adapt your tax records to your own needs and style. Here's an example of how a tax record form might look with Microsoft's "File" database program:

1986 Tax Data

Category	Contribution	Type	Kind	Amount	\$200.00
Taxpayer	A	Date	11/30/85	Check Number	0
Name	Charity ABC				
Remarks	Donation of convertible debt (purchased 1972) to Charity ABC. Receipt received. Value of items based on comparable newspaper classified advertisements.				

Obviously, using the Mac to keep track of your tax records requires you to do a thorough job of entering those records. Instead of dumping receipts in a shoe-box or a desk drawer, collect them for a week or a month at a time...and enter them promptly in your database throughout the year. At tax time, you'll be left with little to do but add last-minute items such as W-2 wage and withholding information, and year-end interest data. That's a lot less work than shuffling through a year's worth of checks, receipts and other papers to find everything you need for your tax return.

At tax time, you'll be surprised at how much you'd have forgotten had you failed to enter your data year-round. And you'll be ready to hit Form 1040 A & B with all of your tax information at hand, in well-organized form. You won't even have to find all those receipts and checks, because everything you need to know will be printed neatly on your final Mac-made tax worksheet!

Softviews

David Morganstein



Tax Pro 1985 (Tom Gross, WAP member). By the time you read this, there will be less than 45 days till your taxes are due. If you are like me and, I surmise, most of the rest of the tax payers of this nation, you have yet to begin the arduous process of pulling the numbers from among folders of receipts and scraps of paper. (If you are one of the lucky few who warrant a large refund, you may have completed your forms on January 2. Why let them have all the interest!!!) If you have not filled in the forms and added up the numbers, you may find some pleasure in Tom Gross' spreadsheets. While the tough time of doing taxes is in the assembly of the information, simplifying the drudgery of completing the forms makes the whole activity a bit less tedious. No, I didn't justify the purchase of my computer on the argument that it can do my taxes for me...

Created in either Multiplan for the Apple II (DOS version) or Multiplan, Excel or Jazz for the Macintosh, the most commonly used forms are available for easy entry and completion. The forms are linked together aggregating numbers from one form to another, as required. If you use the CP/M version of Multiplan on the Apple II, it should be possible to convert the file from one operating system to the other and access it directly in CP/M. In addition to the Tax Tables, Tom has included the following forms: 1040, 2106 (Emp. Business Expense), 2441 (Child Care), 3903 (Moving Expense), 6251 (Alternative Min. Tax Computation). His package contains the following schedules: A-E, G, W and SE.

Form 1040	
IRS FORM 1040--1985 Page 1 of 2	
© Copyright 1985 Chesapeake Software All Rights Reserved	
FILING STATUS	
1-5 1=single 2=joint 3=separate 4= head 5=widow(er)	
EXEMPTIONS	
Enter "1" for each category below that applies to you	
6	Yourself 65 or over Blind.....
	Spouse 65 or over Blind.....
Number of children plus other dependents.....	
INCOME	
7	Wages, salaries, tips, etc. <input checked="" type="checkbox"/>
8	Interest Income (Schedule B if over \$400)..... 0
9a	Dividends (Use Sch. B if over \$400)..... 9a 0
9b	Exclusion..... 9b
9c	Eligible Dividend Income..... 0
10	Refunds of State and local income taxes.....

The forms are very easy to use. Tom has locked the sheets and protected them so that you can not inadvertently change the formulas he has built. An added advantage is that the Enter key moves the cursor between only those cells which require input from you, skipping over cells containing instructions and internal computations.

Since this review was written more than a month ago, I have not yet completed my taxes with Tom's spreadsheets. I can not vouch for the package's accuracy. Whenever you use a program to perform the final stages of computation, it is wise to check the numbers one last time before mailing in the

returns. (I used Tax Wizard last year, did not check the numbers and got a \$50.00 correction notice from the IRS...in their favor, of course.)

What can you say about a tax package beyond its accuracy? First as to documentation, Tom includes a MacWrite file on the disk. The file printed out to 13 pages, one of which was a Table of Contents and another of which was an evaluation form. There was no Index. I felt the manual to be a bit lean and recommended expansion in certain areas. Tom said his approach was to keep the price low and he felt there were ample low-cost tax guides which could be used in conjunction with the package to help you work your way through the forms.

The other issue might be support. Tom does not do taxes for a living. He is an attorney for the government. He indicated a willingness to handle questions and problems should they arise. The manual tells the owner to contact Tom immediately if a problem is detected. My experience suggests that most users of spreadsheets would have little need of support other than an accuracy problem. I did not see a statement in the manual indicating any legal liability on his part. If it is wrong, the IRS is going to discuss the numbers with you, not Tom. I think that situation is true with other tax packages for personal computers.

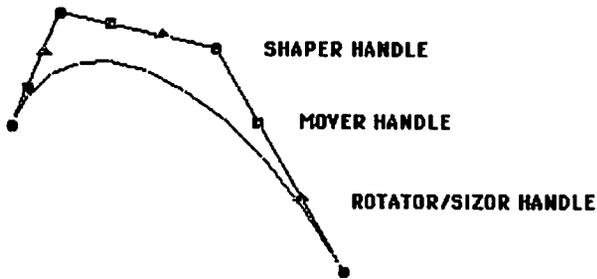
Tax Pro, Chesapeake Software, 236 Maryland, ave., N.E., Suite A, Washington, D.C., 20002. Phone (202) 546-5994. Price \$44.95 (Special to WAP members \$39.95 ...say David sent you...)

4Paint (Bill Mosby) MacPaint users, while thrilled with the tremendous potential of the Mac as a graphics machine, have found that there are important things which MacPaint can not do easily. Bill Mosby's utility is a separate program which creates MacPaint readable files. With 4Paint, you can draw and manipulate many shapes in a full-screen mode which are not provided by MacPaint. You can save the file and enter MacPaint where the finishing touches can be applied.

In particular, 4Paint allows you to draw curves not in MacPaint (e.g. parabolas and arcs) and then rotate and reshape them. It lacks text or fill capability, but those features are already in MacPaint. Objects can be grouped and rotated together.

In the picture below, you see a curve which began as a symmetric parabola. I have stretched it in various directions and rotated it using the three types of "handles", the shaper, mover and rotator/sizer. The shapes can be created on a full-page screen and the final product saved as a standard MacPainting. 4Paint provides several shape elements including a straight line, a rectangle and a round rectangle and a circle (or partial circle).

contd.



Other useful options include: rotation to an almost infinite degree, snapping (aligning) objects to a grid, layering objects and grouping objects. The line thickness can be scaled up or down. The handles you see above can be temporarily hidden to permit viewing of the final product. X and/or Y grids can be added to the display with user specified spacing for the grid lines.

I found the 37-page manual to be full of suggestions and help. Beside a quick walk-thru tutorial, it contains a menu by menu reference section and a technical description of the 4Paint data files for programmers. The manual began with

several cautions most of which make sense to Painter's Helper #1 users and those already experienced with 4Paint. There is a caveat that suggests you come back to the Cautions later.

Bill Mosby's name may be familiar to a number of MacPaint users. He is the author of Painter's Helper #1, a shareware offering provided on a WAP library disk. Bill indicated he knows of WAP because we are one of the few clubs whose members sent him payment for their shareware. Originally, Bill had planned 4Paint as Helper #2, another shareware offering, but changed his mind when the payments for #1 were so sparse. He is hoping that making 4Paint a commercial product will return enough of his investment in Mac programming to keep him going. His wife is supporting his efforts to get a software business on solid foundation but Bill tells me that sales are very slow.

If you are a heavy user of MacPaint, there is a good chance that 4Paint may help you do things you have been unable to do easily. Reasonable Software, 779 Eleventh St., Idaho Falls, ID. 83401. Phone (208) 529-0378. Price \$39.95. ☺

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HFS FOLLIES UPDATE

by Tom Warrick

In last month's issue we discussed programs with problems running under the new Macintosh Hierarchical File System ("HFS"). This month we have updated information as to what works and what doesn't. As expected, virtually all software publishers have released or are releasing updates to their products to correct the problems they had under HFS. Life is never simple, however, and Apple's announcement of the Macintosh Plus has added a few more programs to the list of things that don't work.

Andy Hertzfeld has written a program called HFS.fix, which says when you open the file, "This program will install a resource in your system file that will patch the file system 'Open' command to make it try harder to find a file. It will find a file no matter what folder it is in, thus making more programs work with HFS." This program solved the problem with Edit, which would not let you open a document from any folder using the Finder, but it is not a panacea. It will not help Microsoft Word locate the Standard Glossary file, nor will it help the TML Pascal compiler locate any of its "Include" files in a folder other than the one in which TML Pascal is located. Likewise, it will not find musical instruments in a folder different from the one that Concertware+ 3.0's Player is in. Nor, for that matter, will it let Edit transfer directly to TML Pascal using the Transfer menu.

Click-On Worksheet: Get version 1.3.

Copy II Mac and Copy II Hard Disk: Version 4.51 is available for \$18.00 to registered owners from Central Point Software, Inc., 9700 SW Capitol Highway, Suite 100, Portland, Oregon 97219, (503) 244-5782.

DiskInfo desk accessory: Get version 1.33 from CompuServe or, soon, from a SigMac disk. Version 1.33 fully supports HFS and has additional capabilities, including the ability to rename files. This is one of the most useful desk accessories around, and it's shareware: For heaven's sake, if you haven't already sent in your money, do so immediately. Send \$10 (or more, to encourage author David Dunham to do more) to Maitreya Design, P.O. Box 1480, Goleta, California 93116.

Fedit: Version 3.5, which provides support for HFS, is available only to registered users of this shareware disk and file utility. Become one; it's worth it.

Finder: Version 5.1 is now the latest. Apple warned users not to run Finder 5.0 on floppy disks; that caveat seems to have been relaxed with 5.1, because now the only advice is not to use Finder 5.1 on 128K Macs (although it appears to work fine under Switcher). Finder 5.1 should be free from your Apple dealer.

Font/DA Mover: Version 3.0 is now the latest version. It should be free from your Apple dealer.

Mac C by Consulair: Version 4.5 either is now or soon will be available.

MDS (Macintosh Development System, the 68000 assembler from Apple) will be revised to work with HFS, but not for a few weeks or months. Note that the four-byte patch

published here last month for Link may also work on Edit and Asm.

MacSpell+ is now up to version 1.10. Our law firm received the revision but it still gives erratic bombs for no apparent reason.

Mock-series desk accessories (not reported in the February issue) have been revised to work with HFS.

OverVUE: Get version 2.0d.

Quick & Dirty Utilities #1 will be revised to work with HFS, but Dreams of the Phoenix does not know when the update will be available or how much it will cost. **Quick & Dirty Utilities #2**, a disk of 25 programs that was released last week, does work with HFS, according to a DOTP spokesperson.

Red Ryder: As we reported in the last issue, version 7.0 works with HFS. Unfortunately, version 7.0 does not work with the Mac Plus. Scott Watson is working on version 8.0, which will be out in a few weeks.

Scrapbook File: Version 2.0 is required to work with System 3.0 (see below). It should be free from your Apple dealer.

System: Version 3.0 is the latest. It should be free from your Apple dealer. Note that you need the new Scrapbook File, which comes on the same disk.

SideKick: Version 1.1 is now available for \$19.95 from Borland. Write to Borland at 4585 Scotts Valley Drive, Scotts Valley, California 95066, (408) 438-8400. If you purchased SideKick before December 15, 1985, this price includes PhoneLink, which allows you to dial calls automatically if you don't have a modem. If you purchased SideKick after December 15, the upgrade is free. This revision also contains a number of important feature enhancements that most users will want to acquire. You can now dial through a Hayes-compatible modem (tone or pulse) or through PhoneLink. The Calculator+ desk accessory now has a % key. The size of the notepad in Notepad+ is user-selectable, and the program remembers the size you selected. There is an option in QuikSheets for a column containing dollars. The PhoneBook has been reformatted to include larger state and zip code fields as well as country fields. The PhoneBook can sort entries by company name and category, and the information can be copied to the clipboard. ReadPrint has been updated to include an optional page header and support for Epson and the HP ThinkJet printers.

If anyone has any additions to this list, please let us know by writing or leaving a message for me on System 2 of the WAP BBS. ☺

LEGAL TIME REPORTING ON THE MAC

by Rosemary Connelly

Last year I was startled to hear a lawyer friend of mine complain that her Mac was no use in her law practice.

"I think I should sell my Mac and buy a PC," she was saying. "There's no good software for the Mac."

"What do you need to do?" I asked.

"Well, take time slips for example," she said. "Right now I fill them out every day by hand. At the end of the month my secretary sorts them by client and matter, totals them and transcribes them into individual client reports. It's difficult for me to get a summary in the middle of the month and my secretary often has problems reading my writing."

"Have you tried Microsoft File?" I asked.

"Yes, but it was too simple. I really need a relational database, like Helix. But I'm not even sure Helix could do the job."

I pondered over her dilemma for a few days, borrowed a copy of Helix to see if it would indeed solve her problem, and formulated a plan.

Attorneys need to keep track of their time to the nearest tenth of an hour, which can lead to stacks of time slips. If they have to boot a program everytime they want to fill out a time slip, attorneys will leave it to the end of the day or the end of the week - by which time they've forgotten what they did. So I decided that any computerized time reporting system should be on-line all the time.

Enter Switcher. With Switcher you can run a database program all day and at the same time do word processing or telecommunications or whatever else you need to do. At the click of a mouse you can call up a blank time slip. When you have filled it out you just click back to whatever you were doing before.

I rejected Helix on three grounds. First it took just too long to boot. Secondly, it took too much memory to work comfortably with Switcher and Microsoft Word. And thirdly, the early version I tested had no subtotaling capability.

The database program I settled on was Microsoft File. It runs comfortably in 256K, response time is fast and it's easy to use. I know it lacks relational database capabilities, but I get around some of its shortcomings by using Microsoft Word and the Word Glossary to edit and embellish reports. More on that later. The input form I designed looks like this:

Date:	Client No:	Hours:
Comments:		
Client Name:	Matter	

Time Slip Form

The law firm assigns a unique four-digit Client Number to every client and matter. At the end of the month each attorney submits a breakdown of his or her time by Client Number. Since it is time-consuming for attorneys to type the name of

the client and the matter on each time slip, (to say nothing of the spelling errors that can creep in), only the unique Client Number has to be recorded.

When my friend needs to fill out a time slip now she just clicks on the Switcher arrow and fills in the Date, Client Number, Hours and Comments. She can memorize her most frequently used numbers or keep a list of codes taped to her Mac. Failing that, there is room for her to type in the client name and matter as a memory jogger - so long as she puts in the right Client Numbers before the reports are generated. (Helix, incidentally, has a wonderful table lookup feature that would be useful here. As soon as you type a Client Number, for example, it can look up the relevant Name and Matter in a table and display them on the screen so you can be sure you have the right Number.)

At the end of the month, records can be sorted and totaled by Client Number. Part of the summary report for the firm's Accounting department might look like this:

No.	Hrs.
2469	15.6
3391	20.2
8863	5.5

If this report is saved as a text file, it can be opened in Microsoft Word and expanded using the Glossary. The Glossary is set up beforehand with all the Client Numbers and their respective Names and Matters. So, by clicking directly after each number in the first column, typing backspace and adjusting the tabs as necessary, the report becomes:

No.	Name	Matter	Hours
2469	Apple Computer	WarrantyLegislation	15.6
3391	Radio Shack	Copyright Issues	20.2
8863	IBM	Software Licensing	5.5

This approach may be the poor cousin to a relational database, but it's simple and effective.

Hourly totals and subtotals, of course, can be computed and printed by File. Also, fields within a time slip can be computed. For example, one hidden field on the Time Slip input form is a billing field. This field is computed by multiplying the hours by a constant billing rate. If clients want a complete breakdown of their bills, the hours and dollar amounts can be printed on their reports along with all the attorney's comments from the individual time slips.

It would be great if the next version of Microsoft File included some relational database features such as a table lookup function. And it would be great if memory and hard disks get so cheap that we can run more than one large program concurrently. But, given our present resources, I believe the Macintosh functions as a very efficient legal tool, just as it is! ☺

'EXCEL'ing WITH YOUR MAC

by David Morganstein

Have you tried using a Scatter Chart format with Excel? If so, you may have been surprised at the results. (I was...) They are not what I expected; although, with a little experimenting I stumbled upon the desired plot. Unfortunately, the manual did not explain how to obtain a scatter plot, even though the scatter format appears as an option in the graph gallery.

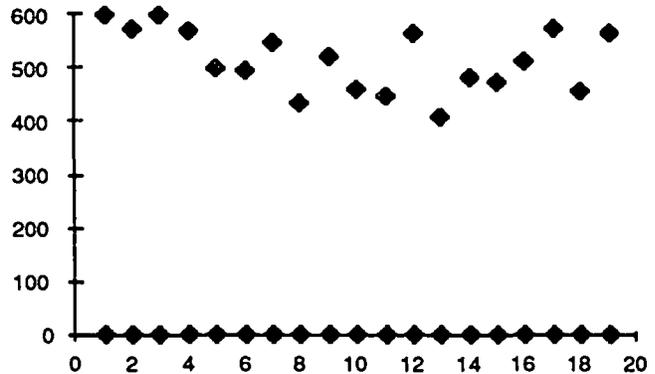
For those not familiar with this type of graph, a scatter chart is a two-dimensional plot of points where the X-coordinate of each plotted point is the value of one variable and the Y-coordinate is the value of another. Say for example, you are interested in the relation between SAT test scores and success in College, as measured by Freshmen grade point averages (or any other pair of variables e.g. height vs. weight, speed of an operation and the quality of the resulting product, etc.) A useful preliminary step in understanding the two variables is to construct a scatter plot. For the first example, each point would represent one person for whom we have both the SAT score and their first year grade point average. Making up an example, we have the following pairs of numbers:

	<u>SAT Score</u>	<u>Freshmen Grade Point</u>
	599	2.5
	572	2.2
	599	2.8
	571	2.2
	501	1.8
	493	3.0
	547	3.0
	436	3.3
	523	2.2
	460	1.9
	446	2.4
	564	3.4
	409	1.4
	482	3.2
	475	1.5
	513	2.7
	571	2.3
	458	3.0
	564	3.0

Entering these as two columns in the spreadsheet produces the following display in Excel:

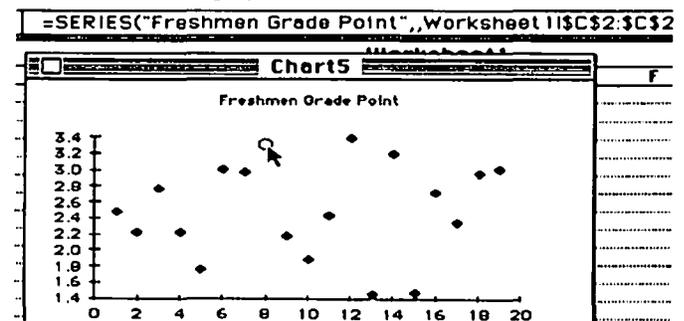
	A	B	C	D
1		SAT Score	Freshmen Grade Point	
2		599	2.5	
3		572	2.2	
4		599	2.8	
5		571	2.2	
6		501	1.8	
7		493	3.0	
8		547	3.0	
9		436	3.3	
10		523	2.2	
11		460	1.9	
12		446	2.4	
13		564	3.4	

Following the very short description of the Scatter Chart option found in the Excel manual, the natural inclination would be to select the two columns of numbers, and pull down the File menu, clicking on New, Chart. The default chart is a bar chart so an additional step is needed. From the Graph menu select Scatter. The results, as you can see below, are not the desired scatter plot.



This "scatter" chart looks to me a lot like a simple line chart without the lines. Excel has merely plotted the two series against their row number, rather than one against the other as a Scatter chart would provide. Fortunately, there is a simple way to get what we want through steps not described in the Excel documentation.

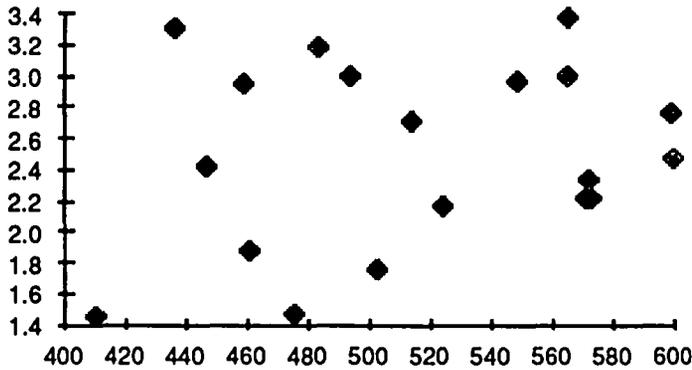
Returning to the spreadsheet, select only the Grade Point averages, a single variable. Open a New Chart and change its format to scatter. These steps yield a chart with the Y-axis value equal to the Grade Point average but with equally spaced categories representing the order of the rows, not the SAT scores. Point to one of the plotted dots and click on it. As you see in the following screen shot, the point turns into a white circle, and a description of the series appears at the top of the screen. SERIES has four parameters, three of which appear in our example and one of which is blank. The first parameter provides the plotted series title (in our case "Freshmen Grade Point"). The third parameter defines the vertical axis, the y-values. In our case, we are plotting grade point averages found in Column C, rows 2 through 20 from Worksheet1 (In Excel terms, Worksheet1!\$C\$2:\$C\$20, meaning from cell C2 to C20). The fourth parameter is the plot order of the series. The plot order applies to multiple series charts, that is, when there is more than one vertical value for each category.



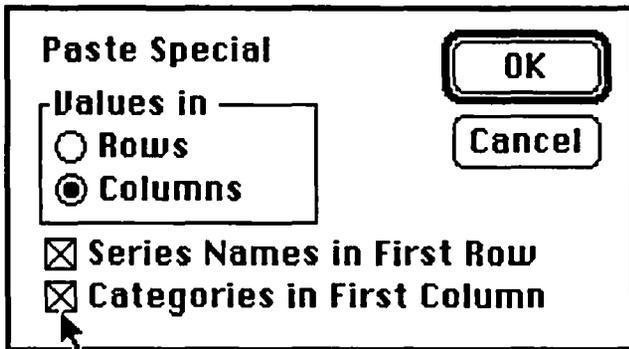
contd.

Oh, yes, I forgot the second parameter, the one left blank in our example. The second parameter identifies the category variable. When it is blank, Excel uses a sequential number, starting with 1 for the first value as you can see on the horizontal axis of the graph. If we move the cursor up to the edit area and enter for the second parameter: "Worksheet 1!\$B\$2:\$B\$20", look what happens to the graph. A "real" scatter plot of grade point as the Y-axis, against SAT scores as the X-axis, appears. (For additional information about the Series command and how to use it, see the Excel User's Guide, pp161-163.)

Freshmen Grade Point



The book "Excel in Business" by Douglas Cobb, published by Microsoft, contains an alternative method which seems to do the job as well. Cobb suggests selecting the two columns and doing a Copy to the clipboard. After opening a New Chart, issue a Paste Special command. You will see the following Dialog Box.

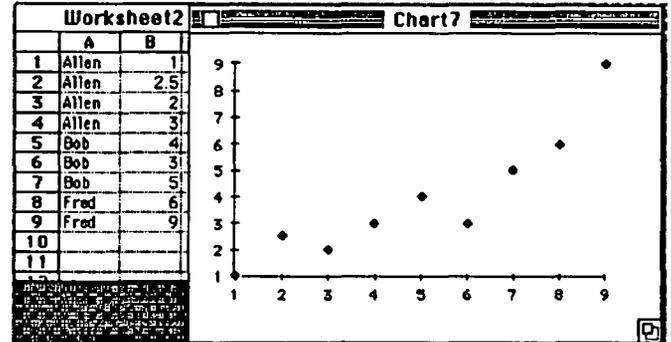


Choose Categories in First Column and click on OK. What you get is a bar chart of Grade Point plotted against SAT scores as Categories (which were in the first column of the selected area.) Now select the Scatter format from the Gallery. Voila! The second method, suggested by Cobb, may be easier but the first taught me something about the Series command and how to use it.

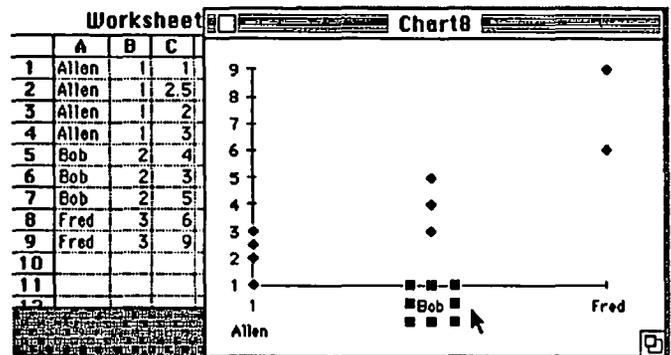
What befuddles me is why all this is necessary. Excel clearly indicates it can do a Scatter chart; unfortunately, doing the "obvious" does not produce the desired result. More to the point, I have not been able to find anything in the manual which explains how to obtain a scatter plot, even though the chart menu includes the scatter plot option. The Scatter reference section, page 274, is of no help.

As a final note, let me observe that Excel only allows you to scatter plot two numeric variables. This is an unfortunate

limitation. Let us say you had four time trial results on the speed of several runners. It would be useful to enter the data as one column of names and one column of results and then scatter plot the times against the names. Unfortunately, the character labels for the X-axis categories are converted to numbers. If the same name appears twice, it will result in a separate category, rather than a second point plotted above the name, as you can see in the following chart.



If you convert the names to numbers (e.g. Allen = 1, Bob = 2, etc.), as I have done in column B, you get the desired scatter plot without the descriptive labelling. Now you can add text containing the names onto the chart, overwriting the numeric labels. In the chart below, I have cheated and placed the text "Bob" and "Fred" over the numeric category values 2, and 3. Note the category label "1" has not yet been manually overwritten.



Excel is a powerful program with tremendous potential. When combined with your word processor using Switcher, you can accomplish a great deal in short order. However, you may find that for certain tasks, a bit of research and experimenting may be needed to supplement the Excel documentation.



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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 Frederick Apple Core meets the second Thursday of each month in the large conference room of the U.S. Army Medical Research Institute of Infectious Diseases, Ft. Detrick, Frederick, MD 21701-5011 at 7:30 PM.

The SIG MAC of the Frederick Apple Core meets on the fourth Tuesday of each month in the same location and at the same time. MAC owners in the local area are welcome. Call Lynn R. Trusal at (301) 845-2681 for details.

Upcoming Programs

March 13	- Program to be announced
April 10	- Program to be announced

SIG MAC Upcoming Programs

March 25	- Color Plotting with the Mac
April 22	- LaserWriter Printer

MICROSOFT EXCEL: A Review by Lynn R. Trusal (Frederick Apple Core)

As an avid Multiplan user since the early days of Macintosh, I have always looked forward to a more sophisticated spreadsheet and wondered why Microsoft did not come out with a revised version of one of the earliest Macintosh programs. Just prior to the deadline for this article, MicroSoft announced version 1.1 of Multiplan. The new Multiplan supports multiple worksheets, more fonts and font sizes, seven additional financial functions and a "go to" page command. This version will cost \$195 list and owners of Multiplan 1.0 can upgrade for \$25. Even this revision will not be enough for power spreadsheet users and this brings me to Excel.

Shortly before the release of Jazz by Lotus Development, Microsoft made a surprise announcement of a new program called Excel. They had evidently been working on it for over two years in much secrecy, which is surprising in the software and hardware development market. Word of most programs leaks out from internal sources and beta-testers long before a program appears. Therefore, I looked forward to using Excel.

Having bought both Chart and Multiplan, I took advantage of Microsoft's upgrade policy and was able to purchase Excel for \$100. If you were not able to do so before December 31, 1985, it is available from wholesale mail order houses for about \$225, which is reasonable for a program that includes an integrated spreadsheet, database and graphics program. I will discuss each of these programs and compare

two of them to Multiplan and Chart.

Excel is supplied with three disks; a data disk, a program disk and one back-up program disk. The data disk contains the System folder, Switcher 4.5, macro files, sample documents, and hard disk install while the program disk contains the program and a "Resume Excel" file. The "resume" icon will automatically open all the files that you had on the desk top the last time you quit Excel and may be saved as a distinct resume file. Separate "resume files" can be saved and even transferred between disks. The only limitation is the amount of free space on the program disk (10K) for saving these icons. I found this to be a unique and excellent feature of Excel. It enables you to group specific files together to be opened when the "resume Excel" icon is opened.

As might be expected, at least a 512K Macintosh is required and two disk drives. The spreadsheet has more than 16,384 rows and 256 columns. If you ever tried to fill it, you would run out of memory and it would slow to a crawl. Needless to say, it is the largest and most sophisticated spreadsheet for microcomputers today.

Excel may be installed on certain hard disks but you can run the "install" program only once off each master program disk. The manual says that you cannot run "install" on a copy of the master disk. Theoretically, you can use the back-up program disk to run "install" again but this is not a contd.

One feature offered in Excel that has not previously been available in microcomputer spreadsheets is the use of "arrays".

Excel is the first spreadsheet program that accepts and uses "arrays" as arguments and produces "arrays" as results. What is an "array?" you say. The Excel manual explains them this way. "In worksheets without arrays, most functions and all operators accept only single values as arguments. However, there are times when it would be much simpler and faster to build a formula whose operations produced multiple values as results. An array is a collection of single values organized into a rectangle with a specified number of rows and columns. Therefore, you can accomplish with one formula what previously required many separate formulas."

The speed of recalculation is another area where Excel is superb. If you are used to see the rippling effect of recalculation with Multiplan, you will wonder if Excel is recalculating at all. As soon as I entered a new value and hit the "return" key, the bottom line was recalculated. The speed of Excel is due to recalculation of only those cells that are dependent on the changed cells. The entire spreadsheet (i.e. all cells) is never recalculated. Of course the larger the worksheet, the slower recalculation will become.

Another useful feature of Excel is a "go to" command so that you can quickly jump to a new area of the spreadsheet. This is particularly useful when multiple templates are set up on different areas of one worksheet. This was not available in Multiplan.

Some of the differences between Excel and Multiplan are diagrammed below:

	<u>Multiplan</u>	<u>Excel</u>
Inserting Rows	Use "Shift" key Click on row or col.	Insert Command (menu)
Cell References	Uses R1C1 format	Uses R1C1 or A1 style User selected
Formatting Nos.	Uses defined formats	Can do custom formats
Aligning Values	Access from keyboard	Access from Menu Use key macros
Text	Limited to plain text	Can use bold or italics
Borders	No border option	Can use borders around one or more cells
Calculation	Recalculates whole spreadsheet	Recalculates changed values only
Linking Sheets	Use copy, paste and link functions on separate worksheets	Use external references between multiple opened worksheets on desk top
Arrays, Macros	None	Extensive capabilities

The spreadsheet portion of Excel is clearly the best spreadsheet that I have ever used, including VisiCalc and Multiplan. The ability to open and link multiple documents on the desktop, the ease of "cut and paste", the "go to" command and the presence of macros makes the program a pleasure to use.

Excel Chart

I had made extensive use of Microsoft's Chart for graphing

Multiplan data and most recently used Switcher to speed this process. With Excel, I was surprised to learn how easy it is to select data from the spreadsheet, pull down a menu and select "chart" for a completed graph in a matter of seconds. If you plan to graph data, it is important to take a few minutes and lay out the template to facilitate the process. Such factors as the width and height of area to be graphed will determine which columns will become "categories" or "series" or "category and series names."

There are other minor differences between the original Chart program and the charting capability of Excel. One such difference is the movement of chart titles and legends. Whereas Chart allows the user to position value and category axes and legends anywhere in the chart area, the charting portion of Excel does not. For instance, the legend may be positioned on the top, bottom, right, or left side but it cannot be positioned freehand as in Chart.

Resizing of the Chart is done by changing the size of the active window or one of three options in the page set-up menu, but you can not resize the output on the screen in the same manner that Chart allowed you.

Charts may be linked to spreadsheet worksheets so that if data are changed, the linked chart will be re-drawn automatically. All 42 charting options supported in Chart are also found in the Excel version. This version should satisfy the majority of users with basic graphics needs.

Excel Data Base

If you are a heavy data base user, you will probably not be satisfied with the spreadsheet-oriented data base of Excel. Excel's database functions largely as a means of sorting or extracting data from your spreadsheet based on criteria that you define. As with graphing, you will need to give some thought to the worksheet layout of the data to simplify your task. "Field names" are entered in one row of the worksheet and "records" are entered in rows below the "field names." The database range is then defined and "sorting or extracting" criteria are entered into an open area of the worksheet. "Criteria names" are placed in one row of the worksheet and "criteria" themselves are placed in rows below "criteria names." You can keep several "criteria ranges" on the worksheet, and define each one as you need to use them, but you can have only one "criteria range" defined at a time. If you plan to use the database to find, extract, or delete matching records, it is best to set up "criteria range" in separate windows to speed the selection process without need for scrolling. When you choose the "Find" command, Excel finds a database record if it matches criteria in one row of your "criteria range." Excel also supports the use of "wild cards" for this purpose. Once you find the desired information, you may copy and paste it into another part of the worksheet by using the "extract" command. The "sort" command can be used to sort rows or columns and three levels of sorts are supported. This would enable you to sort client records first by city and then by name.

All in all, the database portion of Excel is good for applying database criteria to spreadsheet data which would otherwise not allow such capabilities. It is not a heavy-duty relational database. You will have to judge if it meets your needs.

contd.

Miscellaneous Items

I often found Multiplan's tendency to center on the printed area an annoying feature. It was a feature that I sometimes wanted to turn off but could not. In Excel the chosen print area is not automatically centered, and position on the paper is determined by the margin options chosen. The final position of the print area may be "previewed" by choosing the

"preview" box of the "print dialog box." A reduced-size version of the page appears on the screen and the exact location of the print area is shown. A small "magnifying glass" allows you to zoom in on a selected portion of the print area to check on details before printing. It would be even better to have the capability to "center" or "not center" on the printed page.

USING EXCEL TO DO FEDERAL INCOME TAXES

by Lynn R. Trusal (Frederick Apple Core)

Now that I have reviewed the basics of Excel, you might ask what you can do with it. At this time of year, why not do your federal and state income taxes with Excel. You might also ask, "Why do your own taxes, let alone do them on a spreadsheet?" My answer is, "Why not!" to both counts! Most of the work in filling out tax forms is collecting the necessary information and financial figures that are required. Not even H&R Block can do this for you since you still have to collect the necessary information for anyone who prepares your taxes. If you do not have a complicated return and are willing to familiarize yourself with the the tax rules then why not do it yourself.

The next question is why not buy one of the existing tax programs on the market for the Macintosh? There are at least six commercial packages. Many of these programs give you actual tax forms that you can print out on the printer and which are acceptable to the IRS. I feel that they have several major drawbacks. Tax forms change every year and even a one-line change in a form will necessitate getting an update of the program each year unless you can change the design of the form yourself. In addition, each program gives you certain tax forms, but no program gives you all the possible tax forms. If your return is complex, you will not get all the forms that you need, or you will be paying for forms that you will never use. There is no telling how many of these companies will be in business from year to year and why pay for updates anyway? That is why I feel the use of a spreadsheet for tax preparation is a better method. If the forms change from year to year, you can easily modify the layout on the spreadsheet in a matter of minutes. Therefore, I will describe how Excel can be used to prepare your 1985 and subsequent taxes. Use of a spreadsheet for tax preparation is probably only justified if you itemize deductions and regularly fill out three or more tax forms.

Since I did my 1984 federal income taxes with Multiplan, I transferred templates containing the tax forms to Excel. In Multiplan, I originally chose to put all of the needed tax forms on one large worksheet to facilitate linking them together, but I discovered that with Excel, it is just as easy to use separate worksheets. This is due to Excel's ability to have multiple worksheets open on the desktop and the ease of linking them together. Figure 2 is an example of four separate tax worksheets on the desktop at the same time.

The screenshot shows an Excel spreadsheet with four worksheets visible. The active worksheet is 'TAX TABLES', which contains a table with columns A and B. The 'FORM 1040' worksheet shows a table with columns A and B, including rows for '1985 FEDERAL INCOME TAX', 'TOTAL DEPENDENTS', 'WAGES, SALARIES, TIPS', 'INTEREST INCOME (SCHEDULE B)', 'DIVIDENDS (SCHEDULE B > \$400)', 'DIVIDEND EXCLUSION', 'TAXABLE DIVIDENDS', and 'REFUND OF STATE AND LOCAL TAXES'. The 'SCHEDULE A' worksheet shows a table with columns A and B, including rows for 'SCHEDULE A - ITEMIZED DEDUCTIONS', 'LINE 1 PRESCRIPTION DRUGS/MEDICINES', 'LINE 2A DOCTORS, DENTISTS, HOSPITALS, INSURANCE', 'LINE 2B TRANSPORTATION AND LODGING', 'LINE 2C OTHER EXPENSES', 'ADD LINES 1, 2A, 2B, 2C', 'MULTIPLY FORM 1040, LINE 33 BY', 'TOTAL MEDICAL/DENTAL', 'STATE/LOCAL INCOME TAX', and 'REAL ESTATE TAXES'. The 'STATE SALES TAX' worksheet shows a table with columns A, B, C, D, and E, including rows for 'OPTIONAL MARYLAND STATE SALES TAX', 'INCOME FOR 2', 'FAMILY 3', and 'INCOME FOR 3'.

Figure 2

Each is easily accessed by use of the "Window" pull-down menu. Because the width of individual columns varies for each tax form, it is easier to set up individual forms with separate worksheets. For tax forms such as Form 1040 and Schedule A and B, only three columns are necessary, but others such as Schedule D require 7 columns. In addition, because Excel can link individual worksheets together for calculation purposes, it is easy to use individual tax forms rather than one large spreadsheet. Another advantage of using separate forms comes during the "page set up" for printing. Because Excel sets the page position based on the margins, each tax form can have its own margins and page position. If one large worksheet is used, this is impossible unless it can be done with macro commands. You can choose either method but the use of separate worksheets has definite advantages.

Set up the worksheet as follows: For forms such as 1040, type the "line number" in the first column, the "text description" in the second column, and "financial data" in the third column. Now set up individual cells in the third column according to requirements of the actual tax form. For the most part, addition, subtraction, and multiplication will be all that will be required. If a particular cell requires that 60% of line 5 be entered, hit the "=" key and click on the cell of

contd.

line 5 followed by ".60" (multiplication) and finish by hitting the "enter" key. I am assuming that you are familiar with spreadsheets and know how to use the math functions that are provided. If the "paste function" is needed for other math formulas such as "sum", choose "paste function" under the "Formula menu." Instead of scrolling through the long list, just type "s" and the dialog box will immediately display all math or logic functions starting with an "s." This was not a feature found in Multiplan.

I also make use of Excel's "bold" command to highlight titles, subtitles, value totals, and other cells that depend on another worksheet for their content. You also have the option of "italics" to further highlight cell differences. In addition, Excel allows you to place a "border" around individual cells or a range of cells. This feature makes your printed output look less like a spreadsheet if you don't use the "print grid lines" option. The end result can be made to look more like a published report than a spreadsheet. Figure 3 is a sample of "Schedule A" prepared by the above method. I do not include lines on the tax forms that ask for written information, such as your name, profession, etc.

	A	B	C
1	SCHEDULE A - ITEMIZED DEDUCTIONS		
2	LINE 1	PRESCRIPTION DRUGS/MEDICINES	\$0.00
3	LINE 2A	DOCTORS, DENTISTS, HOSPITALS, INSURANCE	\$0.00
4	LINE 2B	TRANSPORTATION AND LODGING	\$0.00
5	LINE 2C	OTHER EXPENSES	\$0.00
6	LINE 3	ADD LINES 1, 2A, 2B, 2C	\$0.00
7	LINE 4	MULTIPLY FORM 1040, LINE 33 BY .05	\$0.00
8	LINE 5	TOTAL MEDICAL/DENTAL	\$0.00
9	LINE 6	STATE/LOCAL INCOME TAX	#N/A
10	LINE 7	REAL ESTATE TAXES	\$0.00
11	LINE 8A	GENERAL SALES TAX	\$0.00
12	LINE 8B	GENERAL SALES TAX (AUTOMOBILE)	\$0.00
13	LINE 9	OTHER TAXES (LIST)	\$0.00
14	LINE 10	TOTAL TAXES	#N/A
15	LINE 11A	HOME MORTGAGE INTEREST	\$0.00
16	LINE 11B	MORTGAGE INTEREST PAID TO INDIVIDUALS	\$0.00
17	LINE 12	CREDIT CARD INTEREST PAID	\$0.00
18	LINE 13	OTHER INTEREST PAID (LIST)	\$0.00
19	LINE 13	OTHER INTEREST PAID (LIST)	\$0.00
20	LINE 13	OTHER INTEREST PAID (LIST)	\$0.00
21	LINE 14	TOTAL INTEREST PAID	\$0.00
22	LINE 15A	CASH CONTRIBUTIONS	\$0.00
23	LINE 15B	CASH CONTRIBUTIONS > \$3000	\$0.00
24	LINE 16	OTHER THAN CASH CONTRIBUTIONS	\$0.00
25	LINE 17	CARRYOVER FROM PRIOR YEARS	\$0.00
26	LINE 18	TOTAL CONTRIBUTIONS	\$0.00
27	LINE 19	CASUALTY/THEFT LOSSES	\$0.00
28	LINE 20	PROFESSIONAL DUES PAID	\$0.00
29	LINE 21	TAX RETURN PREPARATION FEE	\$0.00
30	LINE 22	OTHER DEDUCTIONS (LIST/AMOUNT)	\$0.00
31	LINE 23	TOTAL MISCELLANEOUS DEDUCTIONS	\$0.00
32	LINE 24	ADD LINES 5+10+14+18+19+23	#N/A
33	LINE 25	FILING STATUS (SINGLE = \$2390)	\$2390.00
34	LINE 26	LINE 24 MINUS LINE 25 (FORM 1040, LINE 34A)	#N/A

Figure 3

Once you have laid out the necessary forms, you may begin to link them together. For example, Schedule A, line 26, is the total of all "itemized deductions" and this value is also placed on line 34A of Form 1040. This is accomplished by opening Form 1040 and choosing the third column of line 34A as the "active cell." Hit the "=" key, open Schedule A, and click on the cell representing the financial data for line 26. This will be in the third column. Now hit the "enter" key. Excel automatically links line 34A on Form 1040 with line 26 on Schedule A, even though they are on two separate worksheets. You may link all of the separate tax forms in this manner. The next time you use Excel, open one form

and then choose the "open links" command from the "File" menu. Each linked worksheet will be opened on the desktop. If you have saved the "resume Excel" under a unique name such as "taxes", clicking on this icon will automatically open all of the forms left on the desktop when you last quit Excel regardless of whether they were linked or not.

When printing the tax forms I usually choose to print the "row and column" designations to facilitate using the "go to" command found in Excel. This is particularly useful if you choose to put all of the tax forms on one large worksheet.

The tax tables themselves may also be entered on a separate worksheet so that every time you change a value on one of your tax forms a new adjusted gross income figure will be recomputed and the new "tax owed" figure determined. This may be done as follows if you use the tax tables. Open a new worksheet and set up a two column format. In the first column, enter the income values from the tax booklet with increments increasing by \$50. You will need to use values such as \$16,000.001* and \$16,050.001 so that if your adjusted gross income contains both dollars and cents it will jump to the correct line value. You may use Excel's "series" command in the "Data" menu to set this up automatically without having to type in all the individual values. Enter only that portion of the tax table that will bracket your income for the past year and several years into the future. In the second column, enter the appropriate "tax owed" based on the category you use to file (i.e., single, married-filing jointly, etc.). Make sure that you line up the two values accurately. It is not possible to use the "series" command to perform this entry since the "tax owed" values do not increase in any linear manner. Each \$50 increase in income may be an \$11, \$13, or more increase in taxes owed. Any ideas out there to do this more simply? Now go to Form 1040, line 38, and hit the "=" key. Choose the "paste function" in the "Formula" menu and select the "Lookup" option. Click on "OK" which will return you to Form 1040. Now click on the value on line 37 (taxable income) followed by a comma. Open the worksheet containing the tax tables and use the mouse and drag on the two columns that comprise the entire tax table. Now hit "enter" and you will be returned to Form 1040 line 38. If you performed this correctly, you will see a "tax owed" value on line 38 of Form 1040. Every time your adjusted gross income figure changes, Excel will go to the tax table and recompute the tax you owe and place it on line 38 of Form 1040.

If you use the "Tax Rate Schedules" instead of the tax tables your job is even simpler because less entries are required. This same procedure can be used to enter "Optional State Sales Tax Tables" or "Earned Income Tax Credit" tables.

Excel can also be used to design tax preparation worksheets where miscellaneous tax data can be compiled and stored in an organized manner. Such templates might include worksheets for charity deductions, professional dues, and business expenses including mileage. The values calculated from these worksheets can be linked to the specific tax forms that require them. If you also keep a budget or monthly record of expenses, you can use some of the totals from this worksheet to plug into some of your tax forms. For instance, if you own a home and record mortgage interest as a budget item, the total interest paid can be automatically linked to Schedule A, line 11A. If these worksheets are used periodically,

contd. on pg 63

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REVIEW CORNER



by James M. Burger

APPLEWORLD AND MACEXPO

APPLEWORLD CONFERENCE AND MACWORLD EXPO SAN FRANCISCO

Apple charged a hefty \$300 per attendee for the two-day program. The company only expected 300 developers. Five hundred showed up. That alone is a vote of confidence. But, the give and take between Apple developer evangelists and developers made it clear that lots of people out there are developing a myriad of Mac and // products. To paraphrase: the reported death of the Mac and the // is premature.

The February issue of the *Journal* reproduced most of the essentials of the new Mac Plus. Some of the features that were of particular interest were in the new ROMs. They include a number of new routines that will improve Mac's performance. Also the one megabyte memory on SIMM's - standard in-line memory modules. This will allow a relatively painless upgrade to four megabytes when one megabyte chips are available in production quantities - no motherboard swap needed. (I feel like an old-timer. I remember my excitement at upgrading my 48K][+ to 64K.)

But most important was Mac's new window to the world: the SCSI port (pronounced scuzzy - ugh!) or small computer standard interface. This will permit fast access to hard disk drives and other peripherals. At least eight companies announced hard disk drives for the SCSI port (see new products below). Up to eight devices can be "daisy-chained" through the SCSI port.

The other enhanced product was the LaserWriter+: a 12 megahertz 68000 processor, 1 megabyte of ROM plus 1.5 megabytes of RAM, with 11 built-in fonts. The + will be faster than the standard LaserWriter and will allow downloaded fonts, up to 35. I thought the standard LaserWriter was impressive enough. Clearly, Apple is going after the desktop publishing market with a vengeance (it is hoped that desktop publishing will be the "VisiCalc of the 1980's"). At a desktop publishing seminar for developers (and it was packed) it was clear that existing products were being improved (see new products below) and that we can expect new more powerful desktop publishing software.

Finally, the highlight of the conference was Alan Kay, an Apple Scholar. While some of what he had to say was beyond me, he had a number of fascinating ideas about what we can expect in the future. What's beyond windows and icon's? "Agents." Agents will be "a computer process to extend your will and purpose into the computer."

An example would be a program that created your "personal newspaper" every morning. The "agent" would ask you what sort of news interests you. Early in the morning, while you sleep, it would query all the news databases and gather the articles of interest to you. It would include faces, maps and other pictures off of a video disk; your own USA Today. Moreover, based on its own analysis, it would selectively include articles from areas you did not specifically ask for, but

which it decided you might be interested in, and later check to determine if you read them (Alan didn't explain how). The idea of agents sounds intriguing, but pretty far beyond where we are now. Although, in a small way Switcher produces sets in a way that is more agent-like than window and icon, e.g. Microsoft Word, MacPaint, MacDraw and ThinkTank organized for writing. (Trivia: I learned that there are 973,293,441,072,200,029,208,152 combinations of Mac programs on Switcher).

AppleWorld Conference and MacWorld Expo.
AppleWorld Conference: I was nostalgic for the old Shareholders meeting with the exciting flair of a casual Steve Jobs and a smiling John Sculley flipping disks between them. But, The AppleWorld Conference was well done and, if not as exciting, it made me feel confident in Apple's future. John Sculley with his solid team of Bill Campbell, Jean-Louis Gassée, and Del Yocam made an impressive presentation. Those of us who have long worked to get Apple to form closer alliances with user groups were rewarded with good words by Sculley, and a full time user group evangelist. I'm sure Tom Warrick and Bernie Urban will tell you more.

Other facts of interest were the future of the Mac and //. It was pointed out that Jean-Louis Gassée - Vice President of Product Development - has vanity license plates that read "OPEN MAC". Sculley promised that there would be an open Macintosh. What might it have? I have heard so much speculation that I'm afraid to guess. Looking around the MacWorld Expo, however, gives one some ideas about what I would want in a machine: Clearly a faster processor (see Levco and General Computer below); large screen or, better yet, different optional screen sizes; the ability to insert a hard drive (like on the IBM-PC and clones); and, of course, slots. While the Mac+ is not the final solution, it is a large step in the right direction. More important, it is solid proof that under John Sculley Apple is headed in the right direction.

MacWorld Expo: Each Expo seems to be better than the previous one. The crowds were unbelievable. On the first day, Thursday, attendance was quite large for a weekday. The large crowd on Friday made me think of a weekend crowd at August's Boston MacWorld Expo. Saturday the place was packed. Some aisles were wall-to-wall people. Another sign that Mac is alive and well. In fact, I caught up with Cary Lu at the Microsoft booth. He was not prepared to entirely retract his words. But, he did admit that there was a lot of enthusiasm, and that it did appear that there were a fair number of Mac developers still working on improved and new programs.

The new product announcements were almost too much to deal with. Indeed, for the first time, the show had an Apple // section. I wished that I could have cloned myself. The programs and hardware that I saw for the //, in the little time I

contd.

had, portends good things ahead for the // family. As the numerous new products notes below demonstrate, both Mac and // developers are prolific.

Two hardware products were especially impressive. Levco's MacSuper 20 and MacSuper 20FP. The MacSuper 20 has a 68020 processor running at 16 Megahertz, with a faster instruction set, a high speed 128-word internal instruction cache, and a 32-bit wide data path (versus 16 on the 68000 in the Mac) with coprocessor support instructions (thus accessing the 68881 floating point coprocessor without special software). In order to benefit from this you must purchase the MacSuper 20FP, which has the 68881 floating point coprocessor in addition to all the above.

The MacSupers run many popular programs without modification. The machine runs very fast (it fact I would swear that it left rubber on the desk). Seriously, they claim speed improvements of from 400 to 5000 %. I believe it. Duane Maxwell of Levco ran an demonstration with Excel. It took only 23 seconds from the desktop to a spreadsheet with over 9,999 cells full of interdependent data. He changed one number and recalculation took about 7.5 seconds. Programs like MacPaint boot almost instaneously. Very fast.

The MacSuper comes with 1, 2 or 4 megabytes of high-speed RAM. Price and availability? At the present time it would cost about \$8,500 for a full MacSuper 20FP with 4 megabytes. Duane notes that Motorola is not yet selling the chip in production quantities. It currently costs Levco \$500 just for the 68020 CPU chip. He hopes to trim the price somewhat in the near future. Chip prices are falling all the time (that was the good news conveyed by Cary Lu). Hopefully, Levco can bring the price of the SuperMac down closer to what we can afford. But just the technological achievement alone is impressive.

General Computer had its souped up Mac. Although not quite as impressive as the Levco upgrade, the price was a little more affordable. GCC's Hyperdrive 2000 has a 12 Megahertz 68000 CPU, a 68881 math coprocessor, 1 megabyte of memory and a 20-meg hyperdrive. While I would love to have a Levco SuperMac, GCC seems more likely to take the market based on price. Although not quite as fast as the SuperMac, the Hyperdrive 2000 combines the speed of the Hyperdrive with a CPU that is significantly faster than the 68000 in the production Mac which is just under 8 Megahertz.

On the software side, Rick Barron of Affinity Microsystems was there with his release of Tempo, a macro generating program. I picked up a copy and hope to have a review in the next edition. Another, exciting new product was Interlace by Singular Software. This is a product which, at the Developer's Conference, John Sculley said he used himself. It is a full powered visual database system that makes heavy use of the Mac visual interface. The demonstration by Bob Welles of Singular was impressive. Hopefully, we will get a copy to review soon. Meanwhile, I am working my way through OverVUE 2.0d, which is rapidly becoming my standard database. (XLisa users take note: LisaList ports directly into the default import mode of OverVUE, after converting LisaList to ASCII text via the Apple Migration Package.)

While we are on the subject of software, a tip of the hat to Adobe. The continued increase in professional Laser fonts is

impressive. If anything will get Apple into the office it is the professional desktop publishing which the LaserWriter, Adobe's PostScript language, and their typeset quality fonts permit.

Tired of MacPaint's limitations. Well, Ann Arbor Softworks' new product, Fullpaint brings much more of Mac's power to a paint program. It was a product which drew large crowds. Paladin Software Corporation was showing its upgraded version of Crunch - SuperCrunch. The create your own icon bar feature and the addition of Micros appears to make it a competitive spreadsheet. But Microsoft, with its successful Excel, has formed a strategic alliance with The Cobb Group, and produced an impressive book on Excel, *Excel in Business* by Doug Cobb (soon to be followed by *Hands-On Microsoft Excel*, tutorial book with disk). The Cobb boys are prolific: Steve Cobb has written *Understanding OverVUE*.

New Products:



HARDWARE -

AST Research, Inc. 2121 Alton Ave., Irvine, CA 92714. **AST-4000.** 74 megabyte hard disk/60 megabyte streaming tape backup subsystem designed for the SCSI port, can be expanded to 370 megabytes.

Dayna Communications, Inc., 50 S. Main Street, Salt Lake City, UT 84144. **MacCharlie Plus.** \$1295. For 512K and Mac Plus. New version of hardware permitting the Mac to run IBM-PC programs, with single drive, 256K RAM, 10 function keys, Switcher, MS-DOS 3.1 and GW-BASIC; with upgraded ROM and MacCharlie application program.

Ergotron, Inc., P.O. Box 17013, Minneapolis, MN 55417. **MacBuffer.** \$299. 256K, 512K, and 1 Meg. buffers which claims to reduce print wait times 50-90%.

Innovative Technologies, P.O. Box 3092, La Jolla, CA 92038. **Disc Management Systems: The Pocket Pak.** \$13.95. Holds 10 3.5" and fits inside coat pocket. **The Disc Directory.** Holds 30 - 3.5" discs. **The Easel.** Holds 20 - 3.5" discs and folds to 1". **The Library.** \$49.95. On a rotating stand, holds 80 - 3.5" disks, can add two more modules for 240 disks.

IOmega Corporation, 1821 W. 4000 South, Roy, Utah 84067. **Bernoulli Box 20+20, 20, 10+10 and 10.** Removable cartridge drives for the SCSI interface on the Mac Plus.

LoDown, P.O. Box 5146, Pleasanton, CA 94566. **LoDOWN-10, 20, 40, 80 and LoDOWN-T20, T60.** \$795.00; 995.00; 1995.00; 3995.00; and \$895.00; 1795.00. Hard disk and Tape Back-up for the MacPlus via the SCSI port, will boot directly from the hard disk and supports HFS.

Mentauris Technologies, P.O. Box 1467, San Marcos, TX 78666. **MacVideo Interface.** \$188. Composite video output for the Mac, uninstalled. **Large Screen Mac- Monitors.** 23" MacCompatible. \$1290. 23" Variscan Monitor (for Mac, contd.

Apple, IBM, Atari and Commodore) \$1490. **MacMonitor Projector.** \$3980. Projects white picture up to 10', also compatible with //, IBM, Atari and Commodore.

MDIdeas, Inc., 1111 Triton Drive, Foster City, CA 94404. **HD-20** and **HD-30.** \$1095 and \$1595. Hard disk drives for the Mac Plus SCSI port.

MICAH, Inc., 15 Princess St., Sausalito, CA 94965. **MicahDrive 10 AT** and **MicahDrive 20 AT.** \$1495 and \$1895. Hard disk drives for the Mac Plus that clip onto the main logic board leaving the SCSI port free.

Mirror Technologies, 2209 Phelps Rd., Hugo, MN 55038. For 512K & MacPlus: **MagNet 20.** Internal 20 Megabyte hard disk drive with multi-user print and disk server, print spooling, disk cache, incremental backup and password protection, uses La Pine Technology drive. **MagNet 20X.** External 20 meg. drive for SCSI interface. For all Macs: **Magnum Tape 10** and **20.** Removable streaming or random access tape backup.

SpectraFax Corp., 2000 Palm St. S., Naples, FA 33962. **SpectraFax.** \$3995. For the 512K and Mac Plus. Color scanner with color graphics editing software that allows the ImageWriter II to print in color.

SuperMac Technology, 1901 Old Middlefield Way, Mountain View, CA 94040. **DataFrame.** \$1095. 20 megabyte hard disk for the Mac Plus SCSI port, does not use a fan.

Univation, Inc., 1037 Fair Oaks Ave., Sunnyvale, CA 94089. **SlimLine Hard Disk Subsystem.** Begins at \$2795. For Mac Plus SCSI port. 20 or 30 megabyte fixed Winchester mounted vertically above a 10 megabyte removable cartridge hard disk drive.

Windsor Marketing Group, 11 Madrone Avenue, San Anselmo, CA 94960. Rolltop and executive desks designed for computers.

3Com Corporation, P.O. Box 7390, Mountain View, CA 94039. **3Server Expansion Disk.** \$4995. For Mac Plus SCSI port. 70 megabyte drive, up to seven drives can be daisy chained to provide almost half a gigabyte (490 megabytes).

SOFTWARE -

Adobe Systems Incorporated, 1870 Embarcadero, Palo Alto, CA 94303. Twelve typeface packages with downloadable Laser fonts for any Postscript printer (including the LaserWriter), for the 512K and Mac Plus. \$185 per single-printer package.

Affinity Microsystems, Ltd., 1050 Walnut Street, Suite 425, Boulder, CO 80302. **Tempo.** The Macro builder for the Macintosh, record any series of Macintosh commands or keystrokes and Tempo will play them back everytime you need them.

Aldus Corporation, 616 1st Avenue, Seattle, WA 98104. **PageMaker 1.2.** \$495. Desktop publishing tool enhanced with full access to the seven new Adobe fonts in the LaserWriter Plus and supports download for the twelve new downloadable Adobe fonts.

Ann Arbor Softworks, Inc., 308 1/2 South State St., Ann Arbor, Michigan 48104. **Fullpaint.** 512K Mac. Four document, full-screen paint (with scroll bars) program, with pop-up rulers and mouse spot, can rotate, skew and distort images, desk accessories can be left on for reference during

painting.

Assimilation Inc., 485 Alberto Way, Los Gatos, CA 95030. **Work.n.Print.** Allow document printing (any order and quantity) while doing other work. **The.Right. Word.** \$89. Application program checks and corrects spelling and grammar with Webster's Dictionary and Roget's Thesaurus, with 40K word dictionary and 200K+ utility dictionary disk for hard drives.

Boston Software Publishers, 1260 Boylston St., Boston, MA 02215. **MacPublisher II.** \$149.95. Enhanced version of the original desktop publishing software, with automatic and manual kerning, discretionary hyphenation, auto page numbering, auto "continued-on" lines, repeating elements, up to 96 pages and more; can open files directly from MacDraw, Paint, Write, and Word.

Brainstorm Development, Inc., P.O. Box 26948, Austin, TX 78755. **Overture.** \$99.99. A cash flow analysis system for use as a financial planning and investment management tool.

Cognition Technology, 55 Wheeler St., Cambridge, MA 02138. **MacSMARTS.** \$69.95 (introductory price, list \$150), requires 512K or MacPlus. Integrated "artificial intelligence" productivity tool for knowledge works.

Cricket Software, 3508 Market St., Philadelphia, PA 19104. **Cricket Graph.** Create and customize graphs with total page control, output to ImageWriter (I/II), LaserWriter and some color plotters.

Digital, Tec., 1749 14th St., Santa Monica, CA 90404. **Turbo Maccountant.** \$495. Fully integrated accounting system combining general ledger, accounts receivable and payable, payroll and invoicing in one program, comes with free video training tape.

IDEAFORM, INC., P.O. Box 1540, Fairfield, Iowa 52556. **MacLabeler (2.0).** \$49.95. Program for reading and labeling disks, has versions for 512K and 128K Mac on same disk.

Infosphere, Inc., 4730 SW Macadam Ave., Portland, OR 97201. **MacServe.** For use as standalone or with Apple-Talk networks - hard disk management, data security, and print spooling.

Manhattan Graphics, 163 Varick St., New York, NY. **ReadySetGo 2.1.** New version to support Mac Plus, with enhanced features - scrolling, 40 page capacity, more versatile block manipulation and redesigned packaging.

Paladin Software Corporation, 3255 Scott Blvd., Santa Clara, CA 95054. **Super Crunch.** \$295. Upgrade version of Paladin's spreadsheet program, improves its icon bar with 64 icons to permit user customization, also adds macros plus "3D" worksheets.

ProVUE Development Corporation, 222 22nd Street, Huntington Beach, CA 92648. **OverVue 2.0d.** High powered RAM-based relational database, with Macros, charting and more, version d is not copyprotected and works with HFS. **Mail Manager Template.** Series of custom OverVue templates to manage mailings lists, prints labels or envelopes, personalized form letters with MS Word, identifies duplicates, standardizes inconsistent entries, and sorts for bulk mailing according to USPS regulations.

Silicon Beach Software, Inc., P.O. Box 261430, San Diego, CA 92126. **Silicon Press.** Create cards and labels, contd.

including identification tags, greeting cards, business cards, mailing labels, invitations, and disk directory labels.

Simon & Schuster, 1230 Sixth Avenue, New York, NY 10020. **Typing Tutor III**. \$59.95. Words and numbers tests, standard speed tests, and full keyboard test, with Kriya Systems "Time Monitoring Response" technique that automatically creates customized lessons. **J.K. Lasser's Your Income Tax (1986)**. \$79.95. Interactive interview, worksheet, 28 forms, and Lasser's guidebook. **J.K. Lasser's Your Money Manager**. \$89.95. Home accounting and small business tool that provides a check writer, financial statements, balance sheets, budget reports and other information for financial planning.

Singular Software, 5888 Castano Drive, San Jose, CA 95129. **Interlace**. \$95 (introductory price, list \$139). Merges the power and capacity of a fully relational data base, the calculation capacity of a spreadsheet with the ease of use of visual layout.

THINK Technologies, Inc., 420 Bedford St., Lexington, MA 02173. **InBox**. \$295. For 512K and MacPlus. Desktop communications application for the AppleTalk network, network users send messages and memos, and gives users file sharing capabilities.

BOOKS -

Microsoft Press, 10700 Northup Way, Box 97200, Bellevue, WA 98009. **Excel in Business**. \$22.95. An extensive work by Douglas Cobb (of the Cobb Group) on the best spreadsheet program on any microcomputer.

The Cobb Group, 301 North Hurstbourne Lane, Louisville, KY 40222. **Understanding OverVUE**. Tutorial and reference guide to OverVUE 2.0.



HARDWARE -

Innovative Technologies (see Mac products above). **The Pyramid**. \$21.95. Holds 24 - 5 1/4 discs in folding cordura.

Prentke Romich Company, 1022 Heyl Rd., Wooster, OH 44691. **Keyguards**. For people with limited keyboard skills or handicapped helps prevent accidentally hitting unwanted keys, has locking mechanisms for shift and control. **Computer Entry Terminal**. Alternate computer entry system for people who do not have the physical capability to access a standard computer.

SOFTWARE -

Access Unlimited-Speech Enterprises, 10622 Fairlane Dr., Houston, TX 77024. **Talk-Talk Screens I**. \$45.00. Talking and large print "pre-boot", use for talking programs, other text-oriented software. **Talk-Talk Prints I**. \$60.00. Graphics printer "pre-boot", legal-sized printer output (18 Pt.), converts ASCII textfiles into large or fancy print. **Prints/Screens Font Disk #1**. \$25.00. Extra large, fancy and utility type-styles and print sizes.

Big Red Apple Club, 1105 S. 13th, Norfolk, NE 68701. **Slalom**. Turns AppleWorks spreadsheets to print lengthwise, works with Apple DMP, ImageWriter, Epson MX/RX/FX and others, for //e and //c.

PBI Software, Inc., 1111 Triton Drive, Foster City, CA 94404. **GraphWorks**. \$79.95. Business graphics program to convert AppleWorks spreadsheet data files into stacked-bar graphs, line graphs, pie charts or interlaced-bar graphs. **Jeeves**. \$49.95. Desktop accessories - calendar, calculator, memo pad, phone dialer/directory and alarm clock.

Using Excel - Taxes contd. from pg 58

cally throughout the year to enter tax-related information, the entire tax process is simplified with much less trauma as April 15 approaches. You can even prepare and print a blank template to record miscellaneous business expenses during the year so that you do not have to load Excel into the computer every day to keep an accurate record.

If you take your time to enter all the applicable tax forms, schedules and tables, you will be surprised how easy preparing your tax return can be. No more math errors and erasures every time you change a number on one form. If you do everything correctly, you will be able to change any value on any form and have the new adjusted gross income and tax owed (maybe refund due!) automatically calculated in less than one second. Remember that the accuracy of your tax returns will only be as good as the quality of your spreadsheets. Check and re-check the math formulas used and be sure that specific cell references are accurate. This can be facilitated by use of the "display" command from the "Options" menu. You may check the show "formulas" option and Excel will double the column widths to display the formula references in each cell. Figure 4 illustrates the desktop with icons representing tax forms, schedules, macros, and miscellaneous business worksheets.

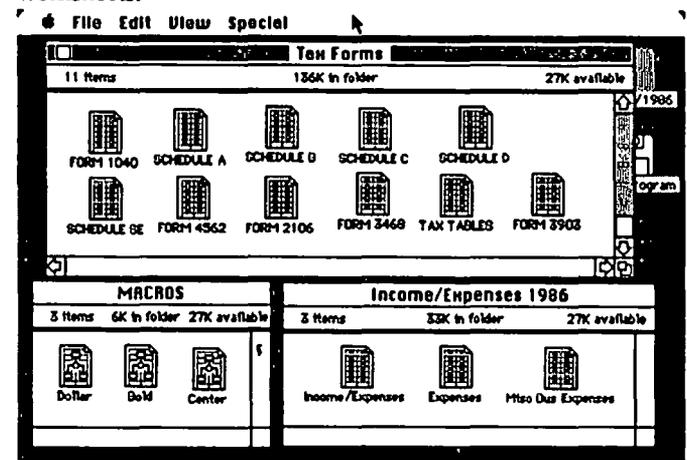


Figure 4

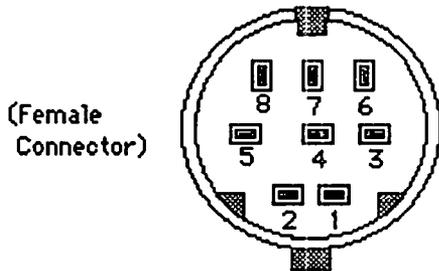
Preparing taxes are never fun, but they can be made much less of a chore by using spreadsheets such as Excel to simplify and speed the process. Taking some time to do the initial preparation will save much time and frustration in future years. I have not been able to address all possible tax situations but, hopefully, your curiosity will have been stimulated enough to consider using a spreadsheet such as Excel to make tax preparation easier. If you have further suggestions that may benefit others, please write it up and submit it to the WAP Journal.

MACINTOSH PLUS CONNECTORS

by Jonathan E. Hardis

The following is condensed from Apple Technical Note 65, Macintosh Plus Pinouts, by Mark Baumwell.

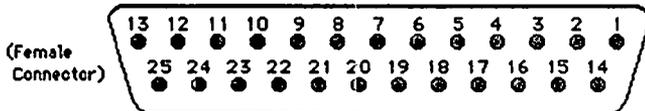
Macintosh Plus Serial Connectors (Mini DIN-8)



(Female Connector)

Pin	Name	Description/Notes
1	HSKo	Output Handshake (from Zilog 8530 DTR pin)
2	HSKi/External Clock	Input Handshake (CTS) or TRxC (depends on 8530 mode)
3	TxD-	Transmit Data line
4	Ground	
5	RxD-	Receive Data line
6	TxD+	Transmit Data line
7	Not connected	
8	RxD+	Receive Data line; ground this line to emulate RS232

Macintosh Plus SCSI Connector (DB-25)



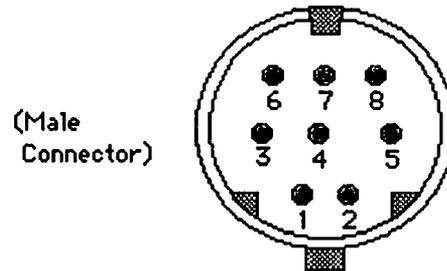
(Female Connector)

Pin	Name	Pin	Name
1	REQ-	14	Ground
2	MSG-	15	C/D-
3	I/O-	16	Ground
4	RST-	17	ATN-
5	ACK-	18	Ground
6	BSY-	19	SEL-
7	Ground	20	DBP-
8	DB0-	21	DB1-
9	Ground	22	DB2-
10	DB3-	23	DB4-
11	DB5-	24	Ground
12	DB6-	25	TPWR
13	DB7-		

Note: Pin 25 not connected

Macintosh Plus Cable Pinouts

Apple System Peripheral-8 Cable (connects Macintosh Plus to ImageWriter II and Apple Personal Modem) (Product part number: M0187)



(Male Connector)

(DIN-8)	(DIN-8)
1	2
2	1
3	5
4	4
5	3
6	8
7	7
8	6

Macintosh Plus Adapter Cable (connects Macintosh Plus DIN-8 to Macintosh DB-9 cables)

(DIN-8)	Name (DB-9)
1	+12V
2	HSK
3	TxD-
4	Ground
5	RxD-
6	TxD+
7	no wire
8	RxD+
	Ground
	1

Note: DB9 pins 1 and 3 are jumpered together.

BEST OF THE MAC ITEMS - UBBS

by Regina Litman

Mac Programming

Print Manager & 68000

FRED NAEF ON 11/30 TO ALL

I'm attempting to use the Mac Print Manager (as described in Inside Macintosh) Assembly Language with NO Pascal. I.M. says there is no way to access routines such as PrOpen, etc. Assembly Language except by: 1. Opening the driver '.Print'. 2. Getting the name of the printer resource file (in 'STR' #-8192 (\$E000)). 3. Opening the printer resource file. 4. THEN, to do the PrJob routines, load PDEF #4 into memory. Okay, now, how do you call the routines?? I.M. says that each overlay (or PDEF resource) is preceded by offsets to the Print Manager routines. They give examples of \$00C0000, for one. What is this added on to? One other source I've read states that these offsets are BRA statements. Looking at the actual offsets with ResEdit 0.7, they are JMP n(PC) statements (n is an offset). If I call the Manager by merely jumping to the offset statement (to the JMP instruction) I always get a system error (with varying ID#s: 2,3,11, etc.). How do you call Print Manager routines Assembly Language? Thanks in advance.

TIM BUEHRER ON 12/03 TO FRED NAEF

Derick, assuming that you are using the MDS, the easiest way to access the printer manager is to use the PrLink.Rel file included in the package. To do so: 1) Include the PrEqu.Txt file in your program; 2) Link PrLink.Rel with your program; 3) JSR to PrOpen, etc. within your program. The program TestPrint (I think that is the name) in the MDS is an example of how this is done. If you do not have PrLink.Rel, the August issue of MacTutor pp. 12-19 gives the source code for PrLink.Rel. Good luck.

Tech Notes & HFS

TIM BUEHRER ON 01/12 TO ALL

I have just received the HFS package Apple. It included the current versions of System (2.1), Finder (5.0), Font/DA Mover (2.5), Imagewriter Driver (2.0), and ResEdit (1.0D4 - yes that is the new numbering system: 1.0 is the number that will eventually be released; D means development, less than Alpha; and 4 means the fourth of the series) along with 133 pages of new IM File Manager section. The latest installment of tech notes also arrived with notes on HFS among other things. Apple will send these to anyone willing to pay the freight, \$25 for one year of tech notes and \$25 for the HFS package as well as the last software supplement ("December"). All in all they are probably both worth the money if you are serious about programming the Mac.

TOM PARRISH ON 01/14 TO TIM BUEHRER

Tim: What's the address to order the HFS package and the December supplement Apple?

Apple Address

PAUL COZZA ON 01/21 TO TOM PARRISH

Tom: You can order the Software Supplement : Apple Computer Mailing Facility, 467 Saratoga Avenue, Suite 621, San Jose, CA 95129. Their phone is (408) 988-6009, but they will only take an order through the mail. Just send them

\$25 and your return address, requesting them the December Software Supplement. It takes about 3 weeks to get it back. It's well worth the money!

Inside Macintosh

TIM BUEHRER ON 01/23 TO ALL

The new hard cover Inside Macintosh is now in print. Those who ordered the original software supplement should have it already or be receiving it shortly. The rest of us should keep an eye out at our favorite bookstores.

TOM VIER ON 01/29 TO TIM BUEHRER

I'm still looking for info on the Mac drives (hardware and format, not file structure). Does "Inside" have this? How many pages? Few enough that they could be copied and sent? Thanks!

TIM BUEHRER ON 02/01 TO TOM VIER

Inside Mac has a 9 page section on the disk driver which simply gives the calls for ejecting disks, checking drive status (which gives all sorts of info on the current position of the head, type of disk, etc.), and setting the sector tag buffer. The hardware section of Inside Mac has 4 pages on "The Disk Interface" which explains how the drive communicates with the Mac. Finally, the old phone book IM, but not the new hard bound IM, has an example of a disk driver in the device manager section. I'd be happy to send you anything you want, but I'm not sure I know which of these would be of use to you for your project.

MAC Hardware

New Ext. Drive

DOUGLAS E CANTON JR ON 11/29 TO ALL

Mirror Tech. 800K external drive can be seen at Computer Age. It appears to in fact be twice as fast as Apple's external drive for the Mac. I have not had any hands on. Mirror Tech. has not, as far as I know, indicated compatibility with a hierarchical filing system. The Mirror Tech. drive does not auto eject the disk. An LED lights up when the disk may be removed. Removing/ejecting the disk is done by pressing a button on the front of the drive when the LED is lit.

Tecmar Troubles

BILL AMON ON 12/09 TO BOB MASSO

I am using Tecmar here but with new version 2.2 software. Suggest you get the latest version either me or Steve Birgfeld, Tecmar Rockville, 294-9661. Note that the "Print Spooler" is not done properly in RAM. Thus control is returned to the Mac only after all but the last 1/2 page is printed! I understand that Tecmar will offer a future software/hardware upgrade to support true print spooling. This will consist of RAM (the logic board already has empty sockets to receive the new RAM) and a revised boot disk. No word on when this will happen.

Apple 20 Meg Hard Drive

JULIAN MILLER ON 01/12 TO ALL

If anyone has the Apple Hard Disk yet I highly recommend the use of Way Station till they have a proper hard disk port contd.

and new ROMs to speed things up.

Mac+ Upgrade Process

RICK STICKLE ON 01/20 TO LARRY HALFF

The only thing it seems Apple has really done wrong this time is there is no "deal" on the external disk drive. I think it would drive me crazy to have 800K internal and 400K external. Speaking of hardware, I understand that the +5 and +12V lines are gone the new round serial ports. Anyone have any ideas on what that will do to things like Thunderscan?

LARRY HALFF ON 01/20 TO RICK STICKLE

Yeah...I was upset by the fact about the 400K drives. I don't want to have to fork over another \$500 for an external drive. I also wonder what people with these 3rd party 800K drives will do. About the serial ports, I would recommend calling the manufacturer of the product about what it will do to the hardware. Maybe there is an upgrade policy or something, or it may not matter at all.

RICH NORLING ON 02/04 TO RICK STICKLE

Yes, Thunderscan will not work with the new serial ports. I understand that MacBottom also used the +5 or +12V lines. Apple always warned developers not to use the +5 and +12V lines, so the problem is the fault of the Thunderscan manufacturer. I assume they'll have to offer upgrades to current owners of Thunderscan -- at least they should!

Thunderscan

RICK STICKLE ON 01/22 TO ALL

I called Thunderware about the lack of the +5 volt pin on the new MAC+ and was told that they will be mailing out a notification to all users. They will be redesigning the Thunderscan adapter to plug into 110 volt, and when the design is finalized they will notify users of the cost of the upgrade.

Unofficial 512K Upgrade

PAUL COZZA ON 01/21 TO DAVID FISHER

The dealer I talked to said that Apple will accept our "unofficial" 512K boards but treat them as 128K boards (i.e., charging \$799 for the upgrade, vs. \$599). If the 256K bit DRAMs are socketed, maybe we can keep them (for what they're worth!). [Cost to upgrade 128K = \$300 for ROM and drive only - same as 512K].

MacPlus Upgrade - Group Purchase

JIM RHODES ON 01/22 TO ALL

Especially to Rich Wasserstrom - what can we do about a group buy for upgrades? Please sign me up for one for 128K to MacPlus specs. I don't know about the keyboard though - it might get in the way of the mouse. Thanks.

TOM WARRICK ON 01/26 TO JIM RHODES

Rich is working on getting us a better deal than 25% off on the upgrade.

MacPlus

TIM BUEHRER ON 01/23 TO ALL

At the MacWorld Expo the WAP booth had a Mac Plus to try out. One interesting set of experiments that was run was to race the MacPlus against the 512 using various programs. The Plus was much faster in opening and closing files (a testimony to the speed of the new file manager). However,

when running the fractiles program on SIGMAC disk twenty-something, the 512K Mac completed the drawing of the fractile pattern 20 to 25 percent faster than the Plus despite the fact that the Plus began drawing the pattern earlier (in all likelihood because SANE is in ROM on the Plus). Other drawing intensive programs seemed to yield the same results. Any thoughts?

HFS

JIM RHODES ON 01/30 TO ALL

There must be some others out there who are confused like me about HFS. Is there anyone who can help us understand just how well our old software will run on the new MacPlus hardware? More specifically, what if one doesn't want or need to run a hard drive? (1) Does the new ROM &/or double-sided drive require the use of HFS on your disks? (2) Can we still use disks with MFS on them? (3) Can we use a RAM disk with MFS and MacPlus upgrade? I'm thinking maybe it would be better to get something like Levco's MonsterMac so I won't need to upgrade my software (I think not - but maybe). Anyone sharing info on this would be very much appreciated.

RICH NORLING ON 02/04 TO JIM RHODES

I can help with some of your questions. The new ROM does not require use of HFS on your 400K single-sided disks. It recognizes and reads MFS (the old "flat" Macintosh File System) disks. When you initialize a disk, the new system initializes it with HFS if it is a hard disk or a double-sided floppy. It initializes it with MFS if it is a 400K floppy, unless you hold down the Option key to force it to use HFS. The new operating system (the one with Finder 5.1, which should be available your dealer soon) has a RAM file caching scheme which you run the Control Panel desk accessory -- I do not know if that will interfere with RAM disk software. Finder 5.1 is recommended by Apple for use with 512K Macs and MacPlus but not with 128K Macs.

ImageWriter Printhead

JOHN MARKEY ON 02/02 TO ALL

Does anyone know a simple way to cure missing pixels when printing (pixel dropout)? Seems that number 6 wire in the printhead is "stuck". I tried cleaning with a small brush. Any advice appreciated before I spring for a new printhead. Thanks.

TOM DEMAY ON 02/03 TO JOHN MARKEY

John, you might try a squirt of WD-40. It will dissolve the ink that is coating the printhead as well as lubricate it.

Mouse Problem

CHARLES TURNER ON 02/03 TO ALL

In the vertical direction only, my mouse moves and then stalls, repeating this pattern up the screen. Close examination shows that it moves up 28 lines and then alternates up and down one line 28 times before again continuing up. Cleaning by me and the dealer has been no help. An Apple 512K upgrade didn't help. It seems to be in the mouse. Any suggestions before I get a new one?

RICH NORLING TO CHARLES TURNER

I suggest trying a borrowed mouse before you pay for a new one. If the problem is not in the mouse itself, it may be a major problem inside your Mac. The mouse interrupts are actually processed by the hardware for one of the serial ports in a very complicated way.

contd.

MAC Software

Help on SigMac Disk

RICHARD WIELAND ON 12/07 TO ALL

I am unable to open any MacWrite documents on three SigMac disks just purchased. The Games and Switcher 4.4 seem to work fine, but each time I try to open the documentation I get a not able to open document message. Does anyone have any suggestions?

MARTIN MILROD TO RICHARD WIELAND

SIGMAC disks use MacWrite 2.2 (for reasons I cannot agree with) and have to be "opened" and "converted" if you are using MacWrite 4.5. Therefore, either use MacWrite 2.2 or move (copy) document to another disk and then open with 4.5. It takes more room to convert a 4.5 document.

MacTerminal V2.0

GRANVILLE S KNOX JR ON 01/24 TO ALL

MacTerminal V2.0 is now available for upgrading V1.0 disks. I picked up mine at Clinton two weeks ago. I'd have put up notice before this but have not been able to log on.

MAC Misc & Gossip

Mac S/W Tools

VASILIS RIGINOS ON 12/02 TO ANDY GALLANT/ALL

We have been using the Mac for planning a software project (Mutliplan, MacProject, Excel) and for extensive documentation. In the latter we have several programmers using a mini (Unix) as central depository of documentation. We use the MacLine for this. Illustrations by MacDraw and MacDraft and final copy to the Laser. Want anything specific please ask.

128K Mac

RON BRENNER ON 01/17 TO ALL

Someone offered me a 128K Mac and printer. They want me to make an offer. I have no idea of the value or worth of this machine. I'm interested in getting it but need some help in developing an offer. What should I look out for, etc.? Any wisdom would be appreciated.

JAMES LITTLE ON 01/19 TO RON BRENNER

The value depends on what you need it for. Printer is one generation back - not bad but not latest word. Est. worth of similar new discounted printer is \$350. The Mac is useless without upgrade. (Mine is still 128K, so I know.) Subtract whatever upgrade path you wish to take the 2K cost of a 512 (less WAP discounts) and see if it's worth it. By the way, which CPU board makes a difference on upgrades. Late style CPUs have the space on the board for the new chip for the address decoder. See Dr. Dobbs Journal at office for details of self upgrade. Local upgrades start at 250 or so. Parts costs for the whole thing is about 55 including 16 mem chips!! It isn't a job for just anyone. Takes about 4 hours of careful work. More than you need and still doesn't answer the fundamental? At least a bit of background on where to go. Other possibility - check Computer Shopper classifieds (Crown Books). See if there are any Mac 128s for sale there.

IBM Super Mac

MICHAEL DROLET ON 01/28 TO ALL

I saw a demo today of IBM's new RT PC, using an application called APPLIX-IA. It is a combination of MacWrite and MacPaint in the same application, basically, and I was very favorably impressed. The RT appears to fall in

between the AT and the System 36 mini-computer. Also saw a "desktop publishing" application (Workstation Publishing Software) that looks as good as anything I've seen for the Mac. Looks like they're going for the Fortune 500.

Macintosh Tech Notes

JASON DELOOZE ON 01/28 TO ALL

I am looking for copies of the Macintosh Technical Notes; in particular, I am looking for copies of Tech Notes #12 & #13 concerning the format of MacWrite documents. Can anyone help me acquire copies? Thanks! Jason

MICHAEL DROLET ON 02/02 TO GAVIN HEMPHILL

See Jan/Feb Nibble Mac for Mac Tech Note #12 and a related article on Disk Based MacWrite format - pages 58 to 72.

Telecommunications

GEnie

RICK STICKLE ON 01/20 TO GARY HAYMAN

Gary, I've been on GEnie for about a week now. If you are using a Mac the program downloading seems to be fine. At this point there are over 700 programs on line, the download section supports XMODEM and MacBinary, and many of the programs are there in PackIt form saving time and multiple file downloads. The section seems very up to date with things like Red Ryder 7.0. Definitely worth a look.

PAUL H. SCHLOSSER ON 01/23 TO ALL

I called General Electric in Rockville and got the following info on GEnie: They currently have GE Mail, a CB simulator, a BBS section, a software library, a game section, news service, the encyclopedia section, and a travel section, with more being added. (REAL SOON NOW!) You can call GE in Rockville at 340-4000 and get more info. Connect time is \$5 an hour, at any speed. I was given a temporary password to call and sign-up. Sign-up fee is \$18, the 800 # is 800-638-8369 (modem), but call GE first to get a temp password.

Protocol Choice

CHARLES TURNER ON 01/31 TO ALL

BYTEnet Listings offers download via XMODEM, XMODEM/CRC, and Kermit, among others. My Red Ryder will receive any of these three. What are the factors in selecting one, or is there a clear choice?

GEORGE KINAL TO CHARLES TURNER

My personal advice is to use XMODEM/CRC. This should be faster than Kermit and a little more robust (reliable) than standard (checksum) XMODEM.

Red Ryder and CRC

REGINA LITMAN ON 02/05 TO GEORGE KINAL

XMODEM/CRC does not work properly with Red Ryder, especially when downloading a BBS running the IBM-PC and compatible BBS program RBBS. A program called Free Term, version 1.8, does not handle this properly either, but it is easier to turn off the CRC XMODEM and therefore is recommended for use with RBBS systems that support CRC XMODEM.

Mac BBS's

REGINA LITMAN ON 02/05 TO CON RODI

Here are some local BBS's with Mac downloads: Files Board (301) 946-8838, MacNews (202) 226-6543, ABBS (703) 648-

contd.

9406, T.I.E. (301) 258-9534, Falcon (301) 961-2028. Mac conversation only: Terry Monks (703) 471-1378 (possibly not taking new members), Magus (703) 648-9322.

Games & Gamesig

Orbiter

RICK STICKLE ON 12/13 TO RICHARD BOLLAR

Rick, no, I haven't seen it yet. I did get a couple of calls the guy doing the programming about payload information. He also told me that I was one of the first scheduled to be sent the beta. To add to the confusion I saw an ad in one of the Mac mags (MacUser?) Spectrum about Orbiter. When I do get the beta I intend to put a quick review up here so folks know what to expect. What I've been told it sounds like a great program.

RICK STICKLE ON 01/22 TO ALL

Orbiter Spectrum HoloByte is now due for release on the 15th of February. The betas will be shipped shortly. The game is a full 512 and is fully animated plus has speech. The animation is not wire frame. It looks like it will be an excellent simulation.

RON WARTOW ON 01/24 TO RICK STICKLE

Rick, if the game looks anything like the screen in SH's MacWorld ad, it will be spectacular.

RICK STICKLE ON 01/24 TO RON WARTOW

Ron, the ad for Orbiter shows only one of the screens. SH sent beta testers a two page preview of some of the screens, and all I can say at this point is that there is more where that came. I think Orbiter will be like no game we've seen before on Mac or any other machine!

RICK STICKLE ON 02/03 TO ALL

I called SH this morning to check on the beta for Orbiter. It looks like there will be another delay since they are having trouble with the 3-D graphics. At this point there will probably be a letter going out to the beta testers at the end of the week, and they are thinking of taking ads to tell people they are sorry for the delay.

Dungeon of Doom

JIM RHODES ON 01/15 TO ALL

Anyone having problems with running Dungeon of Doom the Sigmac Disk? I followed all directions for making a DOD disk, but I get a bomb! Maybe it doesn't run on 128K with single drive.

JAMES LITTLE ON 01/20 TO JIM RHODES

Nope, it will not fit into the 128 Mac, & the recourse is more memory. \$60 for parts for the bold (and skillful). See Dr. Dobbs for writeup. The hitch is getting the 74F253. I'm trying 74LS253 this week.

Gamestar Baseball

MAC NACHLAS ON 01/20 TO ALL

Well there is finally a baseball game for the Mac - Championship League Baseball Gamestar distributed by Activision. Unfortunately, this one rates about one half of a mouse. Graphics are OK, but the game is just a converted Atari game. No Mac interfacing here. No menus. Mouse is treated like an inverted joystick. Limited strategy options. But worst of all, the thing has big ugly bugs. Sometimes (usually when I'm winning) the thing hangs up. It has something to do with leading the runner off third base. But I haven't quite nailed it

down yet. Anyway the game just goes away. Nothing happens. So I called Gamestar in California, on my nickel, and they told me, "It's not the game. It's because the Mac has had different ROMs, and you have the wrong one." Unfortunately (for me), the package didn't say "some Macs" or "Macs with certain serial numbers"; it just said Mac. I sent my disk back to California and got a new one back (6 weeks, 4 phone calls), but it doesn't work either. If I sound P.O.ed, I am. I suggest you do not buy this game.

RON WARTOW ON 01/24 TO MAC NACHLAS

Nice to see a new face on the GameSIG board. One of our "functions" is to inform the membership of gaming "no-gos". Our December column listed this game in the "Not Recommended" category. Please feel free to call me on the Mac Hotline before buying games. Several of the GameSIG members, including myself, own Macs and have played or seen practically every game. I hope your future buys are not as painful.

Flight Simulator

RICK STICKLE ON 01/28 TO ALL

Those of you who are sharp eyed may have noticed that in the back of the new MacUser, it says that Flight Simulator is coming for the Mac. Well, it's true. I called Sublogic and was told that it will be released in March and marketed by Microsoft. They could not give me a price yet. ☺

Elec. Stock Trading contd. from pg 27

SUMMARY

Should you buy "The Equalizer" ?.....

First of all, the cost of the program should be placed into perspective. If your interest in trading securities is very occasional, e.g. selling shares of stock from an employee purchase plan, or buying a few shares of a Blue Chip for your grandchildren, obviously you don't need this kind of software, regardless of cost. On the other hand, it doesn't take a whole lot of trading to spend hundreds of dollars a year in sales commissions. Then, the cost of The Equalizer (and the fees) are tax deductible, and the savings in commissions compared to a full priced broker may more than offset these charges (Indeed, a comparison of the charges by the various discount brokers themselves might be worthwhile).

My general assessment is that the dabbler in stocks doesn't need any of these services, although an occasional call via The Source, CompuServe, or Dow Jones to retrieve stock prices will be easier than poring through the newspaper.

For the more active trader, the automation of order management and the maintenance of records for tax purposes, considered in the light of the fact that Schwab (and Quick and Reilly, for that matter) are discount brokerages, probably justifies using either approach (The Equalizer or QuickWay). I do wish, however, that Schwab would consider making its on-line trading accessible to users with conventional communications software. After all, two things are obvious. Schwab is not in the software business; selling thousands of Equalizers will not make them a profit. Therefore, the software charge is a form of "earnest money", intended to discourage those who aren't serious. Fine: why not just charge an initiation fee, in exchange for which the purchaser would get system access information (commands and passwords) permitting on-line trading? ☺

DISKETTERIA DISPATCH

by Jim Little

WAP Disks 46 - 53: French Instruction

WAP Disks 54 - 59: Spanish Instruction

The big news is a set of language programs (DOS 3.3) from the Anne Arundel Public School system - a set of eight French instruction disks and another set of six in Spanish. Use of graphic screens is important to the entire series. People and places are shown as part of the instruction. As one example, you can play tic-tac-toe in either language. A visual board keeps track of the progress of the game. You must successfully answer the questions to place your mark. Vocabulary drills, literature, interviews, and quizzes complete the series. Documentation for each set is included on the reverse of indicated disks. An audio tape is part of the package, and while not a normal disketeria item, will be issued for the price of a disk. Most of these disks communicate with the student in the language, but not all. Some control programs are in English, and of course all the Basic statements are familiar standard Applesoft. Language accents are included in the visual screens in the proper place. These programs were professionally prepared in the school system and have been donated to the public domain for distribution. Our special thanks to the school system and Gary Taber, coordinator of foreign languages.

Remember that with a set you get a \$1.00 per disk discount. Buy the package of 8 or 6 plus tape for the whole set. The following are the French disks and titles:

Disk 46: French Vocabulary Tutorial. May be used with the audio tape. Documentation for the series is on the reverse side in text file format.

Disk 47: Tic-Tac-Toe in French. The name says it all. For two players. Correct answers to the questions allow you to move. Block if you can. Nice graphics on the screen.

Disk 48: Boot for l'Hote. Required initializer for Disk 49.

Disk 49: l'Hote Story.

Disk 50: l'Hote Quiz. Didn't think that you could get away with out a test, did you? See how much you have learned. Try again. Neat graphics and special screens with accents in correct places. Big smiles reward correct answers.

Disk 51: French Poetry Tutorial. More nifty graphic screens.

Disk 52: Apollinaire Biography.

Disk 53: Albert Carnus Interview. A selection of prepared questions and replies from the author's works.

Now for the Spanish section:

Disk 54: Tic-tac-toe in Spanish. Same setup as in the French Disk 47. Documentation on reverse.

Disk 55: Rafel-boot. Required boot disk for Disk 56.

Disk 56: Rafel.

Disk 57: Rafel Quiz. Check on what you have learned.

Disk 58: Matute. Another interview, with replies to prepared questions.

Disk 59: Lo Fatal.

Audio tape 1: French vocabulary.

Audio tape 2: Spanish vocabulary.

WAP Disk 173:

Riley's Personal Instrumentation

As promised in Tom Riley's article last month we are

issuing the programs to run his temperature lab. (A commercial equivalent for just one temperature channel costs \$99.95 + tax.) For information see February 1986 WAP Journal. This is his complete set of data and control programs.

Disk /WAP806: ZAP

A sector editor and modifier for ProDOS. More nifty stuff to work on the files on a disk. Works with][+, //e and //c's. The + edits 256 bytes at a time. The //e or //c with 80 column cards will work on a 512 byte block. Alter protection, recover a lost file, modify, or whatever. Work on copies, not originals, if possible. Documentation on the disk may be viewed or printed out.

For SigMac this month we have Disk 34, plus a set of three disks containing Modula-2 for the Macintosh. This set will sell for \$15 (see description below). Also, please note that SigMac 31: Dungeon of Doom/Eliza Talks, which was released several months ago, requires 512K.

SigMac Disk 34: Excel Tax Templates '85

Notes by Tony Anderson: Tax time is upon us once again. While the Mac can't change that fact of life, the combination of this disk, Microsoft Excel, and Macintosh can make tax time a little less taxing. The Macintosh will help you calculate all of the major IRS forms in record time, plus let you look at all the various ways to compute your tax to minimize your liability. While on the subject of liability, we of course assume none. We believe these templates to be accurate but they are distributed "as is". The author asks that if you like these and want to receive next year's templates, please send him a small fee. See the Run Me First file on this disk.

Forms on this disk: 1040, 1040-ES, 2441, 3903, 4136, 4137, 4562, 4797, 5695, 6251, and W-2.

Schedules on this disk: A, B, C, D, E, F, G, R, SE, U, and W.

Modula-2 68K for the Macintosh (3 disks)

The following notes were submitted by Dave Weikert.

(This is a 'quick and dirty' translation of portions of one of two documents, written in German, that came along with the compiler.)

Pre-Release 4/25/85 (This compiler is based on earlier versions for different types of hardware written by several people at the ETH Zuerich. The Macintosh version is being written by Peter Fink and Franz Kroenseder at the 'Institut fuer Informatik, ETH Zuerich'.)

The three disks contain a Pre-Release of Modula-2 for the Macintosh. The library does not yet allow access to all of the Macintosh's ROM-Routines, but it is in a coherent and usable state. Compiler and linker work reliably. Real numbers are implemented and transcendental functions exist in the library. The library contains routines that allow formatted reading and writing from/to keyboard, screen and files. Elementary graphics routines in the Macintosh ROM are accessible. You may also use keyboard and/or mouse for input.

'Rules of the game': This compiler is provided to you on contd.

an as-is basis, i.e. we are still working on it but nevertheless you may already use it. We can't give you any further documentation, either on our programs or on the internals of the Macintosh (except the disk M2-Doku). The disks contain ALL the Software that is available for the moment. We DON'T give any further support. Don't give away the compiler for commercial purposes, especially no selling! (This is not a product. There is no warranty for anything. Except that the people who wrote it, did their best.

Description of the disks contents: There are the three disks: M2-System, M2-Doku and MODLIB.

M2-Doku: This is a bootable documentation disk.

EDIT: Text Editor to read and print the text files.

Introduction : the text that you're just reading.

GUIDE.TEXT: Description of the compiler and linker covering all options and switches. Description of the Modula-2 dialect the compiler is working with.

DEF1 Folder: This Folder contains the .DEF Files of all library routines:

Conversions: number formatting

InTerminal: input of numbers

M2Files: file I/O using characters and words

MathLib0: transcendental functions and square root

MathLib1: more functions, pi and random numbers

OutFile: output of numbers to a file

OutTerminal: output of numbers to the user

RealTerminal: input/output of real numbers

Storage: dynamic memory management using a heap

Terminal: input/output, cursor positioning (input is also simulating ASCII, for example Command+X=CAN, Command+[=ESC)

QuickDraw: Access to the Quickdraw routines

EventMgr: event manager of the Mac, interface to mouse and keyboard

DEF2 Folder: This Folder contains the .DEF Files of special modules:

Clock: clock interface

Loader: loading and execution of overlays

MCLookup: filename dialog, as used in compiler & linker

Options: service module for MCLookup

PascalStrings: conversions between Macintosh and Modula-2 strings

SFPackage: filename dialog (as used in MacWrite or EXEC) MiniFinder

OSConstants: numbers of Macintosh error messages, halt index, some bomb ID numbers

MODLIB: This disk contains all the files needed to compile and link, i.e. the compiler, the linker and the library.

m2comp: compiler

m2link: linker

Folders: overlays, .SYM and .LNK files

M2-System: This bootable disk contains the Editor, runtime application EXEC (Loader) and some example programs.

EXEC: runtime application to run Modula-2 programs. You may click on a Modula-2 program (as m2comp, m2link or *.LOD) or just on Exec. With the editor you may choose Exec directly from the TRANSFER menu. Exec lets you select a program from a file window. After execution of the program you will return here. Click on CANCEL to quit and return to the Desktop.

LISACONVERT: Application to convert textfiles from the Lisa format.

Examples: Example programs in .MOD and .LOD format. You may delete these to make room for your programs. ☺

BOOK REVIEWS

by Robert C. Platt

Welcome back to the book review corner. Keeping up with the latest titles is a never-ending struggle.

Apple // Book for Kids

Sound and Graphics: Apple II+, IIe & IIc by Jerry and Valerie Abad is a colorful and appealing book designed for grades 2 to 6. (It may be more suitable for grades 4-8, but then I'm not a kid.)

The coverage seems complete. Each chapter covers a specific problem and is short enough for a child's attention span. The Abads cover: color, moving graphics, 3-D graphics, using joysticks or paddles to fire missiles, sound, simple Apple music, and combining graphics and sound. Both lo-res and hi-res Applesoft programming is covered. The book may be a bit too wordy for younger children, although the material should be sufficiently challenging for most young computerists. [Datamost 1984, \$9.95.]

Modula-2 on the Mac

We are rapidly approaching a dozen different Modula-2 books on the market. (This is good news for the reader because he is guaranteed to find one that will catch his fancy. It's bad news for me as a Modula-2 book author because it means tougher competition for market share.) Macintosh Graphics in Modula-2 by Russell L. Schnapp represents a maturing of this market. It is the first Modula-2 book that uses the language to teach something else, in this case Quickdraw 3-D graphics and animation. Schnapp presents material to Person's Macintosh Game Animation, but uses Modula-2 instead of MS-Basic and includes less theory as background. Although the Mac's ROMs are standard, the Modula-2 interface to access them is not, and Schnapp's book is limited to only "MacModula-2" from Modula Corp. Schnapp has selected several visually pleasing examples including a line drawing of the Space Shuttle, Moire patterns, and a poor man's MacDraw. If you have MacModula-2, this is a must read! **Recommended.** [Prentice-Hall 1986, 184 pp. index & glossary \$19.95, program disk \$11.95]

MacBasic

My last column explained that Apple decided against official release of MacBasic, a multi-window highly interactive implementation of Standard BASIC. It is a different language than MS-Basic which is available commercially, and must be obtained through unofficial channels. One MacBasic book which I particularly admire is Richard Norling's Macintosh BASIC. Norling's book is well suited for the first time programmer. His interesting sample programs include calculating the number of gallons of paint to cover a room; a stopwatch program; an address book program; copying the note pad file; a mini piano program and a pattern editor. The program lists all ROM calls in an appendix and provides complete solutions to end of chapter problems. **Recommended.** [Osborne/McGraw Hill 1985, 454 pp. \$17.95.] ☺

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WAP TUTORIAL REGISTRATION

The following three WAP tutorials are being offered to Apple // owners on Tuesday evenings from 7:30 to 9:00 PM, at the office, 8227 Woodmont Ave., Bethesda, MD. (The tutorials start promptly at 7:30; if you bring your computer please arrive 15 minutes early to set up.) You may sign up for any or all of the series. They are designed for the "beginner" and will be repeated monthly. A revised outline of the tutorials was given in the October 1985 issue of the WAP Journal. However, the 3rd tutorial has been changed as follows: It will introduce AppleWorks, Apple's integrated Word Processor, Database and Spreadsheet, for use with Apple //c, //e and][+ when patched by Norwich Plus Works or similar software. An AW Data Disk will be available for use (or copying) during the tutorial. It contains several small (less than 10K) examples of databases and spreadsheets, in addition to instructions in the form of an AW word processor file. The tutorial is designed to guide new AW users through the procedures for using, adding to, and altering existing files. The particular files used will be chosen in response to requests from registrants.

- () March 4 - WELCOME TO THE WORLD OF APPLE - () April 1
- () March 11 - HOW TO USE YOUR APPLE SOFTWARE - () April 8
- () March 18 - POPULAR APPLICATIONS FOR YOUR APPLE - () April 15

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

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

SigMac is sponsoring a series of two monthly tutorials for the beginner. The fee for two tutorials is \$30.00. They will be held at the office, from 7-10 PM on Monday evenings. 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, April 21 and 28 (March tutorial is full)

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

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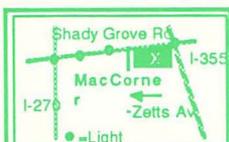
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