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# Washington Apple Pi



The Journal of Washington Apple Pi, Ltd.

Volume 8

July 1986

Number 7

## Highlights

- Button-down Guide to the Apple
- ProDOS Revision of Comm-Term
- Family Home Money Manager-Part 3
- Exel Scatter Charts of Several Dep. Vars.
- Mucha DA'S (pages 64-67)

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July  
Specials

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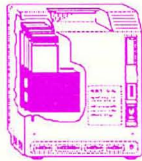
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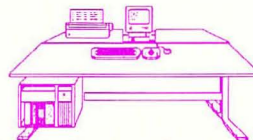
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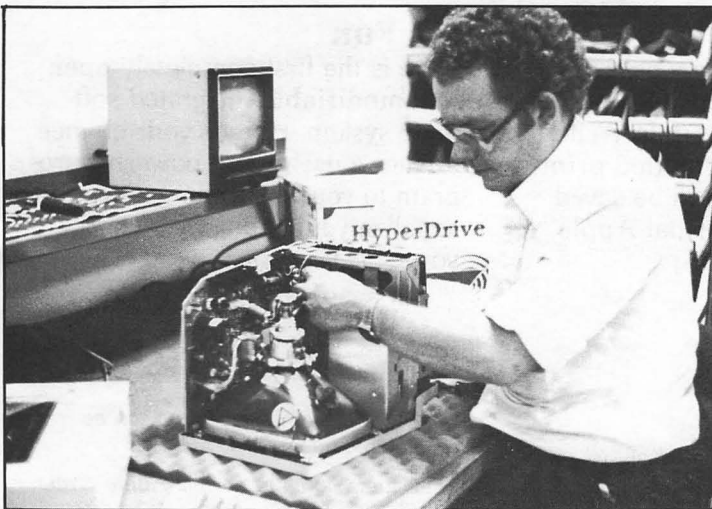
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Unfortunately, **The Comm Center** suffered a major loss a year and a half ago when fire destroyed the shopping center. Although completely rebuilt, it could not continue to survive the financial burden when it received a smaller insurance settlement than was expected.

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## EDITORIAL

Now hear this, it happened again. Our Mac+ internal drive went bad after about 10 hours of hard use on this issue. This is the third time since attaching the DataFrame 20. We've been carrying the hard disk to the office and back each work day and it has not affected the office Mac+ in any way. Our second repair by HLA was a complete replacement of the internal drive. Our workaround for the Journal crunch week-end was to use the external drive and the Mac+ with the Data-Frame 20. Everything worked like a charm (as long as we avoided the internal drive). Any ideas?

We kept this issue to 72 pages for a variety of reasons, but the chief ones being the absence of the Best of the Apple and Mac BBS columns. We need a new volunteer to capture

the Mac messages bases and to extract the meaningful (and entertaining) portions. Regina Litman is no longer able to do the Mac column. Both she and Alexander Barnes are to be commended for their lengthy and professional coverage of these tasks. Thank you both from all of us.

A special request—we will be preparing the next Journal approximately one week earlier than usual. This gives your editor a chance to represent WAP at the NICS Applefest in Chicago this coming July 19. This was at the special request of Terry Tufts, editor of the Harvest Newsletter and co-producer of the show. We'll report on events in our subsequent issue of the Journal. (We're adding this sentence to even out the lines.) ☺



## PRESIDENT'S CORNER

by Tom Warrick

**T**his is a time for taking stock here at Washington Apple Pi. On July 1 a new group of officers and directors begin serving you.

Although you will read this after the results of the annual election have been announced and I write these words not knowing who will win, we already know that we are losing a number of our most valued volunteers. They deserve our collective thanks.

First, *Adrien Youell*,

our current Vice President for Programs, will be leaving us (and the U.S.) in a few weeks to return to the United Kingdom. Adrien, a doctor with Her Majesty's armed forces, has been stationed here for two years, and in that time has come to the aid of WAP in many ways. Adrien served first as our Program Coordinator, and then stepped into the job of Vice President for Programs. Adrien's splendid organizational skills have been tested many times during the past year. If I may say, I think our programs for the past year have been consistently among the best WAP has ever put on, even though we have faced some adverse circumstances, such as the months last fall when we were a gypsy caravan wandering from meeting site to meeting site in the wilds of Montgomery County. Credit for this achievement goes to many people, but Adrien has put in more volunteer time than perhaps anyone at ensuring that things ran smoothly.

I also have to mention at the same time the assistance we've received from *Siew Youell*. Siew, Adrien's wife, volunteered many hours to work in the WAP office, helping the Urbans out with the many mailings and other tasks that comprise the work of a computer user group. We will miss you, Siew.

Retiring this year from several years of service on the Board is *Tom DeMay*. Tom has, in addition to his Board service, helped organize our "Hardware Helpers" program and has also helped organize volunteers. His latest project for the club was to organize the balloting process for this year's election. Tom has taken a new job that will require him to spend a great deal of time out of Washington, but we hope to continue to count on his service when he has time available.

Also retiring after a year on the Board is *John Voglewede*. John has been one of the most faithful attendees at Board meetings, and his good counsel will be missed. We hope he will still be able to contribute at Board meetings, in the Journal and elsewhere.

Although *Dave Wirtz* is not a Board member, he is also someone else we will miss at Washington Apple Pi. Dave helped coordinate meetings at USUHS, one of the most important volunteer tasks in the club. We are currently

looking for someone to replace Dave and to assist *Leon Moore*, who is now our USUHS coordinator. If you work at USUHS or on the NMC-NCR campus, we very much need your help. Please call Leon (his number is listed on the masthead) or the WAP office.

This month also sees the realization of some structural changes that will improve WAP services. Foremost of these is the *multi-user* telecommunications system, about which more is said elsewhere. Second is the *renovation* of the *tutorial room* at the WAP office. Our contractor has finished enlarging the room by removing storage closets and relocating the door and whiteboard to give the room greater seating capacity for tutorials and SIG meetings. This is going to make a big improvement in how efficiently we can use that space. Half of the \$2,000 cost of these improvements was paid by our landlord as part of our new three-year lease. We may soon be asking some of you with *strong shoulders* to help us move the large bookshelves that contain the WAP hardcopy library, one of our prides and joys, into a place in the main office that will not interfere with holding meetings and tutorials in there as well.

**"State of the Pi":** This month also marks the end of my first term as President of Washington Apple Pi. One of the duties of the WAP President, according to the By-laws, is to report annually to the membership on the club's activities over the past year, and this seems the appropriate time to do so.

WAP is first and foremost an *educational group* that exists primarily to help us, the membership, learn more about microcomputers, how they work and how to get the most out of them. (If we have *fun* doing this, so much the better!) We share our knowledge in many ways.

The most important of these is the *WAP Journal*.

Over the past year, the Journal has stabilized at 80 pages, making it one of the consistently largest user group publications in the world. Articles are written for the most part by members, whose diverse interests are reflected in the Journal's broad coverage. The quality of the Journal's articles over the past year has remained consistently high. On the graphics side, the Journal has continued to improve, thanks to technological innovation (PageMaker deserves the praise lavished on it by reviewers) and, more importantly, to the work of our Editors, *Bernie and Gena Urban*.

Second most important in terms of fulfilling our educational mandate is our *monthly meetings*. Although your votes on the ballot will have the final say, I think the new meeting format started in January has, after a short "burn-in" period, worked out very well. Everyone can pick up their Journal, buy disks, take in a program on either the Apple II or Macintosh, and sit in on question-and-answer sessions. Best of all, having everything on one day saves considerable wear and tear on our active volunteers—the scarcest commodity in a volunteer organization like WAP.

Perhaps third in importance is what used to be called the Bulletin Board System and is now called the *Telecommunications System*. The TS has had a particularly rocky year,

contd.

thanks to hardware problems with a Sunol hard disk. Sunol has now filed for protection from its creditors, including us. Thanks, however, to *Corvus*, the hard disk manufacturer, we now have a hard disk capable of supporting the multi-user system the members approved many months ago. The multi-user system—one of the first such ever run by a user group on Apples—is finally with us. The Pi owes a great debt of gratitude to *Lee Raesly*, *Mike Ungerman*, *Eric Rall*, *Joe Chelena* and a cast of dozens (if not thousands!) of other volunteers.

The *Disketeria* has had a successful year. Macintosh titles have been added at a fast clip, for which we have had *Tony Anderson* to thank for all his efforts. Tony has now retired, and *Larry Halff* has arrived with a flourish: I understand seven disks are being issued at the June meeting. The number of new Apple II titles has picked up, also. Special mention should also be made of our many volunteer disk copiers led by *Jim Little* and *Dave Weikert*. Their many hours shoving disks into disk drives makes us all better off, both for having the disks themselves and for generating revenues to the club that enable us to support our other educational activities.

And speaking of revenues, *financially* WAP is now doing better. Financial statements for the fiscal year that ended May 31 are now being prepared and will appear in a future Journal. It appears as though the past fiscal year will show a deficit. The cost of providing a member with a monthly Journal and maintaining his or her membership record averaged about \$23.00 last year, according to my preliminary calculations. This problem was recognized in mid-year, and the membership responded by raising dues from \$20.00 to \$25.00 a year. All other club expenses were paid principally out of group purchase and disketeria revenues. The budget for the fiscal year beginning on June 1 will be close to balanced. WAP's cash balance was depleted somewhat over the year, thanks in some small part to the purchase of a *Limelight video projector*, but is still quite healthy.

So although the club as a whole had a very good year, there is still *room for improvement*. In particular, I would like to see WAP devote more (human) resources to retaining our current members. Similarly, we need to work harder at bringing in more volunteers and keeping them involved. Our tutorial program, although very good, could be enlarged in scope to serve more members. I have other ideas, as you do, and WAP is always in the market for good ideas. I'd welcome your letter or phone call, or leave me a message on the telecommunications system (Lafayette Park, board 31). We will have our annual "*Future of the Pi*" meeting, a Saturday morning get-together at which we discuss the "big picture" for the club, sometime in September.

Many of you remember the, shall we say, "interesting" Apple II meeting we had in March with *Jef Raskin* and *Adrien Youell* on the *SwyftCard*. Well, Jef (to his credit) has been trying to work out the hardware problems in Adrien's *SwyftCard*. Jef's latest letter to Adrien mentions a point well worth sharing with everyone: "One of the problems of this industry is that in mixed-vendor systems every component may be correct, but yet the total ensemble does not function due to unexpected interactions. In this case the user tends to blame the problem on the last component added." This may

have been the problem with Adrien's system, but it is one worth remembering if you ever have what you suspect may be hardware trouble. Always try the device you suspect on another system, and always try removing other cards or devices to see if the problem is one of negative synergy, to coin a phrase. In my own experience I've had cards that work fine separately but simply will not co-exist peacefully in the same computer. What we need, of course, is a *Phillip Habib* for peripheral cards.

I promised *Ron Wartow*, our GameSIG chair, that after I finished *Macintosh Wizardry* I would come out of the closet and admit I actually do play computer games. Ron, as some of you may know, has been giving me grief (goodnatureedly, of course) over the fact that I spend too much time programming and not enough on games. Thanks in part to Ron's tips on finding the blue ribbon and the chute from Level 9 to Level 10, however, I can now proudly display my *Wizardry* certificate of merit. Now, in retaliation, I will start a vicious rumor about Ron: he is actually programming, although to be sure it is a game that I understand will be called "*Pixel's Revenge*." ☺

# Service

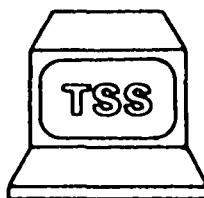
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**SIGNEWS**

WAP

Apple /// SIG meets on the 4th Wednesday of the month at 7:30 PM in the Chamber of Commerce Bldg., 1615 H Street NW, DC. The July meeting will be on the 23rd.

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

DisabledSIG meets on the first Thursday of each month at the Chevy Chase Community Center, 7:00 PM. The next meeting will be on July 3.

dPub SIG (Desktop Publishing) will meet on Wednesday, July 2, at 7:30 Pm in the PEPCO auditorium at 1900 Penn. Ave., NW.

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 July 24. See EDSIG News elsewhere in this issue.

FEDSIG meets on the last Wednesday of the month at 7:30 PM at the office. The next meeting will be on July 30.

ForthSIG meets on the third Saturday of the month at the office, 12 Noon.

GameSIG meets on the first Thursday of each month at the office, 7:30 PM. The next meeting will be on July 3.

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

PIG, the Pascal Interest Group, meets on the third Thursday of each month at the office, 8:00 PM. The next meeting will be on July 17.

PI-SIG meets on the 1st Monday of the month at the office, 7:30 PM. The next meeting will be on July 7.

SigMac Programmers meet on the 1st Thursday of each month at Our Lady of Lourdes School, 7500 Pearl St, Bethesda, MD. However, the July meeting is on the 10th instead of the 3rd.

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

Telecom SIG meets on the 2nd Monday of the month at the office, 7:30 PM. The next meeting will be on July 14.

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
		1	-->	3 GameSIG 7:30PM-Off: DisabledSIG 7:00 PM CCCC	4 Have a good Holiday Office Closed	5 Deadline for Journal articles is July 3.
6	7 PI-SIG 7:30 PM Office	8	9 Executive Board 7:30 PM Office	10 STOCKSIG 8PM Office; SigMac Prog 7:30PM-Lady of Lourdes	11	12 MusicSIG 1:30 PM- Call Ray Hobbs
13	14 Telecom SIG 7:30 PM Office	15	16	17 Pascal SIG 8:00 PM Office	18	19 Forth SIG 12 Noon Office
20	21 Mac Begin. Tutorial #1 7-10 PM Office	22	23 Apple /// Ch. of Com. Bldg., DC 7:30 PM	24 EDSIG 7:30 PM Office	25	26 WAP Meeting - Apple // & Mac 9 AM USUHS
27	28 Mac Begin. Tutorial #2 7-10 PM Office	29 BBS Comm. 7:30 PM Office	30 FEDSIG Office 7:30 PM	31		

WAP

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
					1 Deadline for Journal articles	2
3	4 PI-SIG 7:30 PM Office	5	6	7 SigMac 7:30PM-Lady of Lourdes; GameSIG-Off 7:30 PM	<- Thursday 7th contd. DisabledSIG 7PM - CCCC	9 MusicSIG 1:30 PM - Call Ray Hobbs
10	11 Telecom SIG 7:30 PM Office	12	13 Executive Board 7:30 PM Office	14 STOCKSIG 8PM Office: FAC Slice 7:30 MRIID Ft.Detrick	15	16 Forth SIG 12 Noon Office
17	18 Mac Begin. Tutorial #1 7-10 PM Office	19	20	21 Pascal SIG 8:00 PM Office	22	23 WAP Meeting - Apple II & Mac 9AM - USUHS
24	25 Mac Begin. Tutorial #2 7-10 PM Office	26 BBS Comm. 7:30 PM Office	27 FEDSIG 7:30 PM Office	28 NO EDSIG meeting in August	29	30
31						



## EVENT QUEUE

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

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

Following are dates and topics for upcoming months:

July 26	- Apple II - Catalyst and Desk Accessories
	- Mac - MacAuthor, Living "More", and spelling checkers
Videotext's	
Aug 23	- GameSIG for both Apple & Mac
Sept 27	- Apple II - Mouse & programs
	- Mac - Power data bases

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 \$32.00 for the first year and \$25.00 per year thereafter, beginning in the month joined. If you would like to join, please call the club office or write to the office address. A membership application will be mailed to you. Subscriptions to the Washington Apple Pi Journal are not available. The Journal is distributed as a benefit of membership.

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

Current office hours are:

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

\*\* Office will not be open on Tuesday evenings during July and August.

**Please Note**

## APPLE TEAS

by Amy T. Billingsley

What's an Apple Tea? An opportunity for Apple users to get together in a small group setting to learn about a specific phase of Apple computing, or just to share information and ask questions.

How can you have one in your area? Plan to host one at your home or another suitable location. Think of a topic of general interest, settle on a date, and call me at 622-2203. How could something so helpful be so simple! Start working on yours today.

Announcing **three Apple Teas in July**. Refreshments will be served. Bring computer if convenient. RSVP to host.

**Apple Tea - Laurel, MD**

**Wednesday July 2nd, 7:30-9:30 PM**

**Managing Your Money with the Apple -  
Spreadsheets**

**at the home of Paul Simon**

**15311 Bauer Lane, Laurel, MD 20707**

RSVP to Paul, 490-8395 (evenings from 6-10 PM). Directions: 95 North toward Baltimore. Take 2nd Laurel exit, #198 toward Burtonsville. Go 1 mile to Bauer Lane. Turn right to 3rd house on right, 15311.

\*\*\*\*\*

**Apple Tea - Laurel, MD**

**Sunday, July 13, 4-6 PM**

**Musical Apple: Making Music with a Computer  
at the home of Raymond Hobbs**

**8405 Snowden Loop, Laurel, MD 20708**

RSVP to Ray, 490-7484. Directions: Take Balt-Wash Pkwy toward Baltimore. Take Route 197 exit toward Laurel. Go about 1/2 mile to 3rd traffic light, Montpelier Dr. Turn left. Go 1 mile to Snowden Loop. Turn right to 8405, 100 feet on right.

\*\*\*\*\*

**Apple Tea - Bladensburg, MD**

**Thursday, July 17, 7-9 PM**

**on AppleWorks: The Works with Ken DeVito  
Hosted by Sister Patricia at Elizabeth Seton H.S.**

**5715 Emerson Street, Bladensburg, MD 20710**

RSVP 864-4532 to Sister Patricia or leave message. Take Baltimore-Washington Parkway to Route 450, Annapolis Road toward Bladensburg. Go 1 block to traffic light. Turn right to 57th Ave. Continue on 57th Ave past stop sign. Go 1/2 block. Turn right on Emerson. Seton School is on right. Use main entrance and someone will direct you to the Tea. ☺

## DEALER'S CORNER

Frederick Computer Products offers Washington Apple Pi a 26% "users-group" discount on any hardware or software from Apple Computer. Group purchase discounts on "third-party" hardware or software may also be arranged.

Frederick Computer Products and Service Center for Apple products is located at 5726 Industry Lane, Frederick, MD 21701 (301) 694-8884. ☺

# 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.

<b>General</b> <b>Accounting Packages</b> Accountant(Dec.Sup.) BPI Programs Home Accountant Howardsoft (Tax) <b>APPLE SSC</b> Apple TechNotes AppleWorks <b>Communications Packages and Modems-Telecom.</b> Anchor Mark 12 Apple Modems ASCII Express BIZCOMP Modem General Hayes Smartmodem Robotics Modem Serial Comm. Card Smartcom I VisiTerm XTALK CP/M Comm. <b>Computers, Specific</b> Apple //c Franklin&Laser128 LISA/Mac XL Macintosh: General Chart Comm. & Modems Concertware Excel File Vision Helix Inside Mac Lang.-C,Pascal,XLisp MacDraw MacLion (DBMS) MacProject MacTerminal MS-BASIC & MS-File Multiplan MusicWorks OverVue Spreadsheets Spreadsheets&Graphics Sidekick ThinkTank Word <b>Data Bases</b> dBase II dBase II & III DB Master Data Perfect Data Factory General Manager PFS QuickFile II Q-Pro-4 VisiPlot	John Day (301) 621-7543 Dave Harvey (703) 527-2704 Robert Martin (301) 498-6074 Mark Pankin (703) 524-0937 Jaxon Brown (301) 350-3283 Otis Greever (301) 262-5607 Leon Raesly (301) 439-1799 Leon Raesly (301) 439-1799 Otis Greever (301) 262-5607 Bernie Benson (301) 951-5294 Joe Chelena (703) 978-1816 Jay Jones (Balt.) 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Finkelstein (301) 652-9375 John Staples (703) 893-5985 Leon Raesly (301) 439-1799	<b>Games - Apple //</b> <b>Games - Mac</b> <b>Hard Disks</b> Corvus & Omninet Corvus Sider <b>Languages (A=Applesoft, I=Integer, P=Pascal, M=Machine)</b> A A A,I A A A,I,M A,I,M M P P Forth MS Basic <b>Math/OR Applns.</b> <b>Monitor, RGB</b> <b>Operating Systems</b> Apple DOS  CP/M  ProDOS  <b>Printers</b> General  Apple Color Plotter Apple Daisy Wheel Daisywriter 2000  IDS 460 Imagewriter MX-80 NEC 8023 Okidata  Scribe Silentype <b>Spreadsheets</b>  Lotus 1-2-3  Multiplan VisiCalc Sprdsh. 2.0(MagicCalc) SuperCalc Ver. 2.0 Stat. Packages Stock Market Time-Sharing Word Processors Apple Writer II  Format II Gutenberg & Jr. Letter & Simply Perfect Magic Window and II Peach Text PIE Writer/Apple PIE ScreenWriter II  Supertext II Word Handler Word Juggler //e Word Perfect Word Star	Charles Hall (301) 330-4052 Ron Wartow (301) 654-4439 Tom Vier (BBS) (301) 986-8085 Leon Raesly (301) 439-1799 Jaxon Brown (301) 350-3283 Otis Greever (301) 262-5607 Louis Biggie (301) 967-3977 Peter Combes (301) 251-6369 Jeff Dillon (301) 422-6458 Richard Langston (301) 869-7466 Leon Raesly (301) 439-1799 Richard Untied (609) 596-8816 John Love (703) 569-2294 Raymond Hobbs (301) 490-7484 Donn Hoffman * (412) 578-8905 Michael Hartman (301) 445-1583 Bruce Field (301) 340-7038 Ray Hobbs(7:30-10) (301) 490-7484 Mark Pankin (703) 524-0937 John Day (301) 621-7543 Richard Langston (301) 869-7466 John Love (703) 569-2294 Adam Robie (301) 460-6537 Richard Untied (609) 596-8816 Ray Hobbs (7:30-10) (301) 490-7484 Leon Raesly (301) 439-1799 Richard Langston (301) 869-7466 John Love (703) 569-2294 Walt Francis (202) 966-5742 Leon Raesly (301) 439-1799 Joan B. 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\* Calls until midnight are ok.

# MEETING REPORT: May 24 1986

## Computers/Education: HFS/Hard Disks for Mac by Adrien Youell

Dave Wyatt set-up school at 9.30 with a very erudite talk on computers and learning. This was a run-around, idea-jerking, almost philosophical presentation concerning many aspects of computers in, and for, education. Really, it was a spoken essay. I use the words *computers and learning* intentionally because Dave, (a Brit, expertly introduced by Peter Combes, another Brit; modestly related by yours truly, yet another Brit\*), has had extensive experience in education, computers and linguistics, and he is not an unthinking computer-idolator.

Dave introduced us to multiple aspects of computer use within the sphere of learning—that computers may be perceived as self-educators, as learning aids, as training aids and as productivity tools. As a conceptual base it is not sufficient to think of computers and learning, and computers in education as synonymous. Dave used an Apple IIe as a slide projector prompt for screen notes. He did not demonstrate educational programs.

Larry Halff dominated the Mac meeting with a run-through Red Ryder version 9.2 and concepts of HFS. I have seen a very good article on HFS in MacWorld, May pg.93-99, but Larry was the first to mention *blessed files*. Now, I am not entirely naive but Larry was definitely one up on me, and as it appeared to the rest of the audience who gave him a 'hard time'. By the way, HFS = Hierarchical File System; how many know that it differs from MFS and what MFS stands for - see \*\* below?

Jay Heller, who is the new SigMac chairman (and hopefully the new "Vice President-Macintosh" when you read this), introduced the main topic of Hard Disks for the Mac. This whole arena has been expanded by third-party vendors using the SCSI (Small Computer Systems Interface) port. As was evidenced at the meeting, where the DataFrame 20 was discussed, members were not aware that the SCSI port is a rhomboidal 25-pin connector; the two circular 8-pin connectors are for printer and modem. Yes, you have to get new cables. Thankfully, the discussion produced some common-sense advice as well as new hard disk information. The best items were, "Don't do it if you don't need it" and, "Hard disks are not for the faint-hearted"! There is now an embarrassment of riches in hard disk choice, both in features and price, and decisions not only affect the size of your pocketbook but also your analytical powers as to speed, reliability and longevity.

It cannot be gainsaid that Company-Security and Reliability are the very hallmarks of success with a hard disk, external or internal. It was strongly reinforced that "Maintenance contracts are essential for hard disks", whatever your opinion about reliability of the basic computer 'system box', which is usually entirely reliable, if no faults are discovered within the warranty period. Not so for hard disks. One is reliant on heads and the various mechanical parts, and even more dependant on software to drive the system most efficiently; hence dependent on software upgrades that take advantage of *progress*.

Down to business, or more accurately—here's a brief compilation of the hard disks that were discussed. Frank Potter loves the DataFrame20, list price \$1,100, very fast, very happy-with-it, and SCSI; no print spooler and no back-

up updated files. Jim Burger on HardDisk 20, non-SCSI, HFS-software coming soon (RSN-Real Soon Now), incremental back-up, \$1,499 list, very reliable, works faster with Mac Plus. Peter Trinder in UK reminds me that the HD 20 has an auto-sensing voltage regulator so business men can move their Disk without their Mac. MacBottom (brings the screen up to eye-level) now has a SCSI port. Hyperdrive works 3 times as fast on a Mac Plus. We're getting down to trivia.

Jay reported that MacCorner has the Micah 20mb internal drive. MacCorner, advertising inside Front Cover of June issue, has an impressive range of alternate drives; see Micah inside Back Cover. (Don't ever forget to check advertisers in J. WAP). I think Micah has some way yet to come, when you appreciate my view that Hyperdrive is The Standard. The current MACazine (Vol 3, No 6, pp 11-14) casts some doubt on this fondly-held view, and I do not even own a Hyperdrive. Internal drives, per se, is another *kettle of worms*; when it misbehaves you lose your drive, and computer! I am near to despair. If only things were more simple. You realize these remarks apply to Apple and Mac. My Apple friends are caught in the same decision-crisis, albeit with different machines, but with the same decision-parameters. Jon Hardis said that a useful pointer to consider is to think to recoup the cost in one year.

Friends, I Award You Second Sight. So there, you have been awarded a blessing! The MacWorld article in the June issue on page 103, has an uncommonly reasoned review; I think it sets the scene for many of us. The Club has a 'pay' copier, and the journals are there. Because so much was said of alternate systems I list only the outlines, because the appropriate companies advertise in Mac magazines, and because relevant systems were not working at the meeting. I was going to go on about Peak Systems, Mirror, Proapp, Warp 9, and Univation (InfoWorld June 9) but commend you to the current journals, and Icon Review Catalog, summer 1986.

The ultimate last of the meeting was Flight Simulator demonstrated by Tony Anderson. Tony would be the first to argue whether bolding him or it was relevant and would probably have preferred it. Flight Simulator is a full-featured cockpit trainer with 'real' sound, flight controls and all-round windows, for the Mac. It has a choice of three aircraft; a Cessna, a WWI biplane and a Lear Jet. With an amplifier piped to the sound port you really believe you have a jet in your study! Altitude and direction control is provided by the mouse acting as a joystick. Dear Members, Tony retires as SigMac disk librarian. For Tony and the Team who have given so much do sit and think awhile. They have served. Thank them by volunteering your services; the Pi needs you.

Leon Moore and Dave Wertz, as USUHS member sponsors, are also retiring. We thank you too, and also request volunteers to fill the gaps.

\*For the British members; we seem to have almost completed the invasion of Washington that failed two centuries ago!

\*\* MFS = Macintosh File System; were you baffled?

"BYE"! This is my last Meeting Report. See you in London. ☺

# Apple /// News

by David Ottalini, /// SIG Chairman

## THE WAP LIBRARY

We start off our article this month, fellow ///ers, with some bad news. After only two weeks in the WAP office, our new video tape "How to Use Your Appple /// in Ten Easy Lessons" has apparently been stolen. The WAP office has a number of video tapes for members to look at, but a deposit must be made in order to take the tapes out of the office. Since the WAP office has a VHS player, we had thought it would be easy enough for a /// SIG member to look at the tape in the office as they desired. Apparently someone desired to do more than that and removed the tape without putting down the required deposit.

The most troubling aspect of this whole event (if it is indeed true) is that all SIGs within WAP only receive \$100 per year to spend as members desire. Ours spent \$70 of that for this video tape as a way to provide support and help for new /// users. To my knowledge, it was the first time the /// SIG has EVER spent ANY of its allotted money since it became a SIG in 1981. I would ask that if the tape were inadvertently removed for an extended viewing at home that it be returned ASAP.

I am also concerned that some other /// publications may also be disappearing from the office. The WAP office staff is small and called on to do so many things that watching who does what in the library is impossible. The library exists for everyone to use, not for a few select individuals to pick and choose things to take home as they desire. The library can only function as the excellent resource it is if all WAP members respect it and ultimately contribute to it. The bottom line here: if you have taken anything from the library, Apple /// related or not...please return it so that all WAP members may enjoy.

## NEW PD DISKS FOR THE ///

A big thanks to Al Lambert and everyone else who helped get our new /// PD library offerings together. Al has spent many, many hours on this project so far and is preparing a number of new disks for the coming months. His article in this issue explains some of the things you can expect from our initial offerings, which you may purchase through WAP just as with any other PD disk.

Getting a /// PD library going in 1986 was one of my major goals as your /// SIG Co-Chairman and I am very pleased to see it finally happening. Not only will it be an excellent local resource for our members, but it will also provide additional income for WAP (and thus additional attention for the /// community within our users group!). Any additional programs you would like to provide for the /// PD library are welcomed. Bring them with you to the next meeting.

By the way, I have been making available to /// SIG members a copy of one of my data bases. Specifically, it is a fairly complete listing of all known Apple /// PD offerings around the country. Bring a formatted diskette to the next meeting and we'll provide you a copy. It includes listings for each software item, who sells it, the price, and a description of

what the software does. Great way to compare prices and offerings. I also recently got a copy of D.A.Datasystems catalog on disk and would be happy to make it available for copying as well..

## SUN DATA CHANGES

Some changes have been going on at Sun Data. Actually, now its name is Sun Systems Remarketing. President Bob Cook, in the most recent edition of Sun Times, said the change was made to better reflect his companies status as the nation's leading distributor of hardware and software for the Apple ///.

The newsletter has also started to offer a number of basic articles on using the Apple /// (so much so that I have begun adding them to The /// Bibliography). In their hardware and software offerings now, you will find a number of new items, including a "Master Driver" diskette, containing 14 of the most asked for drivers. Cost is \$15.00. They have a number of /// technical manuals along with their regular offerings that range from reconditioned Apple ///s to /// EZ Pieces and even a number of printers.

If you'd like a catalog, write to: Sun Systems Remarketing, P.O. Box 4059, Logan, UT 84321, (800) 821-3221. They also offer an excellent "Apple /// Medic Service" for sick ///s and accessory equipment.

## AND OVER AT AIM...

And at the Association of Independent Microdealers these days some major changes as well. Their offerings of /// hardware and software has gone over so well that // products are being added with IBM and others not far behind. The catalog now bills itself as the "AIM Outlet"; as a central clearing house for computer-related products. The same excellent descriptions of all offerings are provided, only now you get // descriptions as well. Their catalog is \$25 per year (comes out fairly regularly). Order from: AIM, 3010 N. Sterling Ave., Peoria, IL 61604.

## RANDOM NUMBERS AND OTHER GOINGS ON

You may also have noticed that Frank Moore (of The /// Magazine) has begun adding hardware to his /// offerings at Pair Software. Included are a new monitor by Teknika and Star printers. He's been offering Data Spec switch boxes for some time. In his most recent issue, by the way, he had an interesting comparison between the /// and the IBM PC...Apparently, the IBM can not generate a true random number. The program shown below should generate a complete random graphics display of screen dots, like the accompanying /// program does. Instead, you'll get a set of bars on the screen. Frank suggests the next time an IBM type crows about his/her machine's abilities, suggest they see which computer really is better (at least at generating random numbers...)

### Apple ///

10 Home  
20 Invoke "Bgraf.Inv"  
30 Perform grafixmode(%2,%1)

### IBM

10 Screen 2  
20 X=RND\*640  
30 Y=RND\*200  
contd.

### Apple ///

40 Perform grafixon  
 50 Perform fillport  
 60 x%=RND(1) \* 559  
 70 Perform dotat(%x%,%y%)  
 80 Goto 50

### IBM

40 PSET (X,Y)  
 50 Go To 20

## CLASSIFIEDS

**WANTED TO RENT:** Family (with no pets) needs apartment/condo/home to rent in the Gaithersburg/Germantown area for August 14 - 22. Contact Linda or David Morganstein (301) 972-4263.

**WANTED TO BUY:** Used Macintosh computer, external drive. Prof. Hardy, Williamsburg, VA (804) 229-2333 (home), (804) 253-4342 (office) or call Walt (local) 998-5686 and leave message.

**WANTED TO BUY:** 128K with Imagewriter. Call Marty Snyderman at 654-6423, day or evening.

**FOR SALE:** Mac software: Omnis 2 database, MacFortran, Microsoft Chart, CP/M for the Mac, and Quartet. Call David (301) 972-4263.

**FOR SALE:** Dow Jones Market Manager, used about three times, listed at \$299, only \$40: Market Manager Plus, latest version, used exactly once, lists at \$249, only \$100. Call Newt Steers, 9AM-9PM, (301) 320-5820.

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**FOR SALE:** Macintosh 128K and Imagewriter. Excellent condition, only 18 months old. Includes manuals, MacWrite and MacPaint. Only \$1325. Call Tom at (202) 546-5994.

**FOR SALE:** 512K MacXL/Lisa RAM Expansion Board, \$350. Call Ted (703) 920-3083.

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

**FOR SALE:** Apple //e 128K, 2 drives, 80-col Apple monitor and Super Serial Card, \$1200. UltraTerm, \$175. Panasonic 1090 printer with buffered interface card, \$325. System Saver, \$40. Serial Card, \$75. Alf Music Card, \$75. 192K expanded 80-col. card, \$200. 6 MHz ALS CP/M card with software, \$200. Call Bob Cham, Burlington, VT (802) 878-6647 evenings or (802) 655-9451 days. ☺

The /// Magazine is also working on a group purchase of 512K memory upgrades from On Three (possibly including its new Desktop Manager utility). If interested, write Frank Moore at 3201 Murchison Way, Carmichael, CA. 95608. Phone # is (916)-485-6525.

### OVERSEAS

A user group in Britain, The British Apple System's User Group (BASUG) has an excellent magazine called Hardcore which was recently upgraded to regular magazine size from "TV Guide" size. Looking through recent editions at the WAP office, I discovered /// members there are making a concerted effort to become more active.

To help spur things along, I have written a letter to them and included some information about what is available over here for the ///. If you'd like to add your thoughts to the pile, you can contact the /// users in BASUG by writing to: Shiela Hirst; BASUG; P.O.Box 177; St. Albans; Herts United Kingdom ALZ 2EG.

Another group that seems to have a very active /// representation is the BAUD Applcing Computer Club based in Germany (made up of U.S. Military folks). They've even spent the time (and money) to get on CompuServe and recent correspondence indicates an interest to work more closely with Apple /// users in the United States. Send any letters care of Thomas Linders at this address: P.O.Box 991; APO New York, NY 09098.

### FINALLY

Thanks to Tom Bartkiewicz for his excellent demonstration of the new 800K Unidisk for the /// at our last meeting, as well as his demonstration of MacStuff. Tom spent a goodly amount of time working on a program designed to utilize the MacStuff PASCAL intrinsic unit and it was appreciated by all.

Thanks also to all of you who voted for me to serve on the WAP Board! At the time of writing, I don't know how things turned out, but your support is very much appreciated... ☺

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# APPLE /// SIG DISKETTERIA

by Al Lambert

GREETINGS.....and welcome to the new /// SIG disketeria! My name is Al Lambert, and I am the /// SIG librarian. Along with many others, I have labored for the last year to organize and develop this new disk section for Apple /// users. Obviously we are quite excited and would like to take this opportunity to introduce our first four disks and tell you more about what's to come and invite feedback from all WAP members.

Our goal in creating this new disk library, is to serve the needs of the Apple /// user here in Washington as well as the larger /// community in general. Much of what is offered on our disks came to us from other sources, but what we feel is unique about them is that they: 1) are organized by category, 2) are all self booting disks (there will be some exception to this), and 3) offer programs that have been "debugged" to the best of our ability as well as altered to address the same output devices (for instance, all address ".printer" for hard copy). This has been done to facilitate use by the many novice /// users. In addition, it is our plan to publish helpful information about each program, as well as instructions, in the WAP Journal. We feel this is very important as much of the Public Domain software is completely undocumented. And while not always difficult to use, it is often very difficult for a novice to figure out the instructions unaided. We hope to make use of the wide and valuable expertise of our own /// SIG to develop instructions as well as suggestions on the many different applications of some of these programs.

The library disks are all 5 1/4" SS disks, which are self booting Business Basic (version 1.23). They contain a menu driven startup which will run any program or read any text file you select. You can exit to Business Basic or change to any other Business Basic disk without rebooting. While it has been argued that the self booting feature takes up large amounts of space on each disk, we feel that, at least for the first several disks of each category, this is the best format to serve the novice or new user. Here is a BRIEF list and description of what is contained on the first four disks (future articles will deal with each disk individually):

## Games Volume 1:

- Football Guru:** A program to help you win the office pool.
- Cannibal Island:** A game to test your survival skills.
- Piano Plinker:** Play the medley provided or create your own.
- Dazzle:** A display of the graphics screen of the ///.
- Friend:** A version of artificial intelligence "Eliza".
- Word Puzzle:** Create your own word puzzles.
- Trucker:** Drive your own rig across country.

## Games Volume 2:

- Biorhythm:** Charts your own biorhythm for any period.
- Audio Demo:** Shows you ways to use the audio driver.
- Knitting Tool:** Helps to plan how much yarn you need.
- Golf:** Might help you win the Kemper.
- Perpetual Calendar:** Just that.
- Survival:** Tests your skills and intelligence.

**Codebreaker:** Audition for the CIA or State Department.

**Civil War:** Recreate or rewrite famous battles.

**Calorie Counter:** A hideously honest program.

**Life:** A version of "Conway's Life" your screen lives!

## Basic Utility Volume 1:

**Ascii Lister 1 & 2:** Lists the ASCII values for characters.

**Find Replace:** Find & Replace text strings.

**Line Printer:** A Taylor Pohlman screen dump.

**Catalog Run:** British authored HELLO type program.

**Textfilemaker:** Create new textfiles.

**Mortgage:** Figure out your mortgage payments/interest.

**File Reader:** Read your text files.

**Scroller:** Subroutine or stand alone screen scroller.

**Automenu:** Menu making HELLO type program.

**Textfile Copy:** Copy your text files.

**Manual Menu:** Manual HELLO type program.

**Textfile Dump:** Send your textfile to screen or printer.

**Epson Select:** Set up special printer control codes.

**Compare Utility:** Compare two basic programs for differences.

**Search Utility:** Search for text strings.

**Sosbuffer Demo:** Demonstrates your printer buffer.

**Basic Bootprogram:** Short HELLO for your own B Basic disks.

**Mailbase:** Create your own mailing list.

**Hex Dec Converter:** Taylor Pohlman converting routine.

## Basic Utility Volume 2:

**Rename Directory:** Shorten directory names for backup.

**Text File Scroll:** Scroll thru text files.

**Disk Drive Cleaner:** Runs the disk drive for cleaning.

**S. T. E. P.:** A great sequential text editor.

**Cipher Utility:** Codes your text for secret use.

**REM Remover:** Removes REM statement to speed up your programs.

**Loan Calculator:** Calculate various data about any loan.

**Hex Ascii Dump:** Taylor Pohlman file dump lists both.

**Calculate Area:** Calculate the size of an area.

**Basic Renumber:** Renumber your Business Basic programs.

The above catalogs are just the beginning! Already we have enough material for over 20 disks and more is coming in all the time! We plan (of mice and men!) to have regular articles that will deal with each disk, providing more complete descriptions of their content as well as any instructions and suggestions that we feel would be helpful.

The WAP Journal will be the only place to get this information so rather than just buy one copy of the journal at a time, if you are not a WAP member, see if you can figure out a way to get the Journal regularly (hint...JOIN WAP).  
contd.

# Operant Systems

## HARDWARE

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Epson FX-85 (160 cps, 32 cps NLQ mode)..... 395  
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 Okidata 192 (160 cps replacement for Oki 92)..... 359  
 193 (132 column version of above)..... 519  
 292/293 (200 cps draft, 100 cps NLQ, 18-pin) (call)  
 Toshiba 321 (216 cps draft, BEST print for the buck)... 519  
 351 (288 cps, wide carriage version of above).. 1149  
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 JB-1260 (12" green, 15Mhz, best value for money)... 99

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Future disks will have many new topics. In addition to more games and utilities, there will soon be a Font disk to give you fonts and font utilities, a graphics disk, and some time in the future we will embark on several Pascal disks. DID YOU KNOW THAT APPLE ][ USERS CAN GET SOME HELP FROM US??? Well, it's true. 3 Easy Picces creates files that AppleWorks can read (and vice versa) without any alterations. So, as soon as we can, we will have a disk with templates for 3EZP functions. AppleWorks users should take a look at this one!


In closing, I would like to thank those who have helped in this project—specifically, Bart Cable, Robert Huse, David Ottalini, and Jim Salerno, as well as the many others who have helped garner the material we are offering. Thanks! ☺

# PI-SIG NEWS

by Robert Golden

The PI-SIG met Tuesday, June 10 in the WAP classroom. Robert Golden was elected Chairman, and Walter Urban Vice-Chairman and program coordinator. Members attending suggested a variety of subjects for future programs.

Future meetings will be in the WAP classroom on the first Monday of the month at 7:30 PM. Meetings will consist of presentations on a subject of mutual interest and a Q & A discussion on any subject of individual interest. On July 7, Ray Hobbs will discuss analog to digital converters and the capture and use of data used with this equipment. ☺



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1344k <b>MULTIRAM</b> ....	449.	-
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256k Memory Chips-1 yr warranty (8) .....	55.
Apple Iie Enhancement Kit .....	62.
Accelerator Iie-350% speedup card (Iie/II+) .....	222.
CP/M & Pascal Ram Disk Iie/Iic (ea.) .....	20.
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# EDSIG NEWS

by Patricia Kirby

## EDSIG Calendar

Thursday, July 24, at 7:30 p.m. - "Newsroom for Education" by Carol Thomas.

There will be no EDSIG meeting in August.

## Meeting Report

Thursday, May 23 - "Watermelon & Word Processing: the TIC Summer Computer Camp Experience"

"Summertime . . . and the keyboardin's easy . . ." Wish you could have gone to a summer computer camp—especially where there were Apples? Or wonder what such a camp would be like for your own children?

EDSIG was curious about computer camps, so invited for its May 22 meeting Pi member Dr. Karen Rosenbaum, who four years ago started the "TIC Computer Camp," on the grounds of Mt. Vernon College in Arlington, Va. Journal readers have probably noted the camp in recent ads. Accompanying Karen was Rod Uveges, TIC's head teacher, plus a videotape of campers thriving on screen and sports activities at the day camp.

## Educational Philosophy & Curriculum

"TIC is in many ways a progressive educator's dream," Karen commented, "because there are no curriculum goals—the children set their own. As an educator, I want them to get excited about what they are doing, and also get some control over things—to be masters of something."

TIC is not unstructured, however. It attempts to balance skill-building on the one hand and individual discovery on the other, although the emphasis is on the latter. Karen tells parents, "We do not claim to teach the children anything," but what she means is that campers will "take off" as they get intrigued by the problems and challenges presented in the curriculum—at the "teachable moment."

The children's discoveries are not only important to themselves as individuals but also to each other's learning process. Much of this learning, GameSIG members will be pleased to know, occurs in game programming. "We like it best," Karen commented, "when children write games and share them with others. It's intrinsically interesting for them to write a game. When they say, 'I want to play Jim's game,' that is inspirational."

The core curriculum entails programming (Basic, including advanced and graphics; Pascal; Assembly Language; and Logo—recently Terrapin Logo). There is also some word processing for the younger children. Math and reading skills are not taught directly, but do enter in all the same. TIC curriculum, like a good knife, is constantly being sharpened, refined, and "upped"—especially as campers whet their own skills each season.

## Sessions and Activities

TIC offers 4 day camp sessions per summer, each 2 weeks long. Many campers attend more than one session each season. All campers of all ages engage in a mix of computer and sports activities—a half-day for each—to foster development of healthy mind and body alike. Naturally, some children prefer computers to sports or vice versa, but are

allowed to take part at their own interest level.

For every 4 kids, there are 2 computers and one counselor. The youngest share software packages, taking turns as individuals. "I think it is better to be 2-to-1 on the computer, because you can explain it to someone else, and that helps you articulate it." (Any teacher will agree!) In computer periods of 2 hours each, campers can go far in skill-building and creative discovery alike.

At TIC, there is no rest period for the campers. "I was worried about that at first," Karen admitted; "but even the little kids seem to enjoy it and keep up. Parents often ask me, 'How do you sustain their interest all that time?' But they are just like the older ones. I have to go around and peel kids off the computers a lot." Then too, the children do sometimes take breaks—they can run around and scream outside.

To keep campers focused on computer work, there is a "color war"—a project that is timed and graded—during the latter part of each session. As for day-to-day focusing, the staff has found it important to have campers conceptualize and then plan programs, proceeding from the overall picture downward. This is hard for childlike minds, so they are guided to break everything down into parts.

Debugging and accepting the fact that errors and obstacles are all a natural part of success are also emphasized. When a child complains, "This doesn't work—it did yesterday!", the counselor would probably respond, "Let's print it out and see what happened." Rod, who as head teacher supervises the counselors, encourages them to ask the children leading questions. Sometimes the staff gets a little frustrated because the campers are not learning as much as the counselors would like. But the TIC philosophy is to step in only when needed.

## Selection & Acquisition of Computers

The first summer, TIC had only Apples, chosen because "the people who care about computers and children tend to have Apples at home." Now there are also 12 PCjr's and 4 Commodores, added through parental request. However, Karen wants to phase out the Commodores due to higher equipment failure and also to differences in Basic.

As for the possibility of adding the Macintosh, Karen has great reservations because of its very success at simplifying the computing process. "It won't let the kids do the things we want them to. My son got up from a Mac 5 minutes after sitting down at it, and said, 'It's too easy—it does everything for you.' He could not use his hard-won knowledge." TIC will not, however, remain totally Mac-less: two individuals are bringing their own Mac's this summer.

Since TIC is not considered a school under the Apple purchase plan, Karen has had to do some fancy footwork to afford and buy computers. Her original plan was mutual cooperation with the school system, which would share its buildings as well as computers during the summer. Despite originally encouraging signs, that plan was not approved. Among its cost-reducing practices, TIC sometimes buys used Apples from Pi members, and leases computers to its counselors—allowing a tax depreciation. PCjr's are a bar-

contd.

gain also; no longer in production, they are sold at a lower price but offer campers the chance to work in the IBM environment.

Those of us with children and home computers may wonder about the survival rate of disks and computers. As for the disks, "some make it and some meet with an early death," TIC has found. If campers ruin a disk on which they have written a program, they are given a gratuitous replacement—but are told the next one will not be free. As for computer maintenance problems, there have been "surprisingly few."

#### Counselors

Counselors are for the most part college students. Referring to the decision to choose counselors from that age group, Karen explained: "It's that magic that happens at camp. They are heroes for the little kids."

Counselors receive 4 days of training prior to camp. They can receive college course grades in education or computer science for their work at TIC. This year Karen will act as formal teaching advisor for one of the counselors.

#### Sex, Age, & Socioeconomic Variables

TIC has tried to attract female counselors, as well as campers, but in both cases has not had great success, reflecting girls' generally lesser participation in computer activities. Karen mentioned going on DIALOG in one major effort to attract female counselors, and contacted several local colleges with computer concentrations. "The ratio of boys to girls has always been bad," she lamented, "but this year it is worse than ever." Interestingly, sessions earlier in the summer usually have more boys than the later sessions—as well as more older campers than younger ones. Campers range in age from very young ones up to 16, with junior-high level the median.

Staff members have noticed differences among sex and age groups in computer interests and activities. In the color wars, girls tend to want to do just one thing, whereas boys want to do about 5 things. And younger children love repetitive tasks.

Campers at present are drawn from the more affluent families, as Karen is acutely aware. She would like to attract more children from families less apt to provide computer activities. Although there are presently no scholarships available, she approached at least one bank to see if it would provide some. That bank was not interested, although perhaps other sources of funding might be.

TIC also works with groups such as Big Brothers and Advocates for Children (the latter serve runaways and wards of the courts), allowing discounts for campers who come in under their auspices.

#### Emotional/Discipline Problems

The question arose whether TIC has many campers with emotional or discipline problems. There are a number of such campers, but few "real problems." Karen's belief is that children are discipline problems when they fear their time is being wasted. "If they feel teachers are interested in what they are doing, they will usually go along," she said—or if they feel they have some say in their activities.

#### Success of Computer Camps Today

Computer camps, once flourishing, have decreased greatly today—especially the franchises. Even camps with "computer components" are being phased out, according to Karen, unless

they have someone who is really excited about computers. In the Washington, D.C. area there is a local camp and some national camps offering "computer components." Summer computer activities are also available at Y's and through a group called "Computer Summers" that will bring their experience to you and which Karen regards as a good program. Reasons for this trend are not fully clear.

TIC has had a number of dropouts from other computer camps—or even schools—complaining that they could not "take off" and do things. The camp has occasionally been written up in the Washington Post, but word of mouth and returnees account for a large percentage of campers.

Despite lack of plans for TIC to take adult computer campers, perhaps with continuing success TIC will expand for those of us adult kids-at-heart who would jump at the chance to go! ☺



Music Sig meets at 1:30 P.M. on the second Saturday of each month. Meetings are held on both sides of the river, so interested parties should call me (490-7484) or Gary Larson (337-4267) to get the specific location and directions.

We have recently welcomed new members using IBM PCs and Commodore computers to drive their synthesizers, and some without any music system at all. We think that is a good idea—where better to learn what is available for computer music and how to use it than at Music Sig meetings?

Our June meeting was held in College Park, and what was originally planned as a keyboard sampling demonstration turned out to be a MIDI workshop, where members got to try out a Macintosh-driven MIDI sequencer with various synthesizers.

It was announced that we have been invited to tour a synthesizer manufacturing and R&D facility in nearby Pennsylvania. SIG officers are actively pursuing this, and will announce plans for the tour at a future meeting. Other business items included arranging for music demos at main WAP meetings, and arranging for group purchases and group reviews of equipment. Our next meeting will be in Laurel, Maryland, on Saturday, July 12 at 1:30 P.M., and will feature the promised demonstration of the Ensoniq Mirage digital sampling keyboard. Digital sampling keyboards represent a significant development in music synthesis, and the meeting should be both informative and entertaining. We will try to take some live samples, so bring along instruments, cowbells, old dishes or a tape of your cat. Call Gary Larson or me for transportation or directions. ☺

# Q & A

by Bruce F. Field



Q. I am going nuts trying to figure out how to accomplish superscripting and subscripting in Apple Writer II using the NEC 8023A-C dot matrix printer. I obtained a free version of the NEC manual specially adapted for Apple users. Also, the good folks at Apple - the big orchard in Cupertino - sent me the manual for the Apple Dot Matrix Printer because, supposedly, the Apple and NEC 8023A are essentially the same. A live person at NEC told me that to implement a superscript in Apple Writer II the pertinent commands are as follows:

1. [V] control-V, setup for control character
2. ESC T16 set LF to 1/9 inch
3. ESC r reverse LF direction
4. [V]

This is to produce scroll up so the footnote number can be super-scripted.

5. 4 exemplary footnote number
6. [V] setup for scroll down control character
7. ESC f set LF direction to forward
8. ESC A reestablish original 1/6 inch linespace
9. [V]

No luck. the printer prints out "T16r4fA" when those commands are entered precisely as stated. I thought about the foregoing instructions and it seemed to me that an LF command was needed in each window just before the terminal [V] command. I tried that by adding a "control-J" command between steps 3 and 4 and 8 and 9. Still no success. Instead I got strange results.

I've really tried to track down the answer myself. I've reviewed all the manuals for my hardware, and then some. I perceive that too many manuals are written for the computer cognoscenti and not enough for the computer illiterate like myself. Your recommendation of one or a few reference marks, preferably including one which begins at the "See Spot run" level, will be most welcome. Assume I am an abject dunderhead who needs to be told every keystroke to enter, except that I know that "ESC" is really ESC if the shift key mod is not in effect.

A. First the real answer then some explanation. In order to do super or subscripts using the NEC printer (or the Apple Imagewriter printer) you must first put it in the Incremental Line mode. You can leave it like that for the rest of the document or if you wish you can return to the normal Logic Seeking mode which prints a little faster. To get to the Incremental Line mode on the NEC send "ESC [", that's escape, left bracket (hex \$1B, \$5B). This is no problem using an Apple //e but there is no left bracket on the II+ keyboard. Page 53 of the Apple Writer II manual describes an alternate method for entering the left bracket. With the shift key mod installed type CTRL-SHIFT-N. The total command from Apple Writer is [V] ESC CTRL-SHIFT-N [V]. You were correct in your assumption that line feeds are needed between steps 3 and 4 and 8 and 9. Thus the entire sequence is:

[V] ESC CTRL-SHIFT-N [V] go to Incremental

[V] ESC T16 ESC r[J][V] Line mode  
4 footnote number

[V] ESC f ESC A[J][V] to return to original line  
[V] and [J] are control-V and control-J respectively, and I've put spaces on either side of the ESCs so you can see them better but don't type any spaces.

To return to the Logic Seeking mode you need to send ESC ], (escape, right bracket). From Apple Writer II with the shift key mod, use [V] ESC SHIFT-M [V]. If you don't put the NEC in the Incremental Line mode, whenever you send a line feed it also produces a carriage return. So, you get everything after the linefeed over at the left margin of the printer (not the left margin of the document as set in Apple Writer). The Apple Dot Matrix Printer (the precursor to the Imagewriter) does not have this Incremental Line mode and so cannot be used for super and subscripts. The Imagewriter does have the Incremental Line mode but it is accessed differently, instead of ESC [ use ESC l 1 (escape, lower case L, numeral 1). To return the Imagewriter to normal mode use ESC l 0 (escape, lower case L, numeral 0).

Q. Your explanation for using "ESC" codes to drive an Epson through Apple Writer II won't work the same for all Apples. You only have to hit ESC once if you have the shift key modification and the "G" which enables double strike must go before the last Ctrl-V or it will not be interpreted as a message to the printer. Now to the perennial question, has anyone figured out how to solve the Apple Writer II underlining problem -- if the underline command is in effect at the end of a line it continues at the extreme left edge of the next line regardless of the left margin setting.

A. You are correct of course about using ESC with the shift key mod. On unmodified Apples the first ESC puts Apple Writer in the upper case mode, and the second ESC actually enters the escape code. When the Apple Writer II shift key mod option is chosen only one ESC is needed. My explanation of the use of Ctrl-V to enter printer strings may not have been clear, let me expand it here. Apple Writer II and //e normally use control codes to access menus and other program functions. The control-V is a special character to tell Apple Writer not to interpret any following control characters as commands but rather enter them in the text. A second Ctrl-V makes Apple Writer revert back to its original mode. Any "normal" characters imbedded between Ctrl-Vs, letters, punctuation, digits, etc. are entered directly in the text as they normally would be. [V] ESC [V] X is equivalent to [V] ESC X [V]. Whether or not a control character, letter, or what have you is interpreted by the printer as a command depends on the printer, not on Apple Writer. This leads to another common problem. If you imbed a number of printer commands in a line, many of the characters are contd.

swallowed by the printer and not printed, but Apple Writer doesn't recognize this so the printed line ends up short of the right margin.

Page 33 of the Apple Writer II manual describes one way, the only good way, underlining can be done. The reverse slash is reserved to act as an underline symbol. All underlined text should be enclosed between two backslash characters like this \. The backslash can be entered by typing ESC CTRL-SHIFT-P. Unfortunately this method does not work with all printers, especially Okidatas. Apple Writer first prints a character, a backspace, then an underline, and so on for each character. Some printers are not capable of handling the backspace character. There are some other idiosyncrasies, so take a look at the manual.

If the backslash character doesn't work then you can send the code your printer requires to start and stop underlining. But, as you have discovered, everything gets underlined including the left margin. You can improve this situation if your printer has a left margin command. Set the left printer margin to exactly what you want and set the Apple Writer left margin to zero, ".lm0".

Q. I own an Apple ][+ with many cards and I wonder if the computer might blow a fuse? Sometimes the disk in the disk drive get ruined by the printer when you turn it on. Why does this happen?

A. The Apple power supply is pretty rugged when it comes to blowing fuses. If the output is shorted or overloaded it stops working for a fraction of a second and then tries to turn on again. This causes the power light to flash or blink and a clicking noise can usually be heard from the power supply. If there is a catastrophic failure, a small fuse inside the power supply will usually blow before any regular household fuse.

There should be no problem turning on the power to the printer with a disk in the disk drive. If this is your problem I suggest that you check your household electrical wiring, especially the ground connections. Perhaps plugging only the computer (not the printer) into a surge suppressor would help. If your problem is that disks get ruined when you do a PR#1 to access the printer, turn your Apple off and remove and replace all the cards to reestablish the connections to the motherboard. If possible you might borrow a friend's printer card to see if that has the same problem.

Q. Where is the Black Box found in the adventure game Transylvania?

A. Thanks to Ron Wartow, creator of Pixel's Revenge, who says the Black Box is in the clearing with the statue. Search and wear cloak, wear ring, wave hand, leave but return after the streaking flame is seen in the sky, and enter the saucer to get the Black Box.

Q&A answers questions about the Apple // family of hardware and software. I cannot answer all letters, but I try to answer questions that are of general interest to most readers. Please send your questions to Q&A, Washington Apple Pi, Ltd., 8227 Woodmont Avenue, Suite 201, Bethesda, MD 20814.

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# THE CONSUMER ELECTRONICS SHOW

Controlled Mayhem in Chicago

by Ronald Wartow

Taking a busman's holiday to solidify old and forge new gaming software contacts as well as to meet many of the company representatives with whom I had been speaking over the last few years, I attended The Consumer Electronics Show (CES) in Chicago, along with 125,000 others. CES is open only to the consumer electronics industry, not the public. However, I was able to attend as a representative of the club in a "press" capacity, thanks to the efficient and swift intervention of the Manager of Public Affairs of the Consumer Electronics Group of the Electronic Industries Association, the show's sponsor, producer, and manager.

Armed with a press badge, I spent 2 days in the 20-football fields-in-size exhibition area, peopled by 1500 exhibitors. Actually, other than shaking hands with a friendly robot wandering the halls—a cross between Bernie Urban and Tom Warrick—I spent most of my time in that area of the show set aside for computer software houses.

Between passing out copies of our impressive Journal, evidence of our multi-thousand membership, and with "references" from some firms that already support the club (this was necessary because some houses are fearful that users' groups will simply copy and spread any donated software around), I was able to leave the show with my hands full, as Strategic Simulations (SSI), Accolade, MicroProse, Software Country (Electronic Arts distribution), Polarware/Penguin, and Batteries Included donated software for review. Many other companies promised to send Apple // and Macintosh software for review in the future, ranging from new sophisticated word processing programs to games.

In wandering around, I got first-hand information, via press kits and "interviews," a look at what Apple owners can expect in the coming months, and confirmation as to how well-known the club actually is. I also received interesting insight into how software houses view users' groups. Some houses are hesitant to provide review software to clubs for fear of the "spread" of software, while others actively support clubs, particularly the big ones, and still others are making a concerted effort to make clubs beta test and review sites.

Many "interviews" were conducted at the show itself. Other, more exotic, "interview" locations were a Hawaiian luau attended by several thousand, thrown at the Chicago Aquarium by Computer Software Service, a distributor; Mindscape's fabulous 50's rock-and-roll party at a nightclub, featuring Del Shannon, Bobby Vee, The Drifters, and Junior Walker and the All-Stars; and a Rush Street deepdish pizzeria at 2:00 in the morning. (The press never sleeps.)

The highlight of the show for me was meeting and chatting with many of Apple software's most talented and famous executives and developers (read software artists or programmers or designers, or whatever). What follows is a recount of some of the people that I met and what they told me. Mark Pelczarski, President of Polarware/Penguin, announced his firm's return to lower software prices. Check out these prices. Their Comprehend Interactive Novel Series

(CRIMSON CROWN and OO-TOPOS), as well as TRANSYLVANIA will sell for \$17.95 for 5 1/4" disks and \$19.95 for 3 1/2" disks. Same prices for XYPHUS and SWORD OF KADASH. Their popular applications software, GRAPHICS MAGICIAN and COMPLETE GRAPHICS SYSTEM will be \$39.95 apiece, with the Macintosh version of the former to cost \$49.95 for two disks. Their new computer painting program, THE GRAPHICS MAGICIAN JUNIOR will be priced at \$19.95. None of the firm's applications software is copy-protected. OO-TOPOS will be coming out in a few weeks for the Macintosh.

Dave Lebling (Activision/Infocom), co-author of the ZORKS, and other games, knew the club from the fact that his dad lives in the area and has a real estate office. I also met Brian Moriarty (WISHBRINGER).

Marten Davies, President of Firebird, introduced me to Nita (last name unknown), the talented programmer of a stunning new graphic adventure, THE PAWN, which will be coming out for all Apple computers. He also mentioned an around-\$200 super word processing/desktop publishing program to be available in the early fall called THE WRITE STUFF. I met Dan Horn, formerly of Adventure International and Infocom.

Bill Leslie and Tom Carbone (Omnitrend), co-authors of UNIVERSE, and UNIVERSE II showed me a new strategy game under development called BREACH, based on the combat system first introduced in UNIVERSE. Paul Kelly, MicroLeague Sports Association, co-author of MICRO-LEAGUE BASEBALL, talked about the firm's new stat disk to accompany the popular baseball simulation.

Rob and Norman Sirotek (Sir-Tech), told me that the company was originally named after the family, but the name was changed because of all the 3-in-the-morning phone calls for help with WIZARDRY. While meeting them was a pleasure, their bringing along Lynn Bresett, who stood the club on its ear last month, was an even greater pleasure.

Richard Garriott (aka Lord British, Origin Systems), whom I met about a year ago, talked to me for an hour and a half, principally about ULTIMA V and OGRE. The former, still incomplete, will be twice as big as ULTIMA IV and will contain lots of new specials and features that we've come to expect. Richard welcomes suggestions on what club members would like to see in ULTIMA V. Just write to him in New Hampshire. He was carrying the game in his shirt pocket, but our inability to find a Unidisk prevented an advance look. The latter game, which he demoed for me, is a faithful recreation of a popular strategy board game and looks very promising. Richard was accompanied by his brother Robert (who has more degrees than even Bernie Urban), Dave Albert (remember Lord XYPHUS?), and Chuck Beuche (aka Chuckles, the jester who has appeared in every ULTIMA, and co-author of AUTODUEL.) The above products will be distributed by Electronic Arts.

Roger Buoy, President of Mindscape, graciously greeted  
contd.

me, despite the fact that recent Journals had given unfavorable reviews to two of his company's products. The company has continued to donate software, including UNINVITED, a newly-released graphic Macintosh adventure, based on the same gaming system as DEJA VU. Roger introduced me to Tod Zipnick of ICOM Simulations, who developed both games for Mindscape. (Be sure to choose the "About" command of both games for a real treat.) I also met another developer for Mindscape, Doug Sharp, co-creator of the favorably-received CHIPWITS, who showed me a little of his new Macintosh adventure game, THE KING OF CHICAGO. Finally, my primary contacts at Mindscape, Karen Novak, Manager-Communications, and her assistant, Rebecca Steck were as helpful as ever.

John Williams, Director of Marketing Services for Sierra, talked glowingly of KING'S QUEST III and THE BLACK CAULDRON (favorably reviewed last month), and told me stories of his days as one of the first editors of SOFTLINE. Joel Billings, President of SSI, demoed for me an expected summer release of an Apple // fantasy role-playing game called ROADWAR 2000, and advised that the classic game, PHANTASIE, will be coming out for the Macintosh also in the summer. SHARD OF SPRING, a new fantasy role-playing game will be coming out in the fall, as SSI continues to address this very popular market.

W.M. (Trip) Hawkins, President of Electronic Arts, "tweaked" me for "complaining" that EA was concentrating on other-than-Apple computers, by reminding me that most of EA's bestsellers were programmed first for the Apple. At a reception he hosted, I met Bill Bunten (SEVEN CITIES OF GOLD, among others), Les Crane, TV personality, and head of Software Country (GOLDEN OLDIES, THE CHESSMASTER 2000), and Brian Fargo, who did an adventure which drove me nuts (DEMON'S FORGE) and is now head of Interplay Productions (THE BARD'S TALE). Brian was kind enough to give me a little glimpse of THE ARCH-MAGE'S TALE, a greatly enhanced followup to THE BARD'S TALE. EA distributes all of the above products. To further rub the salt in the wounds, Mr. Hawkins gave me a press release that listed in addition to THE CHESSMASTER 2000 and OGRE, no less than 5 new Apple titles (Thomas M. Disch's AMNESIA, BATTLEFRONT, MURDER PARTY, Timothy Leary's MIND MIRROR, and SCAVENGER HUNT).

MicroProse executive, Deborah Musick, confirmed that her firm continues to strongly support Apples. She introduced me to Ed Bever, one of their wargame simulation programmers. Their recent releases, SILENT SERVICE and CONFLICT IN VIETNAM, are high on the bestseller charts. A SubLogic representative assured me that the scenery disks for FLIGHT SIMULATOR II were on the way in the fall for Apple computers. Tom Frisina, President of Accolade, a relatively new company, "promised" that PSI 5 TRADING COMPANY, a space strategy game long-awaited for Apple, will be released in the fall.

Jack Dott of Avalon Hill showed me a Macintosh football game slated for the future and said that the Expansion Disk of UNDER FIRE will appreciably speed the game up. Several new Apple titles will be released in the near future, including DARKHORN, a long-awaited fantasy role-playing game.

All in all, it was quite a trip. ☺

# The Generic PC: Fast Relief for IBM Sticker Shock

by Bud Stolker

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# GAMESIG NEWS

by Ronald Wartow

## JUNE MEETING

It lives! After months of speculation, suspense, and breathless anticipation, the famous "PIXEL'S REVENGE V: The Nightmare Continues" was debuted at this meeting. Based on an original gaming system design by Karen Rall, a WAP member, and written by yours truly, this "abbreviated" 60-room version of this classic text adventure was the subject of a "group solve."

I reported on my recent trip to the Consumer Electronics Show in Chicago (see article elsewhere in this issue). Everyone was pleased to now have Strategic Simulations, Inc. (SSI), Polarware/Penguin, MicroProse Software, Inc., Accolade, and Electronic Arts "in the fold." The software listed below was demoed and assigned for review.

GameSIG has been notified that we will be sponsoring the main meeting in August. Separate programs on Apple // and Macintosh gaming will be presented to the membership.

Next month's GameSIG meeting will be on July 3, at the Office, beginning at 7:30 p.m.

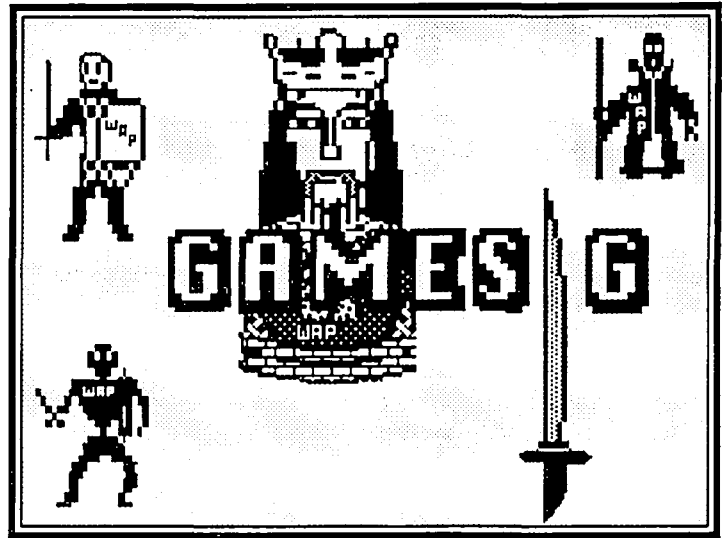
## NEW SOFTWARE RECEIVED

**OO-TOPOS** (Polarware/Penguin): One of the firm's COMPREHEND Interactive Novels of an Apple classic all-text adventure game which now contains over 100 impressive graphics for which the firm is famous. 1000-word parser.

**UNINVITED** (Developed by ICOM Simulations, Inc. for Mindscape): Based on the same mouse-predominant gaming system as DEJA VU, this graphic adventure game in a Gothic setting features digitized sounds and animation. 512K Macintosh with single disk drive.

**THE CHESSMASTER 2000** (Software Country distributed by Electronic Arts): New chess program with a raft of features, including a "teach" mode and many different levels of play. Joystick and mouse control. Apple // series with 64K.

**PHANTASIE II** (SSI): The recently-released mega-hour fantasy role-playing game followup to PHANTASIE, one of GAMESIG's recommended games of this genre. Apple //



series with 48K.

**WIZARD'S CROWN** (SSI): Another recent release. A fantasy role-playing game that permits the unusual choice of combat either akin to "wargame" tactics or a quick resolution of combat. Apple // series with 48K.

**CONFLICT IN VIETNAM** (MicroProse): A wargame whose subject is obvious, employing MicroProse's unique wargame interface wherein the joystick is used exclusively for play. Apple // series with 64K. Joystick required. Flip side takes advantage of 128K. 111-page manual.

**SILENT SERVICE** (MicroProse): A critically-acclaimed submarine simulation run entirely by joystick. Apple // series with 64K. Joystick required. Mockingboard enhanced.

**THE DAM BUSTERS** (Accolade): A simulation of an R.A.F. World War II bombing mission. Lots of gauges, maps and screens. Joystick and keyboard controlled. Apple // series with 64K.

**HARDBALL!** (Accolade): Baseball game simulation with lots of strategy options, like 8 different possible pitches. Joystick and keyboard controlled. Apple // series.

**THE PAWN** (Magnetic Scrolls for Firebird): Atari ST version. Contains stunning graphics and reportedly a very sophisticated parser. Scheduled for conversion to the Macintosh and Apple // series computers. ☞

# COLOSSUS CHESS IV: A Review

by Paul Moore

Colossus Chess IV is the latest chess program for the Apple II series. Written by Martin Bryant, this British offering is distributed in the United States by Firebird Licensees, Inc. It will run on any Apple II with 48K of RAM and will allow in 64K machines use of an optional 3-D display and adjustment of Colossus's willingness to accept a draw offer. Colossus Chess IV comes as a single disk, with the program on one side and sample games and problems on the other, and is packaged with a 19-page user manual explaining its features.

The disk has an arrow on it pointing to the ominous message "Disconnect Peripherals"; but after two weeks of experimenting with Colossus, my modem, printer, Mocking-

board, and joystick are still alive and well. Speaking of joysticks, however, the package mentions "optional joystick control"; but I didn't see any word of it in the manual, and no amount of fiddling with keyboard control keys would activate the joystick.

After a rather long boot (55 seconds), Colossus displays a hi-res chessboard which occupies the upper-left 60% of the screen. The right and bottom of the screen are used for messages and credit for the author. At this point, the user is presented with a wide variety of options, all selectable through control keys. You can select the level of difficulty, of course, by directly assigning the average time the machine will think about each move. Or you can assign both yourself and contd.



Colossus each a time to finish all moves for the game. You can even put the program in its "tournament mode", where it (and you!) will be required to complete a given number of moves to satisfy a primary and a secondary time control. In both these last modes, you can effectively handicap Colossus by giving it less time than you give yourself. Finally, there is an "equality mode", in which Colossus will attempt to match its total elapsed time to your own, allowing you to force a faster pace by moving more quickly yourself. In all modes a chess "clock" can be activated, estimating elapsed time for each side on the fact that the program examines an average of 300 positions a second.

Colossus Chess IV also has an infinite analysis mode, in which it will analyze a given position until forced to stop. Last of all, the program has a problem mode, which will solve chess problems such as regular mates, self-mates, and help-mates.

Other options allow the user to set up positions for the program to analyze or play from, to take back moves or make Colossus play a second-best move, to start a new game, save a game to a data disk, print a game score or an (unimpressive) non-graphics description of the board, or even try a blindfold game against the computer. At any point it is possible to use the spacebar to toggle back and forth between the board and a screen which has a score of the moves, the elapsed time for each side, and a display showing what moves the program is thinking about as well as its evaluation of the position.

I am an experienced tournament chess player and am rated by the U.S. Chess Federation about a class-and-a-half stronger than Colossus IV's estimated 1850 (Class A) rating. My results against the program have been very positive, but the program plays very sound and solid chess, and I usually beat it through endgame finesses or by superior chess opening knowledge. I think that this program will be more than a match for most of the chess players who are WAP members.

I think that Colossus Chess IV is a clear advance over its nearest competition, Sargon III. Sargon has a much stronger opening repertoire than Colossus; but Colossus plays the middlegame and endgame much more solidly and skillfully than Sargon, in my opinion. Sargon can, especially in its MacIntosh version, give me a very hard time if I'm not especially careful; but that's because the program seems to be designed to play very aggressively (again, in my opinion). This aggression can cause Sargon to play an occasional audacious move which gives me fits, but it also often plays moves of elementary stupidity. It seems to me that Colossus most often takes a wait-and-see approach, waiting for its opponent to make a mistake. I'm quite used to this style of play, since it's how the local chess Masters usually beat me; but you may have more trouble with Colossus's style.

There can be no doubt that this program is a significant advance over programs such as Sargon III in its user options. The tournament play and the equality mode options are much better than anything I've seen in the other programs, and even the all-the-moves mode used to play "speed chess" is very entertaining. The whole concept of using a simulated chess clock opens up a fascinating new dimension in chess programs.

To give Colossus's analysis and problem-solving options a workout, I entered a number of positions from two chess

quiz columns in the July, 1986, issue of 'Chess Life', the official magazine of the U.S. Chess Federation. The first quiz was based on positions of increasing difficulty selected from the recent U.S. Championship tournament. I put Colossus in the "infinite" analysis mode and stopped it after about seven minutes. It solved the first three problems without much trouble and got the right move in four of the last six positions, though its reasoning was not always correct. Not a bad performance at all.

Where the program really shone was in problem solving. Mates-in-two it solved in an average of one second, while mates-in-three took all of one minute. I even gave it a mate-in-five problem, which I usually avoid (life is too short); and it solved it in sixteen minutes. It also blitzed its way through the self-mate problems. Each month the magazine has run a contest seeing how many ways there are to attain checkmate in a given position, with both sides helping each other. For the first of these problems, a help-mate in two, Colossus found no fewer than 48 different solutions; and for the second, a help-mate in three moves, which was advertised as having two solutions, the program cranked out eight different solutions! I have written to the Federation to call this to their attention and to recommend that they consider using this program.

Lest you despair over ever beating this strong chess opponent, I tried a so-called 'forced win' I had discovered against Sargon III (and written up in the May, 1985, issue of the WAP Journal) against Colossus Chess IV at an intermediate mode. Although Colossus didn't fall into the trap as completely as Sargon had, by the time the program realized what had happened, it was too late; and mate was inevitable in several moves.

There were some things I didn't like about the program. The 3-D display I thought hard to read, especially when the bishops were on squares in front of the King or Queen. Also, the program's opening depth and breadth of repertoire seemed very limited to me - most of the time it kept playing one or two obscure opening lines; and I kept beating it the same way, over and over. Last, the manual could be a bit friendlier; it took me considerable head-scratching to figure out how to make some of the options execute.

If you like chess, I strongly recommend that you purchase this program. ☞

#### Flight Simulator contd. from pg 24

yourself circling around the Seattle Space Needle, scaring those in the restaurant into ordering another drink, or heading straight to fly through another object that your barnstorming co-pilot, Gulick, has discovered is fun. "The people in the streets have stopped to watch; the phones are ringing off the hook in every police precinct in the area. Because, yes, you're going to fly—or try to fly—with only a few feet to spare, right through the ..."

If you like surprises, don't read the blurbs on the back of the books, and don't read ahead unless he tells you to. More than half the fun is the sheer pleasure of exploration and not knowing what will happen next. You don't know what that friendly but mischievous co-pilot is up to or where you might end up. ☞

# 40 GREAT FLIGHT SIMULATOR ADVENTURES

and 40 More: A Review

by Thomas Johnston

(By Charles Gulick, published by COMPUTE! Publications Inc., for Flight Simulator II on the Apple II.)

I've rediscovered my Flight Simulator! Charles Gulick takes the co-pilot seat and like a Charles Kuralt of the sky, takes you places you've never been and shows you wonders you never noticed, accompanied by knowledge, insight, and humor. Unlike Mr. Kuralt, he also takes you on hair raising, "Ohmigosh, are we gonna crash?" type adventures.

Picture yourself headed straight for the twin towers of the World Trade Center. Is there enough space to fly right between them? Aiyeeeee. Each adventure begins with a list of flight parameters that you enter into the FS2 editor (he tells you how to do that). Then you read along as you fly, making frequent use of the pause key (P). The narrative makes you feel like the author is sitting right next to you in the right hand seat, chatting away about what's going on around you.

Remember the scene in one of the James Bond movies where he flies through a hangar? Yes that's right, you are going to fly right through and out the other side. You hope. "Yes, you're close to the floor, but there's also very little clearance between you and the roof."

In the midst of these adventures, in the second book, Charles Gulick, teaches you to fly and fly right. Most of the Flight Simulator's own manual is very thorough and rather intimidating. My computer came with Flight Simulator II as part of the package. I learned how to get off the ground. I learned how to stay in the air and turn without crashing. (Remember when you first learned how to steer the Piper, you headed straight for the John Hancock building to see what would happen?) I could even take off from LaGuardia, turn south, and fly down the length of Manhattan. But I never got the hang of landing, and I certainly couldn't land at the airport, straight down the runway. Maybe I could land off to one side in the grass. I know that I'm not alone in this.

Charles Gulick becomes your own friendly flight instructor, explaining simply the use of this navigational radio or the importance of that RPM setting. He tells you specifically the proper method for taking off, flying straight and level, adjusting altitude with precision, entering the pattern at an airport, and landing on target. For me a bigger thrill than hot dogging through the open hanger was making the final left turn out of the pattern to find the runway right in front of me and being able, for the first time, to land straight down it. No more anxious grass landings.

Even without the flight instruction you can enjoy most of the adventures, even the hair raising ones. In several of them you don't even have to know how to fly. After the flight training you can enjoy the harder parts of the more difficult adventures. "You're straight and level at 5000 feet when your engine quits. You must make a dead-stick landing on San Clemente Island. ..." "Keep your nose pointed straight at the Statue of Liberty. You're going to land this airplane on the island, right at the foot of the statue."

In one adventure he shows you how to use the slew

controls (I call it the 'flying saucer mode' because you can move around and freeze in midair anywhere you want). Slewing and using the distance measuring equipment, you can locate a favorite location of your own that might not be clearly marked in the simulator world, like your own house for instance, or the field behind your nephew's house in DeKalb. You can save that position and make it your own private tie down location from which any time you can take off and fly your nephew over Chicago.

Some of the adventures are simply touring. Like Charles Kuralt, Charles Gulick chattily describes the passing scenery as if you were really looking out the window. Telling history, local color, and scandal, he breathes life into that graphic landscape. "You're at Somerset airport on Nantucket Island, which is off the southern coast of Massachusetts. So many ships were wrecked from this storied whaling port that they built a windmill from the timbers that washed ashore."

To add to the realism buy some aeronautical sectional charts (try the Map Store). The radio frequencies in the FS2 are real and the same as on the charts. You really see where you're going and can chart interesting courses.

Unfortunately the adventure books were written before the release of the Microsoft Flight Simulator for the Macintosh. The Mac version does not have the extensive editor that the FS2 has. You cannot preset all the flight parameters so that you come out of the editor flying straight for the Manhattan Bridge. You can only preset your position and the weather conditions. An editor at Compute! Publications told me that he did not think the books were suitable for the Mac and had no current plans for new books. From my own experimenting I found that it was possible to fly several of the adventures, at least the ones that start on the ground somewhere. The position coordinates are the same. I had to first taxi or slew to the right heading since I couldn't figure out how to preset it, then I could follow the adventure. Unfortunately this technique leaves out the more hair raising fly-through type experiences. Examine the books yourself. A Mac user might want to buy one anyway to get the flavor of what you can do with the simulator.

It's almost midnight. "You're over Jersey City, New Jersey, pointed across Upper Bay of the Hudson River and toward the Statue of Liberty as well as the lower tip of Manhattan. The city is a festival of lights in the distance, as you'd expect. Beyond the statue are the familiar World Trade Center Towers." Around the city you can see several tower beacons flashing in the distance. In the pitch dark beyond, you're going to look for the blue runway lights of Westchester County airfield.

The editor in the Apple II FS2 allows you to change not only the position and the weather (such things as cloud layers and wind sheer, which I never learned about until I bought these books) but also your heading, airspeed, and the settings for all your controls. This means that you can enter the parameters given for an adventure and exit the editor to find

contd. on pg 23

# STAR FLEET I: A Review

by David Blazina

STAR FLEET I is a tactical game set in space. The producer of this game is CYGNUS, who has never before produced a game. Unfortunately, their first entry into the Wonderful World of Gaming is a mediocre one.

The documentation surpasses any other rulebook I've seen, in size. This rulebook has just a little less than 200 pages! There are three books: the main rulebook, the hint book, and the Apple Translation book. The Apple Translation book is included, since the rulebook was written for the TRS-80 and the IBM. It is very bothersome to switch manuals every two pages. The hint booklet gives different tables, such as x star planets have y functions in the Krellen Empire, which hasn't helped me at all.

Once you boot up the game, you are confronted by two pictures, one giving you the company title and its address, and then the title page for the game. The game asks you three questions—do you have a joystick, an 80-column card, and lower case capability? After these questions, you are prompted to boot the other side, and you are given the names of all the designers. You are then asked what word is on x line of y page. If you make a mistake, it gives you another chance. If you make another mistake, it prints a message to the effect, "Pirate, get off this game that you copied." This was very frustrating, since the manual doesn't fully explain the process.

The game itself is accompanied by cute music, which sometimes gets a bit repetitive. Sometimes, humorous messages flash on and off the screen, such as "ATTENTION ALL CREW MEMBERS: Tonight the theater will be playing Earth Wars, a movie about a war on Old Terra Firma." The quality of the text is excellent and really enjoyable.

When starting the game, you are allowed to choose your ship from over 30 titles. All the star cruisers are replicas of one another, so it doesn't matter which you choose. Then the game prompts you to choose a mission of either short, medium or long duration. Depending upon which mission you choose, it will display how many Krellens and Zaldrans you must obliterate, and how much time you are given. Short missions which take about ten minutes have the worst kill-to-time ratio, while long missions which take over an hour

have the best. Once you have entered your choice, a screen is displayed with the mission objective.

Moving around is very bland, since the little symbol representing your ship always points upward, even when you move to the left. The graphics are very crude, with every little symbol (which represents a unit) never changing positions. The graphics are presented on a one-dimensional plane, with a bird's eye view.

After awhile, one gets tired of this game. After all, one can only blast for so long. I do not give this game an excellent rating since it is repetitious, even at high levels of play. It has a very simple game plan, it has no inherent educational value, and its only objective is to destroy. I would enjoy this game more if they would sacrifice the music tunes (which sound terrible on the Apple) and upgrade the graphics.

Ratings: Documentation - 8 Graphics - 4  
 Holds Interest - 3 Strategy - 8  
 Quality of Text - 9 Overall Rating - 6.4 ☺

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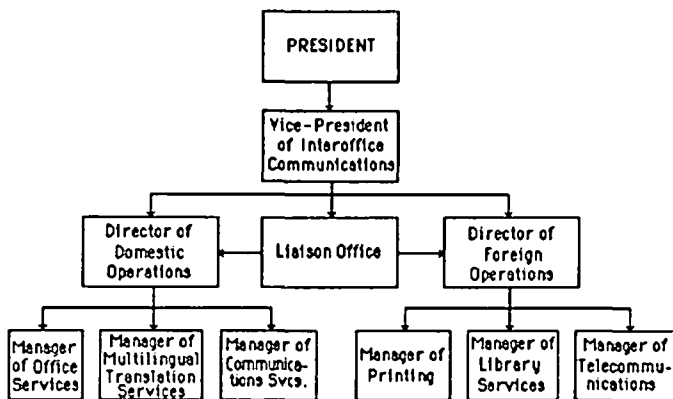
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# A BUTTON-DOWN GUIDE TO THE APPLE

by Raymond Hobbs

Many people figure that all my articles are going to be technically-oriented. Well, to some extent they are right. This article, also, is intended to be a bit technical—but it's designed for our novice members. It's an article on hardware (computers), firmware (the cards that we are encouraged to insert into the computer to get all sorts of wonderful things to occur), software (the programs on disk that we buy) and peripherals (the other machines that we attach to our computers, such as printers and modems and the like). It's also an article on RAM and ROM and chips and operating systems and the ins and outs of making the computer do what we want it to do. I'd really like some feedback on this article—if it helps anybody out a little, I'd like to know it. And if it's of no value, I'd like to hear that, too. That way I can either write some more on the subject or let it fade away.

**HARDWARE.** A computer is designed much like a miniature corporation. It has its officers, middle managers and its workers. It also has departments and offices, where particular types of work get done. The corporation that I'm going to use as an example is the Apple ][+, which is not so different from the ][ or the //c. It's also the corporation that I use now and have used for the last six years, so I feel pretty much at home with it. This corporation has an organization chart, and though the organizational structure may look a little funny, we should keep in mind that this particular corporation has no loafers, no back-biting and no empire-building—there! I've already carried this way into the realm of fiction. The organization chart is as follows:

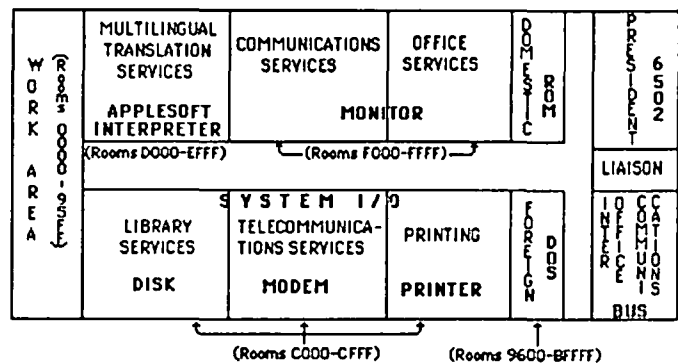


The President of this conglomerate is, of course, the 6502 chip which controls processing on the Apple ][+. You'll hear the 6502 referred to by name a lot, but sometimes you'll also hear the more generic terms "the chip", or "the CPU" (CPU stands for "Central Processing Unit"), or even "the microprocessor". The generic terms all refer to this presidential slot in the company, although for different computers, the CPU may not be a 6502 chip. For example, the //c came out with a slightly modified 6502 microprocessor dubbed "65C02", and the IBM-PC uses the 8088. By the way, you may have heard of a number of people outfitting their Apples with a "Z-80" card - it's a clever way to add an alternate CPU to the Apple (the Z-80 cards contain, not surprisingly, a Z-80 micro-

processor).

In any event, all the work done in our Apple ][+ corporation will be controlled by the 6502 chip. The 6502 may delegate work to auxilliary devices, but all work done on the Apple will be under the supervision of the 6502. Obviously, he who controls the 6502 controls the Apple - and the 6502 can be directly controlled. Unfortunately, the 6502 speaks a foreign (to us) language, called "6502 Assembly Language". This stuff is somewhat difficult to understand, especially for novices, so most of us use an easier language to speak to the 6502. To do this, we have to go through the Manager of Multilingual Translation Services (see chart), who will translate what we tell the 6502 into the language that the microprocessor can understand - but more about this later. For now, just keep in mind that this service exists within the Apple. And stay away from Assembly Language programmers for a while (you can tell Assembly Language programmers by the funny way they dress and the faraway, glazed look in their eyes).

Like most corporate presidents, the 6502 doesn't look directly at all operations of the corporation. Instead, the chip gets information about the rest of the company from middle management employees. In the Apple ][+ Corporation's case, these middle managers are ROM, which is concerned with domestic operations (those which take place within the Apple), and DOS, which is concerned with foreign operations (those which connect the Apple with the "outside world", or its peripheral devices, such as disk drives, printers, modems, etc.). Since both of these middle managers are given office space, let's now take a look at where everybody sits in our corporate offices.



Don't worry about the room numbers ending in "FF" - I have numbered the rooms in hexadecimal (for consistency with existing documentation on the Apple), and for our purposes, we can just treat the letters simply as high numbers (a letter is higher than a "9", and "F" is higher than "E", etc.). The important point is that all these functions (except one) are associated with a location or address in the Apple ][. The high numbers are associated with the specialized functions, while the low numbers are the "work area". Actually, the upper 1/4 of the addresses are what we call "ROM" (Read-Only-Memory) and the lower 3/4 of the addresses are what we contd.

call "RAM" (Random-Access-Memory). As you have probably guessed, the "rooms" that I have been talking about actually represent memory locations within the Apple, both in ROM and RAM. The difference between the two is simply that the information contained in ROM is there forever - it cannot be written over, while the information in RAM can be erased and rewritten countless times. As a matter of fact, every time you turn on your Apple or hit the RESET key, the information in RAM is erased.

Have you noticed which of the functions we talked about earlier has no memory address? It's the president - the 6502 itself, and its executive functions! The 6502 chip actually does have several addresses, but they are very special addresses and are referred to as registers. We won't go into details about the registers this time, but the Assembly Language programmers who may be reading this are probably breathing a little heavier now.

We are going to take a closer look at the organization of the Apple's memory, still keeping up our analogy to a corporation, but we'll be concentrating on the lower memory areas this time - this is the area that was labeled "Work Area" on our previous map. Now, the Work Area has a number of designated functions, and the map shows where they are located in the Apple. You'll notice that the locations (memory addresses) are designated in blocks of addresses. Actually, there are 65,536 distinct addresses that the 6502 can access. Each group of 256 addresses is called a "page" of memory. The map uses this terminology as well. Let's look at these thirteen blocks of memory, one at a time. The functional designations are somewhat whimsical, but represent the types of operations that actually go on in the Apple. For example, the two Graphics Departments are really the hi-res graphics screens. When any data are placed in the memory locations claimed by either one of the graphics screens, and if the screen is "turned on", the data will instantly appear as graphics images on your monitor. What turns the graphics screen on? It's the area I have termed the "switchboard". The switches are not physical - any operation which accesses a memory location designated as a device switch will throw the switch. In a BASIC program, this is commonly done by using PEEKs and POKEs. The HGR command in BASIC simply performs a couple of POKEs to get the graphics screen turned on. The same type of operation works on the text screen.

0000 - 00FF	Page Zero - Company Bulletin Board	A P P L E II +  M E M O R Y  M A P
0100 - 01FF	Page One - Company Spindle File (The Stack)	
0200 - 02FF	Page Two - Company Mail Room (Keyboard Buffer)	
0300 - 03FF	Page Three - Routing Slips (DOS Vectors)	
0400 - 07FF	Pages Four thru Seven - Production Department (Text Screen)	
0800 - 1FFF	Pages Eight-oh thru One-F - Workroom I	
2000 - 3FFF	Pages Two-oh thru Three-F - Graphics Department I	
4000 - 5FFF	Pages Four-oh thru Five-F - Graphics Department II	
6000 - 95FF	Pages Six-oh thru Nine-five - Workroom II	
9600 - BFFF	Pages Nine-six thru B-F - DOS	
C000 - CFFF	Pages C-oh thru C-F - Switchboard (Device Switches)	
D000 - EFFF	Pages D-oh thru E-F - Interpretation Branch (AppleSoft Interpreter)	
F000 - FFFF	Pages F-oh thru F-F - Operations (System Monitor)	

When you place a character in a memory location anywhere on the four pages devoted to the Text Screen, that character appears on your monitor instantaneously. The first four pages in memory (zero page and pages one through three) are used primarily by Assembly Language programmers, and we will not spend much time on those pages here, except to note two things: First, what you type in at the keyboard is stored on page two (the keyboard buffer) where it can be accessed by the program that is running on the computer, and second, that page one is known as the "System Stack", and contains small bits of information that have been placed there in order, temporarily. The Stack, by the way, contains the addresses in memory of the program lines which immediately follow GOSUB statements. This is how the Apple knows where to return to after executing a GOSUB.

The "Workroom" areas are what we call "free RAM". It is in these areas that our program lines are stored for execution, along with any data that are used by and for that program. Any data (including program code) that is processed by the Apple ][+ Corporation is stored in this work area and moved in and out of the other functional areas for processing as necessary. The various managers involved are called upon to perform their tasks one at a time.

Although this kind of processing may seem oppressively bureaucratic with its various functions being performed hither and yon within the computer by sundry middle managers, it operates quite smoothly because every manager has a particular set of tasks to do, and no manager will ever encroach on the functional area managed by any other manager. The Apple ][+ does not tolerate interoffice politics or "turf battles".

**PERIPHERAL OPERATIONS.** Now that we have taken a short look at the hardware, how can we work through that maze of managers and functions? After all, as users of the Apple ][, we must interface with this miniature corporation hidden inside the machine. Fortunately, on the most basic level, all of the interfacing is pretty much taken care of for us. Let's look at a typical operation—typing something on the keyboard and seeing it appear on the monitor screen.

The Director of Foreign Operations is always on the lookout for messages coming into the Apple from the outside world (the outside world in this case means YOU!). Up in memory on the C-oh page, there's a signal light. Whenever a key is pressed, that light goes on. Since the Foreign Operations office is well-staffed, there will always be a runner available who will be immediately dispatched to tell the boss that a message (one keystroke!) has come in. The message is picked up at the loading dock (also on page C-oh) and the light is turned off. A copy of the message is then dropped off in the keyboard buffer located on page Two. The Director of Foreign Operations has done his job.

In the meantime, the original message is taken to the Vice-President of Interoffice Communications. The V.P. directs the Liaison Office to take the message to the Director of Domestic Operations (since it has now become an internal matter), who routes it on to his Manager of Communications Services. Using a procedure manual located in ROM, the Manager of Communications determines that the message should be displayed, and routes it to the Work Area's Text pages located on pages Four through Seven. Bingo. The contd.

message appears on the screen.

The whole process takes a few microseconds, and succeeding typed-in characters are handled the same way. There are a few more tasks which are done, such as determining exactly where on pages Four through Seven the character should be placed, but the Manager of Office Services supplies this type of information.

There is also the question of whether or not the message being typed in represents gibberish or a valid command. Therefore, all commands are set off by a carriage return character, and when this character is detected, the contents of the keyboard buffer are examined by the Manager of Multilingual Translation Services. If the message is gibberish, the beloved "SYNTAX ERROR" will be dispatched to the screen, and if not, the message will be translated and sent on to whatever offices are needed to comply with the command—the Apple ][+ Corporation exists only to serve.

All external operations are handled pretty much in this way. For example, if you select the Printer as your output device, the same operations are performed, but output is routed to the C-one page instead of pages Four through Seven. The memory locations of these peripheral device switches, signals and ports correspond to the slot number where you plug your peripheral device interface card in. The printer referred to above is normally plugged into slot one, and the memory locations assigned to it are on page C-one. Similarly, modems usually park in slot two (page C-two in memory), 80-column boards in slot three (C-three), disks in slot six (C-six), etc.

It's still a maze, but it begins to make a little more sense.

**SOFTWARE.** There are two ways to get software: buy it or write it. However it comes, it consists of a file of instructions to the computer concerning what to do and what to do it with. Software comes in a host of languages, from Applesoft BASIC to FORTH to Assembly Language (background sound of heavy breathing). Since each language is treated a little differently on the Apple, it's not possible to generalize an explanation of how all software is executed. We can, however, get an overview of the process by looking into the method by which the Apple runs a BASIC program. Some of the information I'm going to include here is FALSE; however, I'll correct it just a little further on (well, maybe not exactly *false*...just over-simplified temporarily).

Here's the BASIC program I'm going to use in my example:

```
10 INPUT A$
20 PRINT A$
30 END
```

Anybody who doesn't understand what this program does, give Bruce Field a call.

What happens when this program is typed in at the keyboard? The Applesoft Interpreter understands that any line beginning with a number is a line of BASIC code. Therefore, no "SYNTAX ERROR" message is displayed on the screen. The interpreter also understands that commands preceded by line numbers are to be deferred—that is, the commands on that line will not be executed until an un-numbered command ("RUN") is typed in. The Manager of Office Services is told to simply store the BASIC line of code in memory, starting on page Eight. Subsequent lines are treated the same way,

each one being placed in memory after the one preceding it.

When you type "RUN" at the keyboard, the Interpreter recognizes this as the command to get started interpreting the stored lines. Starting at the beginning of page Eight, each line of code stored in memory is interpreted and acted upon, in turn. If gibberish is encountered - you guessed it - "SYNTAX ERROR" appears like magic on the screen. When the last line of code ("30 END") is encountered, the interpreter recognizes the command as a signal for a coffee break, and execution stops.

Now let's add some complications. First, if another program was already in memory at the time the new one was entered, the new lines 10, 20 and 30 will simply replace the old code lines 10, 20 and 30. No big deal if the old program had no intermediate line numbers (like 5,15 and 25). However, it's best to play it safe. Before entering our code in from the keyboard, we should type in the word "NEW" on its own line. The Interpreter understands "NEW" as the command to erase any old programs in memory. That "wipes the slate clean" and keeps our program from getting mixed into another.

Our second complication occurs when, instead of typing the program in at the keyboard, we load it in from disk. Actually, commands like "LOAD" and "SAVE" are not understood by the Applesoft Interpreter. Instead, they are intercepted and interpreted by the Operating System. Before confusing anybody further, I will shut down this introduction to the Apple, but before I do, I will boil down a lengthy future discussion of DOS to a rule-of-thumb. If you start up the Apple with a disk in drive 1, the DOS commands (such as "LOAD" and "SAVE") will be interpreted and will run properly. This is because starting the computer up with a disk automatically loads another program, called an Operating System, into the computer and builds a fence around it to protect it from being erased. This operating system enables disk operation commands. Next time I will write an article on operating systems and try to explain a little about how these programs control our disks and help shape the way we can interface with that miniature corporation hidden in the Apple.

**NOTE:** Please direct comments on this article to the Editor of the WAP Journal, and direct questions to me (number listed under "HOTLINE").

**THANK YOU,  
BILL ETUE**  
by Boris Levine

This article is in four parts.

#### **PART I: PROLOGUE**

Back in the days when DOS meant DOS 3.3, Bill Etue wrote a program called HANGMAN and donated it to Apple Pi. It is on Disk 102.

#### **PART II: FIRST-PERSON REPORT**

For some time I've been writing programs for young disabled children. Recently I assembled several of the programs on a single disk and at that time it occurred to me that some

contd. on pg 62

# APPLEWORKS SIG NEWS

by Peg Matzen

Well over 45 members attended the 12 o'clock May 24th meeting of AppleWorks SIG. The first meeting of the 8 o'clock session was reported a success with 10 early-rising members attending the Charter session chaired by George Sall.

The Noon meeting began with a lively and lengthy Q & A session; the topic of the day was the WAP Bulletin Board systems. Because so many of the SIG members have Apple //c's, Ken De Vito thought it appropriate to demonstrate how inexpensively and easily a 1200-baud modem could become a part of their systems.

Henry Dubester agreed to serve as Librarian of the group; he will assemble the reviews of the disks obtained from the TAWUG meeting in New Orleans and forward them to the WAP Library. Reviews of selected disks and AppleWorks related articles/tips will also be maintained in the SIG Library and periodically published in the WAP Journal.

Selected useful bits of information from the Q & A session follow:

The group agreed that this SIG was particularly interested in applications of //c communication with ProDOS, but //e and ][+'ers using AppleWorks are always welcome.

**Fingertips:** Mike Ungerman informed us that Fingertips contains a rather difficult manual. However the beauty of it is that one can escape from AppleWorks into Applesoft and return with this software. More Later.

**Macroworks** from Beagle Brothers (latest version 2.2) does repetitive processes with a solid-apple and a keystroke and now has a 4000 character storage capability instead of the old (version 1.0) 216 character limit. It provides an overlay to AppleWorks; the keys mean different things on the three functions. If you have the older version, send your proof of purchase corner into Beagle Brothers for a "FREE" upgrade.

Mike Ungerman is hereby requested to give an upload and download demo from the WAP BBS Boards at the next meeting where we have a modem on-line—maybe July's meeting.

Joe Hassan stated that the use of computers in education is not adequate, although the potential is there. The problems center around the mish-mash of applications. We need to open up communication and express our concern about the difficulty of use of computers. Herb Graham suggested that a list of good programs might be compiled that would include a paragraph describing each one.

Amy Billingsley called attention to the Apple Teas already scheduled and asked for volunteers to have teas. There will be an AppleWorks Tea on June 25 and another on July 17. Check the Journal for details.

Members complained about the lack of current books in the public libraries that explain computer usage. The WAP Library was recommended as an excellent source of such books and a wealth of magazines. Richard Gorman gave us some good ideas when he talked about configuring a custom printer. There was agreement that manuals just aren't oriented toward first time users. Paul Schlosser stated that one needs AppleWorks version 1.3 if running a 3.5" UNIDISK. Other

members stated that 1.2 will suffice. For the \$20.00 upgrade fee from 1.2 to 1.3 Gene Brown recommended buying the upgrade since it comes with both size disks and a well-written manual.

Slalom from the Big Red Apple Club prints a sideways AppleWorks spreadsheet or Date Base, and prints on most popular printers to include the Imagewriter and MX 80's (this information appeared in last month's WAP Journal). Cost \$5.00; available from Big Red Apple Club, 1105 S. 13th St., #103, Norfolk, Nebraska. 68701.

Ken De Vito, with the aid of Gina Doggett's //c system discussed and demonstrated the use of an inexpensive modem as part of an Apple //c system. Members planning to buy a modem will find the following recommendations useful:

1. Call the WAP office: Ask that a personal password and number be assigned to you for the WAP Bulletin Board System.

2. Attach the modem to the //c by a cable that costs \$10-15. The telephone is plugged into the modem.

3. Recommended software for use of the modem: ASCII Express (The Professional), \$88.00; and Apple Access that can send AppleWorks documents without conversion to Text or ASCII Files, \$59.00.

4. The new WAP BBS 986-8085, 986-8086 or 986-4715 can now handle multi-users and have them access 32 boards by dialing and connecting to a single number. The AW-SIG will attempt to provide and demonstrate a live demonstration of this and other Telecommunication Systems during their July Noon Meeting.

The AppleWorks SIG Telecommunicators appreciate the sweat and strain that the WAP BBS 'Crew' expended during the last 9 months to develop a "Super" BBS System for us—now, if we could just get some more AW Telecommunicators...

AppleWorks SIG will not meet in June so that members can attend the WAP GARAGE SALE. July's meetings will be at both 8:00 am and Noon. ☺

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# ProDOS REVISION OF THE COMM-TERM COMMUNICATIONS PROGRAM

by George Kinal

## 1. INTRODUCTION

I have been encouraged by a steady trickle of letters and telephone calls about my Comm-Term communications program, originally published in WAP's Journal of January, 1984, and in the Disketeria on disk #44. Readers who have been following my lap computer articles might have noted that nothing very sophisticated in the way of communications software is necessary to exchange data between two interconnected machines. In fact, Comm-Term has roughly the same elementary functions as the laptops' TELCOM.

But a lot of bits have gone through the cable since January 1984. Most new Apple //e and //c owners are using ProDOS software, notably Appleworks. In order to transfer text from a laptop to AppleWorks, a program that saves the received text in ProDOS format is necessary. Also, most newer Apple // owners, and many ][ owners as well, have 80 column capability.

So, the new Comm-Term has 80 column support (but will work with 40 as well). It supports, automatically, two large families of serial interface cards (when used in slot 2): the 6551-type card such as the Apple Super Serial Card (or the Apple //c interface); and, the 6850 type card, including the CCS 7710, the SSM cards, the old Apple Comm. card, and others.

Comm-Term is still a program for transferring text files only. Besides, it doesn't have any of the automation or flexibility of AE-Pro. But casual users, especially fellow laptop owners, might find it of some use. One important improvement has been made. When the capture buffer is full, the program stops further reception. This prevents the program from destroying itself in memory. Buffer size is 24K, again a good match to the largest document likely to be transferred from a 32K-class laptop.

Further enhancements are desirable. I've thought of several during the preparation of this article. Still, I wanted to release the program in its current state now, so I can get some "bug" reports. Although I'm particularly proud of Comm-Term's automatic configuration/installation feature (to my knowledge, no commercial program does this), I have no way of testing it on a wide variety of systems, and would like to hear of cases where it worked, and especially where it didn't. (I have tested it on my ][+ with and without 80 columns, and with an SSM AIO and a Super Serial card. Brief tests on a //e also seemed to indicate success.)

Comm-Term in ProDOS form will be submitted to the Disketeria once I get a few more reports from volunteer "beta testers."

## 2. PROGRAM USAGE

I have used the prefix /DATA for all data storage files (downloaded material, or files to be uploaded). Thus, you will have to format a disk with this prefix for your text files. In a one drive system, you could place Comm-Term, its binary rou-

tines SSM.OBJ and SSC.OBJ, and the system files (ProDOS and BASIC.SYSTEM) all on a disk with prefix /DATA.

I suggest you read the description of the DOS Comm-Term in January 84 WAP for a better understanding of how it works. This version, because of its automatic configuration, requires the user to specify very little after the RUN COMM-TERM command. After defining the baud rate you want and whether you need local echo, you will immediately be in dumb terminal mode. One difference in this version is that there is no on-screen prompt to tell you that you are in terminal mode. Most users will either be connected to a "smart" modem, in which case typing "AT" should get you an "OK" from the modem, or in the laptop/TELCOM connection, the Apple screen will show anything typed on the laptop keyboard. As in the previous version, a Ctrl-T will escape from the terminal mode and give you a short selection menu for up- and downloading.

One item that confuses many users is the question "ENTER COMMAND SEQUENCE TO SEND TO HOST TO INITIATE DOWNLOAD..." This is simply whatever string of characters you would type to tell the other side to send the desired information. For example, suppose you wanted to capture message #254 from our Telecommunications System (bulletin board). In terminal mode, you would send the "R" command, and the System would ask which message number you want to read. At this point, you should escape to the download function of Comm-Term, designate the file name (say, WAPMSG254), and, in response to the "COMMAND SEQUENCE" etc. question, just type "254" and RETURN. Comm-Term takes your input of "254" and sends it to the bulletin board System, with a carriage return. The System then starts sending you message #254, which is captured in the Apple Comm-Term buffer. When the end of the message has been reached, you should type Ctrl-T so that Comm-Term can proceed to save the captured text to the file. In the case of an interconnected laptop, no "triggering" character string from the Apple is needed to initiate the transmission, so just depress RETURN alone in response to the "COMMAND SEQUENCE" question, then go to the laptop keyboard and initiate the transfer using either TELCOM's UPLOAD function, or directly from TEXT mode, by a SAVE to COM:58N1D (etc.).

## 3. DISCUSSION OF COMM-TERM BASIC PROGRAM

The following is not a complete description of Comm-Term. Refer to the referenced previous article (and to the BYTE article mentioned therein) for a basic understanding. The comments that follow emphasize the changes made in the new version.

Line 30: Invoke 80 columns if available; if not, ONERR from line 26 continues in 40 column mode.

contd.



Line 174: An additional command choice to do a disk catalog has been added, so you can confirm a file name before up or downloading.

Line 711: This is where the downloading bails out if the buffer becomes full (Note: there is no advance warning of this situation).

Lines 726, 740: In DOS, I had to resort to a trick to save a text file using the much faster BSAVE operation. ProDOS has the equivalent built in: the "T" parameter designates the file as type "TXT", and a BSAVE is then used.

#### Subroutine 2000:

2010 : confirms 80 column card is installed

2030: a 6850-type card is in slot 2

2040: an SSC-type card is in slot 2

2060/70: BLOAD the appropriate binary module

2323: for the SSC, a 2400 baud choice has been added

(Note: 2400 baud is apparently too fast for most 80-column cards, and some character dropping occurs during line scrolls. Command the sending system to insert some nulls after each line if possible.)

2510: 6850-type cards should be set to 1200 baud. (The old Apple Comm. card should be modified.) If these cards are installed with some other baud rate, the menu choices 1200 or 300 will not reflect the actual baud rate. Rather, choosing "1200" simply sets the card to whatever baud rate its switches (or wiring) say it is, while "300" puts the card into a baud rate 1/4 of what the switches say.

Line 2620 and Subroutine 3000: If this is a 40 column Apple, we need to find out whether the user has lower case display.

#### 4. THE MACHINE LANGUAGE PROGRAMS SSC.OBJ AND SSM.OBJ

What I have done in the complete Comm-Term "package" is to prepare two separate machine language modules, SSC.OBJ for the 6551 case, and SSM.OBJ for the 6850 case. Obviously, any given computer will only have one or the other card type in slot 2. The BASIC program decides which one is needed, and loads it. In this article, I have listed only the SSC.OBJ version. Only a handful of bytes are different in SSM.OBJ from SSC.OBJ. In retrospect, it would have made more sense to have only one module, and POKE in the changes necessary to adapt to the other if necessary. If you have a 6850 card, I suggest that you nevertheless enter the SSC.OBJ code, BSAVE it, then use the modification information in the Appendix to modify what's already in memory to SSM.OBJ, and BSAVE that.

Another reflection of how this grew like Topsy, rather than being written anew, is that I have no source code in the normal sense. What I list below is the machine language code as disassembled by the Apple Monitor, and with some comments added manually after the fact. Actually, the routine isn't so dreadfully long that entering it directly in hex with the Apple in Monitor is all that difficult, but if you're not that ambitious, wait for the Disketeria. A highly desirable improvement, of course, would be to despaghetti-ize the code by a complete rewrite in Assembly source... Real soon, maybe...

In addition to the commented code, the following may help:

1. Cursor management: the old version used a flashing

space for a cursor. This doesn't work with 80 columns, especially the enhanced MouseText character set. So, NOPs appear in \$9007-9009 and \$9015-9017.

2. Extra code was needed to detect the buffer full condition. This code is squeezed into \$9033-903C.

3. Originally, COMM-TERM made provision for replacing the back arrow (\$88) with the DELetc character. Since the back arrow is now accepted by most systems, and the //e has a DEL key anyway, this code was eliminated. Thus the NOPs in \$9052-9056.

4. \$9077-9079: Old COMM-TERM buffer started at page \$1C (or memory location 7168). This program needed more room, so the buffer starts at page \$20 (location 8192).

5. \$90A5-90A9: see note 3 above.

6. \$90C5-90D5: The old code simply sent data to be displayed to good ole' SFDF0 (See instructions at 909F, 9012, and 9072). But many control characters cause 80 column board difficulties, especially those that switch the computer back to 40 column mode. Also, the screen clear, Ctrl-L, takes a long time to process, during which data is lost. So the code here filters out all control characters except the carriage return (Ctrl-M). Since this little routine is at the end of the machine language section, it could be easily modified if you wanted to only filter out some control characters, or to translate characters. (One change that I recently realized would be desirable is to permit Ctrl-H, the backspace, to come through as well.)

#### 5. CONCLUSION

I encourage readers to try out, improve, and comment upon this program. I realize it's not terribly elegant, but perhaps it will give someone the raw materials for something better. The Apple DOS and now especially ProDOS public domains need some decent communications software like those available under CP/M, MS-DOS, and even laptop computer operating systems.

I am working on ways to use the machine language routines plus some simple code to perform at least auto-dialing and other simple "Macro" functions. It's easy to see what's needed: a series of text files, or file entries, containing the auto-dial command strings (e.g., AT DT 9868085 <cr>), and some menu additions allowing selection of these strings, which would be sent out just like the upload segment sends a file. Other improvement suggestions are welcome.

P.S. - Maybe you don't like the COMM-TERM BASIC program. I don't blame you! The binary code (xxx.OBJ) might still be useful in writing a better application driver/user interface. For example, suppose you want to transmit a character out of the serial port. Simply store its value (use ASC(AS) ) in LAST (36982), then CALL OUTCHR (36965). A CALL TERMA (36864) puts you into dumb terminal mode, which can be exited by the Ctrl-T.

APPENDIX: Code changes to change SSC.OBJ into SSM.OBJ.

The following list is identical to the one that appeared in the January 1984 article, but is repeated for reference.

Hex Location	SSC.OBJ	SSM.OBJ
\$9001	A9	A4
\$9004	08	01

contd.

```

$900B      A8      A5
$9066      A9      A4
$9069      16      02
$9070      A8      A5
$90B8      A9      A4
$90BB      08      01
$90BF      A8      A5

```

**ADDENDUM:** After the above article was submitted, it was pointed out that the program would not display the backspace. This wreaks havoc, particularly with the WAP Telecommunications System's word wrapping process. I suggest that the following patch be made to SSC.OBJ and SSM.OBJ:

From ProDOS, BLOAD SSx.OBJ

Then, CALL -151 <cr>

You should see the asterisk Monitor prompt. Type the following sequence, exactly, including spaces:

```

90C8:0D C9 87 F0 09 C9 88 F0 05 C9 9F B0 01 60 20
ED FD 60 <cr>

```

Now type: BSAVE SSx.OBJ,AS\$9000,E\$90D9 <cr>

(In the above, the "x" is either "M" or "C", as appropriate.)

In the previous code, the only control characters permitted to "pass through" to the display were \$0D (carriage return) and \$87 (Ctrl-G, bell). The patch adds \$88 (Ctrl-H, backspace) to the permitted list. You may add other characters the same way if necessary.

**LISTING OF ProDOS COMM-TERM PROGRAM**

```

5  REM **** COMM-TERM ****
10 REM BASED ON "TAFT",BYTE 6/82
15 REM MODIFIED BY G. KINAL, WASHINGTON
   APPLE PI, 1983, 1986
18 REM COPYRIGHT G V KINAL 1986
19 REM RELEASED FOR WAP DISKE-
20 REM TERIA SALES ONLY. ALL
21 REM OTHER RIGHTS RESERVED.
22 REM *****
23 HIMEM: 35840
25 HOME : PRINT CHR$(12)
26 ONERR GOTO 60
27 HOME : PRINT "GOING TO 80 COL MODE IF
   AVAILABLE": PRINT
28 PRINT "REMINDER: CTRL-T TO CHANGE
   MODES"
29 FOR I = 1 TO 2000: NEXT I
30 PRINT CHR$(4)"PR#3"
35 PRINT CHR$(12)
60 POKE 216,0
63 HOME : PRINT "NOTICE : USE CTRL-T TO
   SWITCH MODES"
64 FOR I = 1 TO 1000: NEXT
80 PTR = 254: REM $FE
90 DS = CHR$(4):RS = CHR$(13):CAS = CHR$(
   1):CZS = CHR$(26)
91 PXS = "/DATA/"
100 OUTCHR = 36965: REM $9065 OUTPUT
   ROUTINE CALLING ADDRESS
110 LAST = 36982: REM $9076 STORAGE

```

```

ADDRESS FOR OUTPUT
120 HOTAP = LAST + 1
130 TERMA = 36864: REM $9000 = ALC
   STARTING ADDRESS
150 GOSUB 2000: REM INITIAL SETUP
155 PRINT CHR$(12)
160 CALL TERMA: REM TRANSFER TO
   MACHINE LANGUAGE CODE
165 PRINT
170 PRINT : PRINT "SELECT ONE OF THESE:"
171 PRINT " <D> DOWNLOAD CAPTURE"
172 PRINT " <U> UPLOAD (SEND A FILE)"
173 PRINT " <Q> QUIT "
174 PRINT " <C> DO DISK CATALOG
175 INPUT AS$
180 IF AS$ = "D" OR AS$ = CHR$(100) THEN 590
190 IF AS$ = "U" OR AS$ = CHR$(117) THEN 260
200 IF AS$ = "C" OR AS$ = CHR$(99) THEN
   PRINT DS$"CAT " + PXS: INPUT "TYPE
   RETURN IF THROUGH";AS: HOME :
   PRINT CHR$(12): GOTO 155
220 IF AS$ = "Q" OR AS$ = CHR$(113) THEN 225
222 PRINT "RETURNING TO TERMINAL
   MODE": GOTO 155
225 IF UNSAVD THEN GOTO 710
230 HIMEM: 38400
240 PRINT : PRINT "GOOD-BYE!": PRINT
250 END
260 INPUT "APPLE SOURCE FILENAME?";AF$
261 AF$ = PXS + AF$
330 ONERR GOTO 520
335 PRINT DS$;"VERIFY";AF$
340 PRINT DS$;"OPEN ";AF$
350 PRINT DS$;"READ ";AF$
370 GET CS$
371 IF CS$ = "" THEN GOTO 370
380 POKE LAST, ASC (CS$)
390 CALL OUTCHR
430 PRINT CS$;
440 GOTO 370
470 REM EOF DETECTED -FINISHED
485 POKE 216,0: REM CANCEL ONERR GOTO
490 GOSUB 920
500 FOR I = 1 TO 500: NEXT I
510 GOTO 160
520 BOO = PEEK (222)
530 PRINT DS$;"CLOSE ";AF$
540 IF BOO = 5 THEN GOTO 470
545 IF BOO = 6 THEN PRINT "PATH NOT
   FOUND": GOTO 470
550 PRINT "ERROR NUMBER ";BOO;" OCCURRED"
560 GOTO 470
590 IF NOT UNSAVD THEN GOTO 595
591 PRINT : FLASH : PRINT "PREVIOUSLY
   CAPTURED FILE NOT SAVED TO":
   PRINT "DISK AND WILL BE LOST !!!":
   PRINT : NORMAL : INPUT "SAVE
   PREVIOUS FILE FIRST?";CC$

```

contd.

```

592 IF LEFT$(CC$,1) = "Y" OR LEFT$(CC$,1)
    = CHR$(121) THEN GOTO 710
595 HOME : PRINT CHR$(12): INPUT "GIVE
    AN APPLE TARGET FILE NAME..";AF$
596 AF$ = PXS + AF$
600 CNV = 0
605 IF L4 OR C8 THEN CNV = 0: GOTO 630:
    REM USER HAS LOWER CASE DISPLAY
610 INPUT "UPPER CASE CONVERSION? (Y / N)";CS
620 IF LEFT$(CS,1) = "Y" THEN CNV = 1
630 PRINT "ENTER COMMAND SEQUENCE TO
    SEND TO"
631 INPUT "HOST TO INITIATE DOWNLOAD
    .....";DLS
634 IF DLS = "" THEN GOTO 690: REM NULL
635 FOR I = 1 TO LEN(DLS)
640 POKE LAST, ASC ( MID$(DLS,I,1))
650 CALL OUTCHR
660 NEXT
690 POKE LAST,CNV
700 CALL HOTAP
710 UL = 256 * PEEK(255) + PEEK(254)
711 PRINT : IF PEEK(255) = 129 THEN PRINT
    CHR$(7): PRINT "BUFFER
    FULL. CAPTURE TERMINATED": PRINT
712 INPUT "SAVE CAPTURED FILE TO DISK
    NOW (Y/N) ?";CH$
713 IF LEFT$(CH$,1) = "N" OR LEFT$(CH$,1)
    = CHR$(110) THEN UNSAVD = 1: GOTO 860
714 HOME : PRINT CHR$(12)
715 PRINT "WRITING FILE TO DISK...STAND
    BY PLEASE"
720 ONERR GOTO 890
725 D$ = CHR$(4)
726 PRINT D$;"CREATE ";AF$;"TTXT"
740 PRINT D$;"BSAVE";AF$;"A$2000,E";UL;"TTXT"
790 PRINT D$;"CLOSE"
831 UNSAVD = 0: REM FILE HAS BEEN SAVED
840 PRINT CHR$(4);"CLOSE"
860 PRINT "PRESS ANY KEY TO CONTINUE."
870 GET CS
880 PRINT : PRINT "RETURNING TO TERMINAL
    MODE": GOTO 160
890 BOO = PEEK(222): POKE 216,0
900 PRINT "ERROR NUMBER ";BOO;" OCCURRED."
910 GOTO 840
920 PRINT : PRINT "END OF TRANSFER. BACK
    TO TERMINAL MODE": PRINT : RETURN
2000 REM CARD SELECTION SECTION
2001 DS = CHR$(4)
2004 PRINT : PRINT : INVERSE
2005 PRINT "ASSUMES I/O IN SLOT 2 !": PRINT
2006 NORMAL
2010 IF PEEK(49925) = 56 AND PEEK(49927)
    = 24 THEN C8 = 1: GOTO 2030
2020 C8 = 0: REM ELSE NO 80 COL. CARD
2030 IF PEEK(49669) = 24 AND PEEK(49671)
    = 56 THEN CC = 1:SS = 0: GOTO 2060:
    REM 6850-TYPE CARD
2040 IF PEEK(49669) = 56 AND PEEK(49671)
    = 24 AND PEEK(49676) = 49 THEN CC = 0:
    SS = 1: GOTO 2060:REM 6551 (SSC)
    TYPE CARD
2050 PRINT "NO COMM OR SSC TYPE CARD
    FOUND IN SLOT 2": END
2060 IF CC THEN PRINT D$"BLOAD SSM.OBJ":
    GOSUB 2500: GOTO 2600
2070 IF SS THEN PRINT D$"BLOAD SSC.OBJ":
    GOSUB 2300: GOTO 2600
2300 REM FOR APPLE SUPER SERIAL CARD
2305 R1 = 49322
2307 POKE R1,9: REM DTR, RTS ON. NO PARITY
2308 R2 = R1 + 1: REM CONTROL REGISTER
2309 PRINT : PRINT
2310 INPUT "BAUD RATE - CHOOSE 300, 1200,
    OR 2400";BD
2321 IF BD = 300 THEN GOTO 2370
2322 IF BD = 1200 THEN GOTO 2380
2323 IF BD = 2400 THEN GOTO 2390
2325 REM ...ELSE...WRONG RATE!...
2327 GOTO 2310
2370 POKE R2,22: REM 300 BAUD,8N1
2372 GOTO 2400
2380 POKE R2,24: REM 1200
2382 GOTO 2400
2390 POKE R2,26: REM 2400
2400 RETURN
2500 REM FOR 6850-TYPE CARDS
2510 PRINT : PRINT "CARD DIP SWITCHES
    SHOULD BE AT 1200 BAUD"
2511 PRINT : PRINT : INPUT "CHOOSE BAUD
    RATE - 300 OR 1200 ? ";BD
2520 IF BD = 300 THEN GOTO 2550
2525 IF BD = 1200 THEN GOTO 2570
2530 GOTO 2510: REM WRONG INPUT
2550 POKE 49326,3: POKE 49326,22: RETURN
2570 POKE 49326,3: POKE 49326,21: RETURN
2600 REM SCREEN OUTPUT SECTION
2610 IF NOT C8 THEN IF BD > 300 THEN
    POKE 34,2: POKE 35,18: IF BD = 2400 THEN
    POKE 34,4: POKE 35,16
2620 IF NOT C8 THEN GOSUB 3000
2628 : PRINT : PRINT
2635 PRINT "WILL REMOTE COMPUTER
    ECHO": INPUT "YOUR KEYBOARD
    INPUTS? (Y/N) ";E9$
2640 IF ( ASC (E9$) = 89) OR ( ASC (E9$) = 121)
    THEN POKE 36978,234: POKE 36979,234:
    POKE 36980,234
2643 HOME : PRINT CHR$(12)
2699 RETURN : REM TO MAIN PROGRAM
3000 REM UPPER CASE CONVERSION NEEDED...
3010 PRINT : PRINT
3020 PRINT "DO YOU HAVE A LOWER CASE CHIP ?"
3030 INPUT "TYPE 'Y' OR 'N' PLEASE.";L4$
3040 IF LEFT$(L4$,1) = "Y" THEN L4 = 1: RETURN
3050 L4 = 0: POKE 36942,32: RETURN :
    REM NO L.C. CHIP

```

contd. on pg 34

# TELECOM SIG NEWS

by Dave Harvey

The Telecom SIG was held after the WAP meeting on May 24 and was conducted by George Kinal. No formal program was scheduled so there was just a question and answer session. About 10 members were in attendance at the meeting.

After a few question about the WAP BBS system, there was a general discussion about the announcement made by Rich Wasserstrom pertaining to the new 1200 baud modem that WAP will now be selling through group purchase. The modem is called AVATEX-1200. The discussion centered around the various ads that have been appearing for this modem and the wide range of prices that are being advertised for it. As an example, one store in Annapolis was advertising this modem for less than \$80.00.

There was some discussion about the special 9 pin DIN connector that some of the Laptop computers use and what is a good source of supply for this non-standard connector. One solution, in case a proper connector can't be found, is to cut off the unused pins on a regular DIN connector and use that to plug into your Laptop computer.

Serial cards will be needed if an external modem is purchased. One card that was brought to the meeting is marketed by Memory Plus for \$59.00 plus \$3.00 shipping and handling. Their card, Model SSB-1, is compatible with Apple's Super Serial Card. A cable is needed with the modem, to be fastened to one of the openings in the back of the Apple //. Memory Plus's address for ordering is: 2632 West Baseline, Mesa, AZ 85202.

A member asked when the next tutorial would be for Telecommunications. These have been held in the past and were well received by the membership. George thought that one could be held if enough interest was expressed and suggested calling the office to express this interest.

George announced that he has revised his COMTERM program that he had written a while back so that it can now be run under the ProDOS operating system and will be available in the Disketeria soon.

In answer to a question about the CP/M communications program Modem 740, it was pointed out that this program as available in the Disketeria is compatible only with the Applicard, and that the program would have to be revised to work with the ALS CP/M card. There is a new public domain program that replaces this program and at present is not available in the Disketeria but will be soon.

Regarding text file conversion from and to the CP/M, ProDOS and DOS 3.3 operating systems, ASCII Express Professional provides a utility that converts from one format to the other and also Quality Software sells a program that converts all of these operating systems as well as Pascal. That program sells for less than \$40.00.

The last item discussed was changing the place and time that the Telecom SIG meets. It was agreed that in the future, starting in July, the Telecom SIG will meet in the WAP office on the 2nd Monday of each month at 7:30 PM. ☺

ProDOS Comm-Term contd. from pg 33

ANNOTATED LISTING OF MACHINE LANGUAGE ROUTINE FOR APPLE SUPER SERIAL CARD AND OTHER 6551 CARDS INSTALLED IN SLOT #2

```

9000- AD A9 C0 LDA SC0A9 <--Start of normal terminal mode ("TERMA")
9003- 29 08 AND #S08
9005- F0 11 BEQ $9018
9007- EA NOP ) These NOPs have to do with removal
9008- EA NOP ) of cursor management.
9009- EA NOP )
900A- AD A8 C0 LDA SC0A8
900D- 20 3F 90 JSR $903F Process
9010- 09 80 ORA #S80 Received
9012- 20 C5 90 JSR $90C5 Character
9015- EA NOP
9016- EA NOP ) Likewise: no cursor management
9017- EA NOP
9018- 2C 00 C0 BIT SC000 |
901B- 10 E3 BPL $9000 ]--> Keyboard data processed
901D- AD 00 C0 LDA SC000 |
9020- 2C 10 C0 BIT SC010 |
9023- C9 94 CMP #S94 | If CTRL-T keyed, then
9025- F0 3D BEQ $9064 | EXIT
9027- 20 50 90 JSR $9050 |
902A- 8D 76 90 STA $9076 |
902D- 20 65 90 JSR $9065 |
9030- 4C 00 90 JMP $9000 ) Back to start of loop...
9033- E6 FF INC $FF Point to next page of memory
9035- AD FF 00 LDA $00FF
9038- C9 81 CMP #S81 Is buffer full? (last page is $80)
903A- F0 6E BEQ $90AA If so, will store and exit.
903C- 4C 8D 90 JMP $908D ELSE, go back whence came from
903F- C9 0A CMP #S0A Replace line feeds
9041- D0 02 BNE $9045 with....
9043- A9 01 LDA #S01 Non-printable CHR$(01)
9045- C9 61 CMP #S61 [-----
9047- 90 06 BCC $904F | CONVERT
9049- C9 7B CMP #S7B | UPPER TO
904B- B0 02 BCS $904F | LOWER CASE
904D- 49 00 EOR #S0 | ($20 if conversion desired)
904F- 60 RTS |
9050- 29 7F AND #S7F |
9052- EA NOP |
9053- EA NOP |
9054- EA NOP |
9055- EA NOP |
9056- EA NOP |
9057- C9 1D CMP #S1D |
9059- D0 03 BNE $905E |
905B- A9 5B LDA #SSB |
905D- 60 RTS |
905E- C9 95 CMP #S95 |
9060- D0 02 BNE $9064 |
9062- A9 09 LDA #S09 |
9064- 60 RTS |
9065- AD A9 C0 LDA SC0A9 <--Entry point for character output ("OUTCHR")
9068- 29 16 AND #S16 |
906A- F0 F9 BEQ $9065 | Loop until buffer is empty
906C- AD 76 90 LDA $9076 |
906F- 8D A8 C0 STA SC0A8 | Send it out
9072- 20 C5 90 JSR $90C5 Local echo (3 NOPs if not wanted)
9075- 60 RTS |
9076- 00 BRK |
9077- A9 20 LDA #S20 |
9079- 85 FF STA $FF |
907B- A0 00 LDY #S00 |
907D- 84 FE STY $FE | Preload buffer pointer
907F- AE 76 90 LDX $9076 | (Buffer starts at $2000 (8192))
9082- A9 0D LDA #S0D |
9084- 8D 76 90 STA $9076 | } Send out a
9087- 20 65 90 JSR $9065 | } carriage return at
908A- 20 AD 90 JSR $90AD | } start of download
908D- 20 AD 90 JSR $90AD | First character received is discarded
9090- C9 1A CMP #S1A | MAIN RECEPTION LOOP
9092- F0 16 BEQ $90AA | CTRL-Z means End of File
9094- E0 00 CPX #S00 | - If CTRL-Z received, return
9096- F0 03 BEQ $909B |
9098- 20 3F 90 JSR $903F | Convert Upper to lower case if user wants
909B- 91 FE STA ($FE),Y |
909D- 09 80 ORA #S80 | --- Character received to buffer
909F- 20 C5 90 JSR $90C5 | Set High bit
90A2- C8 INY | Display it
90A3- D0 E8 BNE $908D |
90A5- 4C 33 90 JMP $9033 | Loop unless one pagefull received
90A8- EA NOP |
90A9- EA NOP |
90AA- 84 FE STY $FE |
90AC- 60 RTS |
90AD- AD 00 C0 LDA SC000 |
90B0- 2C 10 C0 BIT SC010 | Received data processing during downloads

```

contd. on pg 35

# LAP COMPUTERS: PART 8: A Data Communications Trouble Shooter & Building an Adapter for your Mac for RS-232)

by George Kinal

If you prepare a "Quick & Dirty" interface cable as described previously for connecting your laptop to another computer (with all the handshakes on each side tied together, and with the "null modem" (what a non-descriptive name!) crossover of pins 2 and 3), you have at your disposal a powerful test device for solving RS-232 interface problems.

You see, by tying all the handshakes together at the lap computer end (actually, only 4 and 5 really need to be connected together), you enable the laptop to both send and receive data regardless of what's connected on the other end of the cable.

I'll give two examples. In one case, a fellow WAP member was developing an interface between an Apple Super Serial card and a computer controlled video disk player (VDP). Apparently, the Apple was sending data to the VDP, because the latter was responding to commands. But there were no prompts or status messages being received from the VDP. The question was whether the VDP, the SSC, or the Apple software was at fault. Connecting the laptop to the Apple, we quickly found that the SSC was sending, but not receiving, data. This quickly isolated the problem to a bad chip on the SSC.

While modifying the UBBS programs for the WAP Telecommunications System, I needed a way to simulate what happens when a call comes into the system. Now, the bulletin boards use "smart" modems which issue result codes for each condition. For example, for modems set to give numeric instead of the more often employed verbose result codes, a typical sequence is: 2 2 5 <CR>, which represents two rings followed by a 1200 baud connection. (With verbose codes, the modem would issue RING RING CONNECT 1200). Since I don't have the luxury of two telephone lines (and would prefer not to tie both up even if I had), using the laptop as a "modem result code simulator" proved remarkably effective. I would type 2 2 5 <CR> (for 1200 baud), 2 2 1 <CR> (for 300), or 2 2 10 <CR> (for 2400), and the UBBS program on the Apple would "think" that a modem was telling it that a call had just come in! The lap computer would also show on its display the initialization sequences that UBBS sends to the modem (e.g., AT S0=2 etc.).

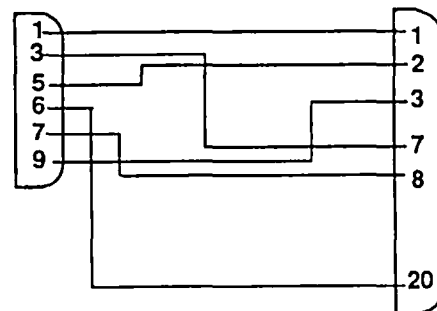
It is obvious that with the right interconnecting cables, the lap computer may be used to test hardware (modems, printers, other computers) as well as software, including discovering what character sequences a program issues to a serial port, and, by trial and error, with what baud rate, parity, etc. If you want to get into this in a serious way, you might also want to buy or make yourself a little RS-232c patch and test board (called "breakout boxes" in the trade). Like lots of other data communications equipment, you can build yourself a home-made equivalent for a fraction of the commercial cost. I took two DB-25 connectors, one male, the other female, mounted them on a piece of wood, drove two rows of nine one-inch plated brads into the board, and wired pins 2, 3, 4, 5, 6, 7, 8, 19, and 20 to the brads. Now by using little test-clip

leads to connect between the rows of brads or to jumper some of them together, I can test different interconnection arrangements for unusual RS-232 interfaces. With a voltmeter, I can also look at the handshake leads to see what's happening on the interface.

Incidentally, the previous articles have given the wiring for a DB-25 to DB-25 Quick and Dirty cable, appropriate for connecting a laptop to another computer with a standard DB-25 RS-232 connector on it. One of the previous articles also implied how you could put a different connector on one end, for connection to the Mac. One disadvantage with such a cable is that it is specific to the Mac. Another way to get laptop to Mac connection capability while also having a cable for use with other computers is to make yourself an adapter that "converts" the Mac port into a female DB-25 connection. Here's the diagram for such an adapter:

A Converter to Permit Standard RS-232 Cables (DB-25 male) to be Connected to a MAC

"MACADAPTER"



DB-9 Male (Plugs into MAC)

DB-25 Female (Accepts DB-25 Male Plugs usually found on RS-232 Cables)

With this adapter, you can now plug in any standard RS-232 male connectorized cable, including modems and including the "standard" symmetrical Quick and Dirty cable I've been promoting here. I'm surprised that such an adapter is not (to my knowledge) being sold commercially. If there is any interest in WAP, we could look into having a number of them made up. ☺

## ProDOS Comm-Term contd. from pg 34

```

90B3- C9 94    CMP  #594      A CTRL-T keyed ???
90B5- F0 0B    BEQ  $90C2
90B7- AD A9 C0 LDA  $C0A9  \
90BA- 29 08    AND  #508      > Loop until a character is received
90BC- F0 EF    BEQ  $90AD  /
90BE- AD A8 C0 LDA  $C0A8
90C1- 60      RTS
90C2- A9 1A    LDA  #51A      Insert CTRL-Z to mark end of file.
90C4- 60      RTS
90C5- C9 8D    CMP  #58D      --> A carriage return OK to put on screen
90C7- F0 09    BEQ  $90D2
90C9- C9 87    CMP  #587
90CB- F0 05    BEQ  $90D2  \
90CD- C9 9F    CMP  #59F      / Do NOT send control character
90CF- B0 01    HCS  $90D2  / to screen!
90D1- 60      RTS
90D2- 20 ED FD JSR  $FDED  ----> Display data on screen
90D5- 60      RTS

```

# THE FAMILY HOME MONEY MANAGER: Part 3

## Working One's Way Through an Applesoft Program

by Brian G. Mason

Last month we wound our way through the program we call BUDGET 1/85, which we use to set up our budget categories and change, add to, delete, or save them to disk. This month we will step through a program we call ENTER DATA, which contains the Main Menu of this program and the routines for entering, listing and changing the data in our money management system.

```
0 IF NS > = 0 THEN 1500
1 GOTO 1400
```

In the first lines of our first program, called BUDGET (see our article in the May Washington Apple Pi Journal), we set NS equal to -1. This is the variable we will use to keep track of the number of items we have entered into our data base. If it is greater than -1, there is data in the Apple's memory, and the program will go to line 1500 where the Main Menu of the program resides. Since there is no data in memory at this point, the program moves to line 1400.

### DATA, DATA, DOES THE DISK HAVE THE DATA?

```
1400 HOME : PRINT "HIT <RETURN> IF YOU
      WISH TO ENTER DATA FROM 'DATA
      FILE'. OTHERWISE, ENTER FILENAME."
1401 INPUT " "; TS: IF TS = "" THEN 1405
1402 FDS = TS
1405 HOME : INVERSE : HTAB 6: PRINT
      "ENTERING DATA FROM DISK":NORMAL:
      PRINT : PRINT "READING IN ";FDS
1410 ONERR GOTO 19999
1412 PRINT DS;"VERIFY";FDS
1415 PRINT OP$;FDS
1420 PRINT RD$;FDS
```

The first thing we do is clear the screen and ask the user if he wishes to enter data from a disk file with the default name of "Data File", or from a file with a different name. This gives the user the option of keeping more than one set of data. If <RETURN> is pressed, the default name, contained in the variable FDS is used. Otherwise, whatever name is typed is stored in TS, which is then moved into FDS in line 1402.

Next the screen is again cleared, and the message printed that the Apple will be reading the data in from the file on the disk with the name selected. Do you sense something is wrong here?

In line 1410 we tell the Apple that if it encounters a problem which it sees as an error to GOTO line 19999. Then we ask it to VERIFY that there is a file with the name contained in FDS and that the data contained in the file is good. If we chose the default file "DATA FILE", then the file exists because we created it in the first program module, BUDGET. Therefore, it will verify and the program will continue to line 1415. However, if we chose to use a different name for the data file, it will not exist; therefore, an error #6, FILE NOT FOUND, will be generated, and the program will GOTO line 19999.

If the program gets to line 1415, it will open the file and

then attempt to read data from the file. However, there is no data there, so an error #5 will be generated, and again the program will GOTO line 19999. Let us assume for a moment that there was data on the disk so we can see how this will be handled. Otherwise, we may never get back to this part of the program.

```
1420 PRINT RD$;FDS
1425 INPUT NS
1430 FOR R = 0 TO NS
1435 INPUT CN%(R),MO%(R),DT%(R),VENS(R),
      AMT(R),CT%(R),R(R)
1440 NEXT
1445 PRINT CL$;FDS
1450 SS = 1
```

The first item in the file will be the number of records, which will be kept in the variable, NS. Each record will have associated with it a check number, the month, the day, the "vendor", the amount, the budget category, and the bank reconciliation flag. After each of these fields has been read in, the file will be closed, and the flag SS will be set to 1 to indicate that there have been no changes made to the file at this time.

### ERROR HANDLERS

```
19996 GOTO 19999
19997 IF TS$ = "Y" THEN PRINT OP$;FDS:
      PRINT CL$;FDS: GOTO 1500
19998 GOTO 1400
19999 Y = PEEK (222): IF Y < > 5 THEN
      POKE 34,0
20000 IF Y = 254 THEN VTAB 22: HTAB 1: CALL
      -958: PRINT "****ERROR - PLEASE TRY
      AGAIN. ENTER DATA HERE -->";
      :RESUME
20001 IF Y = 5 THEN GOTO 150
20002 IF Y = 6 THEN VTAB 5: PRINT "FILE
      NOT FOUND": PRINT : PRINT "DO YOU
      WISH TO CREATE A NEW FILE
      WITH THIS NAME? (Y/N)": INPUT TS: IF
      TS <> "Y" AND TS <> "N" THEN 20002
20003 IF Y = 6 GOTO 19997
20004 IF Y = 77 THEN VTAB 24: FLASH :
      PRINT "*** MEMORY FULL ***": FOR C
      = 1 TO 200: NEXT : NORMAL : GOTO 1500
20005 IF Y = 22 THEN POP : GOTO 1500
20006 IF Y = 9 THEN HOME : VTAB 10:
      FLASH : PRINT "DISK IS FULL": PRINT:
      NORMAL :PRINT "REMOVE CURRENT
      DISK, INSERT ANOTHER INITIALIZED
      DISK, THEN TRY AGAIN.":
      GOSUB 28: RESUME
20999 PRINT "ONERR CODE = ";Y
21000 X = PEEK (218) + PEEK (219) * 256:
      PRINT "ERROR AT LINE ";X: END
```

As we have done in our previous program modules, we contd.

set Y equal to the value contained at memory location 222, where the error codes are stored. We have added a few more error handlers to this program compared to the other program modules. Let's go over them briefly here. Hopefully, we won't have to come back.

If Y is equal to 5, that is, if the problem is simply that we have no data in the file we are attempting to use, we don't want to reset the top of the window. However, for all the other errors we do. If Y is equal to 254, that means we have a bad response to an INPUT statement. Therefore, we want to be able to give the user a second chance rather than having the program crash. So we ask for reentry of the data. The command to RESUME takes the program back to the statement in which the error occurred. This is in contrast to the CONT command which takes the program back to the instruction following the statement in which the program was stopped.

As we have seen in our previous articles, Y equals 5 when there is no data in a file that we are trying to read. We will get this error if the file exists, but contains no data. That is the case here if we choose to use "DATA FILE" as the name of our data file. We will then be taken to line 150 of the program.

If we choose to use another name for our data file, then it doesn't exist yet, and we will get Y equal to 6, "FILE NOT FOUND". To make sure that we didn't merely spell it wrong, we are asked if we wish to create a file with this name. If we don't, we are taken back to line 1400 for another try. If we do, then the file is created on the disk by opening and closing it with this name, and then we are taken to the Main Menu.

We have seen Y equal to 77 before. This happens when we run out of memory. We have also seen Y equal to 9 before. This happens when the disk is full. We have provided for Y equals 22 in this program. Y would equal 22 if a RETURN occurs without a GOSUB. Hopefully the program is designed so that the user would never get this error. However, in case the user does something completely unexpected, this error handler is provided and takes the user back to the Main Menu.

Let us assume the user chose to use the default name for the data file, at hit <RETURN>, getting error #5, which as we saw above, would take us to line 150.

```
150 PRINT CL$;FDS
152 VTAB 24: FLASH : PRINT "NO
DATA IN MEMORY": POKE 216,0: FOR C =
1 TO 1000: NEXT C: NORMAL : GOTO 1500
```

Line 150 closes the file we tried to OPEN in line 1415. We let the user know that there is no data in memory, and then proceed to line 1500 for the Main Menu. By the way, the POKE at memory location 216 sets the error handler back to zero, so if another error is encountered, we will need a new ONERR GOTO statement to deal with it. The old command will no longer be in effect.

I think it is finally time to talk about the Main Menu. Here we will offer the user all the options they will have in using this program.

#### THE MAIN MENU

```
1500 POKE 34,0: HOME : PRINT TAB(9)
"HOME MONEY MANAGER": PRINT
1501 PRINT "1. ENTER DATA": PRINT "2.
SAVE DATA": PRINT "3. SORT DATA":
```

```
PRINT "4. QUIT": PRINT
1502 PRINT "BUDGET": PRINT "-----":
PRINT "5. PRINT BY CATEGORY/
CHANGE/DELETE": PRINT "6. CLOSE
OUT END OF MONTH": PRINT "7. PRINT
BUDGETED CATEGORIES"
1503 PRINT "8. CHANGE BUDGETED
CATEGORIES": PRINT "9. SAVE
BUDGETED CATEGORIES": PRINT
1505 PRINT "CHECKBOOK": PRINT "-----":
PRINT "10. LIST CHECKS/CHANGE/
DELETE"
1506 PRINT "11. CHECKBOOK BALANCE":
PRINT "12. RECONCILE TO BANK
STATEMENT": PRINT "13. DELETE
RECONCILED RECORDS"
1507 PRINT : INVERSE : PRINT "CLEARING
GARBAGE FROM MEMORY": X =
FRE (0): HTAB 1: CALL - 958:
NORMAL :PRINT "<Ctrl-G>";
1508 VTAB 24: HTAB 7: PRINT "HIT
<RETURN> FOR NEXT MENU": VTAB
23: HTAB 1: INPUT "WHICH?";CS: CALL
- 958: IF CS = "" THEN 1600
1509 Q% = VAL (CS): IF Q% < 1 OR Q% >
13 THEN 1508
1510 ON Q% GOTO 1800,2100,1310,900,2500,
1305,1300,1300,1300,2700,1310,1310,1310
1520 GOTO 1500
1600 HOME : PRINT TAB(9)"HOME
MONEY MANAGER": PRINT
1601 PRINT "PRINT REPORTS": PRINT
"-----"
1602 PRINT "14. THIS ";MD$: PRINT "15.
THIS ";MSS$: PRINT "16. ";ESS$: PRINT "17.
";YDS$: PRINT "18. ";YSS$
1603 PRINT : PRINT
"MISCELLANEOUS FUNCTIONS": PRINT
"-----": PRINT "19. SPACE
REMAINING": PRINT "20. CHANGE
CURRENT MONTH": PRINT "21.
INITIALIZE NEW BUDGET"
1604 DT$ = M$ + ", " + YRS: VTAB 23:
HTAB 5: PRINT "HIT <RETURN>
FOR PREVIOUS MENU";
1605 VTAB 18: HTAB 1: INPUT "WHICH?";CS:
IF CS = "" THEN 1500
1606 Q% = VAL (CS): IF Q% < 14 OR Q% > 21
THEN 1605
1607 QN% = Q% - 13
1610 ON QN% GOTO 4500,1305,1305,1310,
1310, 800,200,1350
1620 GOTO 1600
```

The Main Menu consists of two screens. The first screen is divided into three sections, general data entry, Budget manipulation, and Check manipulation. The second screen is divided into two sections, Printing options and Miscellaneous functions. Hitting <RETURN> by itself switches between the two screens. The ON - GOTO command is used extensively here, but as you can see, many of the choices go

confd.

to the same line number. This is because these lines provide the chaining to the other programs. However because chaining retains the values of the variables, when we get to the other programs, Q% and QN% retain their values, and we can direct the program to the proper line number in the other program by the value of Q% or QN%.

We saw this already in lines 20-23 of the program BUDGET 1/85 last month. That program is used to:

7. PRINT BUDGETED CATEGORIES, 8. CHANGE BUDGETED CATEGORIES, 9. SAVE BUDGETED CATEGORIES, and 21. INITIALIZE NEW BUDGET. (See last month's article for details.)

We take the opportunity in the first screen to clear memory of old, unused strings with the statement X = FRE(0) in line 1507. This program creates a lot of strings, and this is a convenient time to get rid of old ones. Otherwise, you may be working along when all of a sudden the Apple will decide it has to take care of the old strings itself. It will go away for awhile and interrupt your work whenever it wants to rather than when you want it to. (I have found that it may still do this when you are reconciling your bank statement despite our efforts here.)

#### ENTERING DATA FROM THE KEYBOARD

```

1799 REM *** ENTER DATA
1800 HOME
1815 PRINT : PRINT "IF YOU WANT
      AUTOMATICALLY ASSIGNED
      CHECKNUMBERS, ENTER THE STARTING
      NUMBER."
1816 INPUT "IF YOU WANT TO ENTER
      THEM YOURSELF HIT <RETURN>";
      S1$:S1 = VAL (S1$)
1817 S2 = 0: IF S1 > 0 THEN S2 = 1
1818 SS = 0:D1 = 0:R = NS + 1:B = - 1:M1$
      = MS:M1 = MO%:V1$ = ""
1819 PRINT : PRINT "TO ENTER A DEPOSIT
      OR TO ENTER INCOME, TYPE A '#' SIGN
      FOR THE FIRST CHARACTER OF THE
      TO:' FIELD.": PRINT
1820 PRINT "WHEN YOU'RE THROUGH
      ENTERING DATA, ENTERA '-1' FOR
      CHK# OR MO TO RETURN TO THE
      MENU.": PRINT
1822 INPUT "HIT <RETURN> WHEN
      READY..":CS
  
```

The first thing we are going to do is to provide for the case when a person wants to enter a whole series of checks which all fall in numerical order. There should be no need for the user to enter the check numbers if the computer can do it for him. If the person hits return in response to line 1816, each check number will have to be entered. If the person enters a number, the computer will start with that as the first check number. The variable S2 is used as the flag to determine if the computer or the user will be entering the check numbers.

In line 1818 we initialize some variables. SS is set to 0. This is the flag which tells the computer that some changes have been made to the data. D1 is the variable that holds the current date. R holds the record number. The first record will be record number 0. B will hold the line number printed on

the screen. M1\$ holds the name of the current month. M1 holds the number of the current month. V1\$ holds the current vendor name.

Money coming in, such as a deposit into the checking account, is noted by typing a "#" as the first character of the "TO:" field. We will get into this in a little more detail later. This fact is noted for the user on the screen and includes a prompt for stopping data entry by typing a "-1" in either the check number field or the month field. Doing so returns the user to the Main Menu. (If the computer is putting in the check numbers, the first field available for the user to input anything is the month field.)

```

1900 HOME : INVERSE : HTAB 8: PRINT
      "DATA ENTRY FROM KEYBOARD":
      NORMAL : GOSUB 40
1904 VTAB L%: HTAB 1: CALL - 958:
      GOSUB 162:T% = 4
1905 IF NOT S2 THEN INPUT TS:
      GOSUB 26: CALL - 958: IF TS = ""
      THEN 1915
1906 IF NOT S2 THEN S1 = VAL (TS)
1907 C = S1: IF C < 0 THEN 1500
1909 IF C > 9999 THEN 1913
1911 CN%(R) = C: HTAB 4: GOSUB 25:
      T% = 7: GOSUB 50: GOTO 1916
1913 HTAB 1: VTAB 24: PRINT "CHECK #
      TOO HIGH";S2 = 0:B = B - 1: GOTO 1904
1915 HTAB 4: GOSUB 25
  
```

After clearing the screen, we print the data entry title at the top of the screen and the column titles underneath.

```

40 VTAB 2: PRINT " # CHK# MO/DA
      TO/FROM WHOM" TAB( 30)"AMOUNT
      CAT"
41 PRINT : POKE 34,3:L% = 4: RETURN
  
```

Then we set the top of the scrolling window under the column titles, set our current vertical line number to 4 and RETURN. This takes us to line 1904. The ENTER DATA routine starts from this line and goes to line 1970 and then returns here. In line 1904, we GOSUB to line 162.

```

162 B = B + 1: IF B + 1 < 10 THEN PRINT " ";
163 PRINT B + 1;".": RETURN
  
```

This is the subroutine for printing the line number on the screen followed by a period.

We now move along to the check number. If S2 is set to 1 then the conditions in lines 1905 and 1906 are both false and the program falls through to line 1907 where C is set to the value for S1. However, if S2 is 0, then the user wishes to manually enter the check number. This is permitted with the INPUT statement in line 1905. The GOSUB to line 26 in line 1905 is done to get rid of any stray messages that we might have put on line 24.

```

26 VTAB 24: HTAB 1: CALL - 958: VTAB L%:
      HTAB T%: RETURN
  
```

Note how we use L% and T% to keep track of our line and tab positions at all times so we can return to that position whenever required. If the user simply hits <RETURN>, nothing is required except to move on to the next field. However, if anything else is INPUT for the check number, we have to make sure the INPUT has no problems.

The variable S1 has the check number whether derived by  
contd.



the computer or entered by the user. This value is placed into the variable C. If C is less than 0, then this is the signal we are using to indicate we wish to go back to the Main Menu. This is taken care of in line 1907. We are not going to permit check numbers higher than 9999, since we do not have much room on our 40 character screen. If the number is too large, we go to line 1913 which prints the necessary message, takes us out of automatic check numbering if we were in that mode, decrements the screen line number and starts us over again at line 1904.

Otherwise, we place the value of C in our array variable CN%(R), and get ready to print the check number on the screen. We do this by first placing our cursor at HTAB 4 and clearing the line to the right of the cursor by the subroutine in line 25.

```
25 PRINT "": CALL - 868: RETURN
```

Now get ready to print the check number right justified. Set the column (T%) to 7. Then jump to the subroutine for right justification starting at line 50.

```
50 POKE 36,T% - 1: IF SG = - 1 AND PR THEN CALL - 1008
```

```
51 FOR A = 1 TO 4: IF ABS (C) > = INT (10 ^ A) THEN CALL - 1008
```

```
52 NEXT A: IF SG = - 1 THEN INVERSE : IF PR THEN PRINT "-";
```

```
53 PRINT C:; RETURN
```

The cursor is placed at T%-1 by a POKE 36 to that value. This is the first place we run up against the flag PR. This flag is used to indicate whether or not we are printing to the printer or not.

If this subroutine is called by a routine which is printing a number on a printer, and the number is negative as indicated by the variable SG, then we need to backspace one space to make room for the negative sign that will have to be printed on the paper (since we can not print in inverse mode as we can on the screen to indicate negatives). The backspace is accomplished with a CALL -1008.

Now we examine C. If C is equal to or larger than 10, we backspace one space. If C is equal to or larger than 100, we backspace another space. And so on up to 10 to the 4th power. We do not use numbers as large as 100,000 in this program. Now, if the number is negative, we will print it in inverse. If we are using a printer, we will print a negative sign (-). Then we will print the number without issuing a line feed (note the semi-colon after the C in line 53), and RETURN to line 1911, which immediately takes us to line 1916.

```
1916 HTAB 8:TS$ = "":ES$ = "": PRINT "?";
```

```
1917 IF M1 > 0 THEN HTAB 1: VTAB 24: PRINT "HIT <RETURN> FOR " + M1$ + " (DEFAULT)"; CALL - 868: HTAB 9: VTAB L%: GOSUB 25
```

```
1919 GET ES: IF ES = CHR$(13) THEN 1924
```

```
1920 TS$ = TS$ + ES: PRINT ES:; IF ES = CHR$(8) AND LEN (TS) = 1 THEN B = B - 1: GOTO 1904
```

```
1921 GOSUB 5
```

```
1922 GOTO 1919
```

```
1924 C = VAL (TS$): IF LEN (TS$) = 0 THEN C = M1: GOTO 1930
```

```
1925 IF C < 0 THEN 1500
```

```
1926 IF C = 0 OR C > 12 THEN GOSUB 25: GOTO 1916
```

```
1927 D1 = 0: FOR I = 1 TO 12: READ M1,M1$: IF M1 = C THEN I = 12: NEXT : GOTO 1930
```

```
1928 NEXT
```

```
1929 GOSUB 25: GOTO 1919
```

```
1930 RESTORE : HTAB 8: CALL - 958: T% = 10: GOSUB 50: PRINT "/";MO%(R) = C:M1 = C:T% = 12: GOSUB 26
```

#### WHAT MONTH IS IT?

Next we get ready to enter the month. After clearing some temporary string variables we will be using and printing our question mark in the proper place, we print the month that we have put into M1\$ at the bottom of the screen and notify the user that if that is the month he wishes to enter, all he has to do is press <RETURN>. If that is what the user does, the program GOES TO line 1924. Otherwise we start creating the string T\$ by adding the character GOTten in line 1919 to the latest version of TS. (This is called "concatenation", for those of you who like big words.)

Now if the last character GOTten was a backspace and that makes T\$ one character long, the user is trying to backspace to the previous field. So we decrement B and go back to line 1904. Otherwise we GO to the SUBroutine at line 5.

```
5 IF ASC (ES) < 32 AND ASC (ES) < >8 THEN RETURN
```

```
6 IF ES$ = CHR$(8) AND LEN (TS) = 2 THEN TS$ = ""
```

```
7 IF ES$ = CHR$(8) AND LEN (TS) > 2 THEN TS$ = LEFT$(TS$, LEN (TS) - 2)
```

```
10 RETURN
```

Here we examine ES to see if it is a valid character, not a control character and not a backspace. If it is we return to line 1922 which takes us back to line 1919. Next we provide for the case when T\$ consists of two characters, the last of which is a backspace. This makes T\$ a null string. Finally, we provide for the case when T\$ consists of more than two letters, the last one of which is a backspace. This makes T\$ equal to what it used to be minus the last two characters, the backspace and the character backspaced over. OK?

We continue getting characters in line 1919 until <RETURN> is pressed, at which time the program jumps to line 1924. Remember of course, that the user is INPUTing the number of the month here.

The string T\$ is changed into a number by the C = VAL(T\$) expression in line 1924. Now if <RETURN> was the only key pressed, the length of TS will be zero, and C takes on the value stored in M1, and we can go directly to line 1930. Otherwise, we have to check the value of C to make sure a legitimate number was entered. Again, if C is less than 0, this is the clue the user gives the computer to return to the Main Menu. If C is 0 or if C is greater than 12, then we have to clear the line and start all over again at line 1916. Otherwise, we can READ the DATA in line 1700 to match the number of the month with the name of the month, and then print the number of the month right justified from T%=10 (line 1930).

```
1700 DATA 1,"JANUARY",2,"FEBRUARY",3,"MARCH",4,"APRIL",5,"MAY ",6,"JUNE",
```

contd.

```
7,"JULY",8,"AUGUST",9,"SEPTEMBER",
10,"OCTOBER",11,"NOVEMBER",12,
"DECEMBER"
```

```
1701 DATA 13
```

Finally, we print a slash to separate the month from the date, put C into the current array variable, MO%(R), and make sure that M1 holds the value of C.

```
1932 IF NOT D1 THEN 1935
1933 HTAB 1: VTAB 24: PRINT "HIT<RETURN>
FOR ";D1;" (DEFAULT)";: CALL - 868
1935 TS = "":ES = "": HTAB 12: VTAB L%:
PRINT "?";: GOSUB 25
1936 GET ES: IF ES = CHR$(13) THEN 1941
1937 TS = TS + ES: PRINT ES;: IF ES =
CHR$(8) AND LEN(TS) = 1 THEN 1916
1938 GOSUB 5
1939 GOTO 1936
1941 C = VAL(TS): IF LEN(TS) = 0 THEN
C = D1
1942 HTAB 12: GOSUB 25: IF C < 1 OR
C > 31 THEN 1935
1943 T% = 13: GOSUB 50:DT%(R) = C:D1 = C
```

The routine for entering the date is pretty much the same idea. If this is our first time through, we don't have a default value for the date, so we can jump directly to the input routine at line 1935. (You may have noticed we set D1 equal to 0 in line 1927 which we would only encounter if we were establishing a new month for our record).

```
1945 T% = 14: GOSUB 26: GOSUB 30
1949 VTAB L%: HTAB T%: CALL - 958:
PRINT " ";TS;: IF LEFT$(TS,1) > <
"#" THEN 1955
1950 IF S2 THEN S1 = S1 - 1.
30 TS = "":ES = "": PRINT "?";: IF LEN(V1$)
> 0 THEN HTAB 1: VTAB 24: PRINT "HIT
<RETURN>FOR " + V1$ + "
(DEFAULT)";: CALL - 868: HTAB 15:
VTAB L%: GOSUB 25
31 GET ES: IF ES = CHR$(13) THEN 36
32 TS = TS + ES: PRINT ES;: IF ES = CHR$(
8) AND LEN(TS) = 1 THEN GOTO 1932
33 GOSUB 5
35 GOTO 31
36 IF LEN(TS) = 0 THEN TS = V1$
37 IF LEN(TS) > 12 THEN TS = LEFT$(TS,12)
38 VENS$(R) = TS:V1$ = TS:SG = 1: IF
LEFT$(TS,1) = "#" THEN SG = - 1
39 RETURN
```

Next, we input the data for the "TO/FROM WHOM" column. Here again we use the same principle as before. The only thing to notice here is that we restrict the length of the string to 12 characters, and we use the first character of this field to indicate whether the item is income or expense. If it is income, we use the "#" sign as the first character and make SG equal to -1. We also decrement the check number by one if we are automatically numbering the checks. This means, of course, that the user will have to enter deposits before withdrawals when using the automatic check numbering mode so that the withdrawal will have the same check number as the deposit.

```
1955 T% = 30: HTAB T%: GOSUB 60:
HTAB T%: CALL - 958:T% = 32:AMT(R)
= C: GOSUB 70
60 TS = "":ES = "": PRINT "?";: IF Q% = 1
THEN CALL - 868
61 GET ES:TS = TS + ES: IF ES = CHR$(8)
AND LEN(TS) = 1 THEN GOTO 58
58 IF Q% < > 1 THEN CALL - 1008:GOTO 60
59 GOTO 1945
62 PRINT ES;: GOSUB 5
64 IF ES = CHR$(13) THEN C = VAL(TS):
GOTO 66
65 GOTO 61
66 GOSUB 26: IF C < 0 THEN SG = - 1
67 C = ABS(C): IF C < 99999 THEN C =
C * SG:SG = 1: RETURN
68 HTAB 1: VTAB 24: PRINT "CAN'T
ACCEPT A NUMBER THAT BIG";: VTAB
L%: HTAB T%: GOTO 60
70 IF C < 0 THEN SG = -1
71 IF SG = -1 THEN INVERSE :C = ABS(C):
GOSUB 72: RETURN
72 X = C:C = INT(C): GOSUB 50
75 TS = "." + RIGHT$(STR$(INT((X +
1.0001) * 100)),2)
77 PRINT TS;
78 NORMAL :TS = STR$(C) + TS:C =
VAL(TS) * SG:SG = 1: RETURN
```

#### HOW MUCH?

Now for the AMOUNT column. After setting up our tabs we GOSUB 60 which is the routine for INPUTing amounts. If Q%=1, that is, we are in the ENTER DATA mode, then we clear the entire line from the cursor to the right. Then we go to the GET routine. If the first character of TS is a backspace, then we GOTO 58. If we are in other than the ENTER DATA mode, we just backspace and then go back to the GET routine. Otherwise, the backspace takes us to the previous field (TO/FROM WHOM, line 1945).

After hitting <RETURN> we set C to the VALUE of TS. Then we test to make sure the number is not too large, and then return to line 1955. After clearing the screen from the cursor down, we reset the tab to prepare for right decimal justification, set the array variable equal to C, and GOSUB 70.

The routine at 70 is the one we use to ensure that all our dollar amounts are printed with two decimal places and with the decimals aligned. First we see if the amount is negative. If it is, we set SG equal to -1. If SG is -1 because of line 70, or if it already was -1 because we set it this way because we are dealing with a deposit, we print the number in inverse on the screen. Now all we have to worry about is the absolute value of C, that is, C without a plus or a minus sign, so we do this with the substitution equation C = ABS(C). Next we will be doing some operations on C, so we want to save its value in the variable X. First we will just use the part of C to the left of the decimal point, the INTeger of C. We will right justify that part of the number by using the subroutine at line 50.

Now let us look at line 75. Taking the substitution equation for TS from the inside of the parentheses to the contd.

outside, we first take the value of X and add 1.0001. Let us take a value for X so you can see what is going on. Let us say that X is 25.53. After the addition is done, we have 26.5301. Next, we multiply that value by 100, giving us 2653.01. Now we take the INTeGer of that value, or 2653, convert that to a string, and take the RIGHT two characters of that string, 53. So when we are done in this example, TS would be ".53".

Why do we go through all of this? Because the Apple is not that accurate an adding machine. A clue that this problem exists appears on page 18 of the Applesoft II Basic Programming Reference Manual (copyright 1978 version). Also, I wanted to make sure that if by chance we erroneously typed a three or four decimal place number, that the third and fourth decimal places would be truncated, dropped, not rounded into the figure.

We printed the part of the number to the left of the decimal point with the subroutine at line 50. Next, in line 77, we print the rest of the number. Line 78 puts everything back to normal and returns us to the main program at line 1960.

```

1960 T% = 36: GOSUB 80: VTAB L%:
      HTAB T%: CALL - 958: PRINT " ";CDS(J);
1962 CT%(R) = J
      80 TS = "":ES = "": PRINT "?";
      81 GET ES:TS = TS + ES: IF ES = CHR$( 8)
        AND LEN (TS) = 1 THEN 110
      82 PRINT ES: GOSUB 5
      84 IF LEN (TS) < 2 THEN 81
      85 IF LEN (TS) < 5 AND ES < > CHR$( 13)
        THEN 81
      86 GOSUB 26: FOR J = 0 TO NC: IF
        LEFT$( TS, LEN (TS) - 1) =
        CDS(J) THEN POKE 34,3: RETURN
      87 NEXT : FOR J = 0 TO NC
      88 IF LEFT$( TS,2) = LEFT$( CDS(J),2)
        THEN 92
      89 NEXT
      90 VTAB 23: HTAB 1: CALL - 958:
        PRINT "WHAT";
      91 GOTO 80
      92 HTAB 1: VTAB 23: PRINT "IS ";CTS(J):
        " THE CATEGORY YOU MEAN?";
        : POKE 34,22
      93 INPUT "(Y/N)";CS: IF CS = "Y" THEN
        POKE 34,3: RETURN
      94 IF CS < > "N" THEN 92
      95 NEXT : GOTO 90
110 IF Q% < > 1 THEN CALL - 1008: GOTO 80
115 GOTO 1955
1963 R(R) = 0
1964 L% = L% + 1:S1 = S1 + 1:
1965 NS = R:R = R + 1: IF R >= 299 THEN
      VTAB 23: HTAB 1: FLASH : PRINT
      "MEMORY FULL***RETURN TO
      MENU": NORMAL : FOR Z = 1 TO 1000:
      NEXT
1967 IF L% < 23 THEN 1904
1968 POKE 35,22: CALL - 922: POKE 35,24:
      L% = 22

```

## 1970 GOTO 1904

The subroutine at line 80 was discussed when we went over the program we call BUDGET 1/85. (See last month's Journal.) Again, we are being forgiving—if we get the first two characters of the code right, we will be able to discover the category we are looking for. Note that if the first character is a backspace, we are taken back to line 1955 which is where we enter the "Amount" field. Note also that we are only storing the number of the category in the array CT%(R). This save us some memory over storing the whole code or category name in a string array.

In line 1963 we set the reconciliation flag to zero. This indicates that the item we just entered has not been reconciled with the bank statement yet. In line 1964 we increment the line number by one and the check number by one. We set NS to the value of R and then increment R. We only permit a total data base of 300 entries. If R is equal to or greater than 299, we tell the user to return to the menu.

If L% is less than 23, we simply return to line 1904 for more input. Once L% gets to be 23 or larger, however, we set the bottom of the scrolling window above line 22 to protect any messages below that line, do a line feed with the CALL -922, which moves everything within the scrolling window up one line, and then reset the bottom of the scrolling window. Then we go back to line 1904 for more input. Scrolling is a way to keep visible as much data on the screen at one time as possible. L% is reset to 22 to retain the position of the cursor on the screen since we use L% for our VTAB commands.

That is enough for this month. We will continue with this program next month, showing you how we will deal with the other selections possible from the Main Menu. Put your budget disk in your drive and type "SAVE ENTER DATA". You now have two program modules and the beginning of a third one on your disk.

(Ed. Note: This is the 3rd article of a 9-part series which began in the May 1986 Journal. Brian has been receiving quite a few requests for copies of his program on disk - see his first article for details. One such request was from as far away as London. The following is quoted from a letter written by another member, Walter Blackmer. "Dear Mr. Mason, Your tutorial on Applesoft by working through a program is exactly what is needed to help people like me get into programming. This article alone makes my joining WAP worthwhile. I fully intend to work my way through the program with you during the remaining installments, but can't wait that long to have a good program for this purpose. Enclosed is my check for \$5. Please rush the disk and instructions back to me.")

## EARLY JOURNAL DEADLINES

Because of a meeting in July and a show in August, the deadlines for the August and September Journals are early. We would appreciate your help in this matter.

Deadline for articles for the August Journal is July 3 - the Journal must be ready for the printer on July 16.

Deadline for articles for the September Journal is August 4 - the Journal must be ready for the printer on August 13.

If you can get your material to us earlier than the deadline, so much the better.

# The Musical Apple

.....by Raymond Hobbs

I'd like to toot my horn for a little bit. Actually, I'm tooting several horns—trumpet, coronet, trombone and tuba—all on a synthesizer controlled by my Mac. MIDI is what made this possible, and MIDI is what this column will be about this month.

MIDI (Musical Instrument Digital Interface) is, as I indicated last month, an interface-and-protocol specification. It's like a standard serial port hookup to a modem with the XMODEM protocol thrown in for good measure. And, as with modems, if the interface is up to specs, any synthesizer can be hooked up to it. Also, as with modems, any software can drive the synthesizer. This assumes, of course, that all this gear follows the MIDI specification. I have two complete music systems set up in my rec room, for example, and only one of the two follows the MIDI specification. That means that if one of the two manufacturers takes a Chapter 11, unless somebody else takes over the product support, I'm living on borrowed time with that system. Guess which system it is? On the other hand, a MIDI system has a broader base of support—for the computer interface and for the driving software. Still, if the synthesizer itself breaks down and the manufacturer is down the road, I'm eventually looking for hardware. All this notwithstanding, wouldn't you rather be looking for support for a Hayes-compatible modem by a bankrupt company than for a GeeWhiz-compatible?

Getting into MIDI is easy for musicians. There are a few pitfalls for computer types, though. There is a new vocabulary to learn. What's worse, you already know what all these things are - only, by another name. The manuals that you get with most of this stuff, however, assumes that you know all this terminology, so it's hit-and-miss for a while, until you know your way around. First, I'll lay a little MIDI groundwork, then I'll write down a short glossary of Common Musical Usage.

You actually don't need a computer to go MIDI, but since this is a column in a computer rag I'm going to skip the no-computer part.

There are three main parts to a computer-based MIDI system: First, the computer. It's used to manage the synthesizer. The computer doesn't produce a single note of music. It manages the system. Period. Next, you need a synthesizer. The synthesizer produces all of the sounds that come out of the system. Synthesizers come in many sizes and price ranges—as cheap as \$200, and as expensive as you want to go. They have the capability of playing from one to sixteen or even thirty-two notes (called voices) simultaneously, and are generally capable of producing a variety of different sounds (called timbres). Be careful—most of the synthesizers on the market today may have multi-timbral capabilities, but can produce only one timbre at a time. The last item you must have is a sequencer. This is the software that makes the computer manage the synthesizer. In addition, you will need an interface between the computer and the synthesizer. I consider this to be part of either the synthesizer or the

computer (take your choice), so it doesn't count as one of the main three. Mine is a part of the sequencer!

Here's a glossary of real uptown synthesizer idioms:

**Analog Synthesis** - A type of musical synthesis in which a waveform is initially loaded, then modified by filtering out all or part of selected harmonics.

**FM Digital Synthesis** - Another type of musical synthesis, in which standard waveforms are augmented by the addition of sideband harmonics.

**Sampling Synthesis** - A third type of musical synthesis, in which a sound is sampled and its waveform recorded and modified by application of one of the techniques described above.

**Sequence** - A file of musical events, including such things as notes on/off, rests on/off, dynamics, velocity and aftertouch sensing, etc.

**Sequencer** - A program (either in hardware or in software) which records and plays back sequence data.

**Patch** - A file of instrument definition data, including waveform and envelope.

**Channel** - A buffer assigned to send and receive both sequence and patch data.

**Program** - Data used in sequence subroutines. The program usually contains patch data, and represents a change of instrument assignment within a sequence.

**Loop** - A sequence which is repeated one or more times.

**Parameter** - A switch, dial or gadget which controls some aspect of instrument definition.

**Mod Wheel** - Something like a joystick on a computer, it's a kind of sophisticated wah-wah pedal.

**MIDI** - Have you been reading any of this?

How much does it cost to get into music synthesis? The chart below may help (approximate values):

	<u>Apple II+/e</u>	<u>Apple IIc</u>	<u>Macintosh</u>
Non-MIDI	\$150	n/a	\$60
MIDI	\$600	\$700	\$700

For more information and demonstrations and such, see your local music store (don't tell them I sent you), or go to a MUSIC SIG meeting (see "Music SIG News" in this issue).

Many thanks to Gary Larson and Yuban coffee, without whose help this article could not have been written. ☺

# LETTERS TO THE EDITOR

## Accepting Responsibility

Dear Editor,

Recently, a 12-year-old friend of my son's was accused, wrongly, of stealing. After all was said and done, and it was clear that this boy did not steal anything, the store refused to apologize, using as reasoning that "we were only doing our job." I heard this with my own ears. I acknowledge that a store has to be on its toes to prevent shoplifting, but I was angry that they were not big enough to apologize for their mistake. In talking of this issue over dinner tonight, my son was trying, as all 12-year-olds might, to distinguish what would have been responsible behavior on everyone's part, and what "slander" means, and how it might be dealt with.

This whole issue brought to mind a recent happening within the Washington Apple Pi ranks, and coalesced my thinking on this happening. The issue had to do with some one printing a statement on the bulletin board which read something like, "I'm not saying that ----- is dishonest." The person was named; I choose not to do so in this article as it seems irrelevant to say here, as it seems irrelevant to say who wrote the statement also. The issue is moral responsibility, in my eyes. To me, it was all the more ugly that the person phrased it as "I'm not saying..." because he was, by the very fact that he chose to make the comment, "saying". Even worse, though, was that this person was trying to deny the "saying" and opt out of responsibility.

It is difficult to raise children today; many problems face us, as parents, that our parents didn't even dream of. Sometimes I despair of being equal to the task. I worry that I'm not a good enough parent, don't know the right things to do, say, think, pass on to my children. But I know and feel strongly about responsibility, and if we don't accept responsibility for ourselves, our words and deeds and our lives, how will we teach our children to be their own people and not be swayed by every tacky (albeit perhaps attractive) temptation that comes along?

The person who publicly announces, "I'm not saying that ----- is dishonest" is like a drug dealer to me, standing on the sidelines, offering grievous injury to others, while ignoring responsibility for his OWN behavior. My son, when presented with the Apple Pi issue as a sample situation (names withheld again), with all the articulation of a 12-year-old, called this behaviour "scummy". I concur, and it frightens me, and that's why I write this.

Linda Morganstein

## Comments on Mr. Raskin's Letter

Dear Editor,

I wish to make a few comments on Mr. Raskin's letter in the May Journal as it pertains to my review of his SwyftCard. I was a bit surprised to hear that the setting of the dip switches would have no effect on the operation of the SwyftCard. In that case, why mention setting of the dip switches at

contd. on pg 56

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# The View From Durham

by Chris Klugewicz

Well, I'm back in Washington for the summer, having survived my junior year at Duke. The last few weeks have been pretty hectic, as I mentioned in last month's column, and I've got a ton of stuff to sift through. Ah well, onward...

The mailbag. Okay, I'm on a list somewhere: the mail from computer-related companies is sitting on the floor in my room in a stack two feet high. No kidding. And the file in my filing cabinet that's labelled "Computer Stuff" is filled to overflowing. In case anybody's interested, all this junk includes: offers of subscriptions to A+, nibbleMac, and MacUser (see below) magazines; catalogs from Educomp, Lyben, and Sorbus computer suppliers; two offers to join the BYTE Information Exchange; FileVision magazine; The New York Times; a bunch of product announcements from Koala, Ehman Engineering, T/Maker, Warp Nine Engineering, and others; two issues of *Semaphore Signal*; and more. I've been trying to sift through all of this--plus get through four back issues of *BYTE* and *MacWorld* (MACWORLD, mAC-WORLD, whatever)--and have only succeeded in making a small dent in what has to be done. (It's getting tough to see the floor of my room.) Ah, well, at least it's better than an empty mailbox...

Now *that's* determination! To MacUser magazine goes my prize for "most determined to either get a subscription or drive me crazy." Over the course of three months, I got six--count 'em, SIX--offers for a "charter subscription" to the magazine. Four of these came to my home here in Washington, two went to Durham. Three were addressed to "Christopher J. Klugewicz," two were addressed to "Christopher Klugewicz" (he's a cousin), and one was addressed to "Chris Kugewicz" (who?). From perusing all of these offers, I've noticed something interesting: the deal they're offering gets better as time goes on! Christopher J. and Christopher were offered "about half the newsstand price", and the magazine cost \$3.50 per copy at the time; they had to decide by February 10. Chris, however, who got his offer just recently, was treated to "less than half the newsstand price and more than \$7.00 off the basic subscription price"! (The magazine now costs \$3.95 a copy.) He had until May 31 to make up his mind. Now, I hate economics and therefore haven't gone within a couple of hundred yards of the Economics Department at Duke, but it doesn't seem terribly surprising to me that the price of a single copy of MacUser has gone up 45 cents since February: after all, half of the money they spend on mailings must be sitting on my bedroom floor...

The good news. Last month, I mentioned that Microsoft was shipping SubLOGIC's "Flight Simulator," one of the greatest programs of all time for any computer, for the Mac. Well, two days after I got to Washington, I got my hands on one--and it is truly *supercalifragilisticexpialidocious* !! I've been flying non-stop (no pun intended) since I bought it. I'll let His Magnificence, our GameSIG chairman, review it--assuming he finds time in his busy Pascal program-

ming schedule, but I do want to make some general comments and offer my reactions to the program.

"Flight Simulator." As I said before, I grew up with "Flight Simulator," from back when it ran only on 48K Apple ]['s with 13 sector disks. (I still remember my best friend and I changing chips inside his Apple ][+ so that we could fly...) It was my favorite game, but I left it behind when I bought an Atari 800. When I got to Duke, I managed to borrow a friend's copy and play it on the IBM PC's late at night (the only good use I've ever found for an IBM PC). When I bought my Mac, I expected that "Flight Simulator" would be out rather rapidly, since the Mac's graphics were far superior to any other computer's. Well, two years later, here it is. Needless to say, it was with great apprehension and expectations that I booted the program (after forcing myself to make two backup copies): I was not disappointed. The graphics are faster and more detailed than I remember from the IBM and Apple ][ days (though with the Mac's patterns it's more difficult to distinguish between types of scenery than with colors), and the mouse is a joy in comparison to the keyboard. All in all, I love the program, but I have a few negative comments: first, the 128K version is handicapped. As in crippled. It doesn't have sound, autopilot, clouds, and a myriad other things. I'm not sure why that is, but it kind of bothers me. Also, there are a couple of small bugs in the program, all having to do with the display: occasionally, the water will suddenly dry up and become land! At other times, the display freezes when you're looking out a side window or down at the ground. Both problems can be corrected by choosing "S", the view from the spotter plane, and then returning to the cockpit view. Still, it's annoying. Finally, Microsoft has copy-protected the program. It's a "keyed disk" copy protection scheme (see my discussion of copy protection below), but it does allow you to make exactly one backup of the master disk. (I haven't tried making a second, and I'm kind of worried about trying.) The backup master acts just like the original disk. Backups made through the Finder require the master disk to be inserted. This is a fairly reasonable policy, and I won't inveigh against Microsoft for it; it's just that I wish copy protection in the Apple world would disappear as rapidly as it has in the IBM world.

Steps in the right direction. Some software that is NOT copy-protected: Borland International's SideKick for the Mac (why doesn't everybody follow Philippe Kahn's lead?). At its introduction, SideKick came in two flavors: protected and not protected. I guess Borland saw the hypocrisy of selling only non-copy protected SideKick to the IBMers and both sorts to the Mac crowd, because copy protected SideKick disappeared within a month. Hurrah for Borland! (Borland also has some of the most reasonable prices for software I've ever seen. I just wish they'd hurry up with Mac Turbo Pascal!) Apple's Macintosh Pascal is another product whose copy protection has been removed. With its new release, Mac Pascal is now as unprotected as MacWrite--which I think is

contd.

only reasonable for a programming language.

I told you so. A column or so ago, I said that the Mac Plus' SCSI (I refuse to call it the "scuzzy" interface--for me, it's the "ess-see-ess-eye") port would promote cheap hard disks. Well, lately I've seen at least three 20 MB hard disks for under \$900. Hopefully, as more are developed, the price will drop even further (like to \$395, which is the price of a good 20 MB drive for the IBM PC and its clones).

By the way... Has anyone noticed a particularly scruffy-looking group hanging around the Mac parts of the WAP meetings, wearing beige T-shirts emblazoned with a mystical design? Who are these rogues? What do they want? Can they be stopped? (Why do monks have Macs in their faces?)

Copy protection. My views on this subject were expressed in my first column, nearly a year ago (August 1985), but for the benefit of new readers and new members, I'll state them again. (Also, the fact that "Flight Simulator" is rather well-protected is annoying me at the moment.) I think that copy protection in any form is harmful to the individual user and to the software industry as a whole--the very people protection is supposed to help. Legitimate users cannot back up their software, at least not easily, so many won't back it up at all. Everyone who's had a computer long enough has learned to back things up--disks are just too easy to foul up. (Me, I learned the hard way: I lost a 2000+ line database program that I was writing for my Atari 800. No backup. I also get reminded now and then: last month I lost all of my old "View from Durham" columns when my disk suddenly developed problems. No backup. Lord, what fools these mortals be...) Copy protection won't stop a pirate determined to "break" a protected program; it just ain't possible. Witness the fact that the people who write protection-breaking programs are able to crack every new scheme within a few weeks. Finally, copy protection raises the price of software--which none of us need. My personal recommendation: if you buy software which is protected (and most everyone has to at some time or other, especially with the Apple machines), buy a program that will allow you to make backup copies of your master disk. ("Copy II Mac" and "Locksmith" are two that spring to mind.) Don't give copies of the software away, but do protect your investment. You might write a letter to the offending company, too; every little bit helps.

More on copy protection. While I'm on the subject, I want to complain about the form of copy protection that I hate most--not the worst form, necessarily, but the one that I've encountered that bugs me the most--keyed-disk protection. That's where you can make all the backups you want, but you need to insert the original master disk in order to run the protected program. Microsoft uses this form of protection extensively, I understand: they certainly use it on "Flight Simulator." Not only is this kind of protection annoying (if you're like me and have about a hundred disks in four boxes, you spend a couple of minutes searching your desk for the offending master disk), but if you lose or damage the master, you're out of luck anyhow. Also, you can't put this type of program on a hard disk (though I'm not certain about that, not having a hard disk...yet). Arrgh!

Yet another old topic. A while back, I discussed surge protectors and their relative merits. Some people

disagree with my view that surge protectors are an ounce of protection (an ounce being about \$35) as opposed to a pound of cure (my particular pound was \$170.70, if I recall correctly), but I got a little pamphlet in the mail from the Baltimore Gas and Electric Company, which supplies the power for beautiful Bowie, Maryland. It's a brief explanation of what surges are and why they occur, and it includes a section on how to prevent sensitive electronic equipment (such as home computers) from damage; number one on their list of suggestions? "Use Surge Protectors." (Also mentioned is Bernie Urban's suggestion to unplug such equipment when leaving it unused for a period of time or when a thunderstorm threatens.) I say again: GET A SURGE PROTECTOR! (I will have an article in next month's Journal on this subject.)

My modem. My modem, a Prometheus Promodem 1200 which died inexplicably last Christmas, is back from Prometheus. I mailed it to them on May 7, and it came back on the 22nd--a fairly reasonable time for warranty repair. It works perfectly (actually, it works a little better than it did before: it now beeps when I turn it on, which it didn't do before), and once again, I'm a happy telecomputerer (erer...yeah, right). Prometheus' explanation of my problem: the number one voltage regulator (a little IC with only 4 pins) had blown. All I know is that it works just fine.

Nostalgia. My Mac is two years old this month. (I'm one of the Macintosh pioneers: I bought my machine before Apple dropped the price from its original \$2495 and before there was such a thing as a Fat Mac.) It's been a long two years, full of changes--most of them for the better. The Mac got more memory, more software, and finally, more speed. Jerry Pournelle of BYTE turned from snobbish distaste to grudging support of the machine. Apple lost a visionary but gained a manager. The LaserWriter became Apple's most successful product overnight. The funny-looking, multi-colored apple became as acceptable as three large blue letters in the business world. It's been a long and interesting two years; I, for one, shall be very interested to see what turns up in the next two.

(In)famous last words. Recommended reading: Joanne Greenberg's *In this Sign*. A book about deaf people in the world of the hearing--absolutely fascinating as well as thought-provoking. Guaranteed to change the way you think of deafness. Recommended listening: Philips' digital Compact Disc recording of Bach's six "Brandenburg" Concertos, performed by I Musici. An incredible recording of some incredible music. The harpsichord has to be heard to be believed.

Next month... The one-year anniversary of this column! (Yeah, yeah...big deal.)

my summer address:

12400 Kembridge Drive  
Bowie, Maryland 20715

CompuServe ID: 72437,3267

# WAPACROSTIC

by Professor Apple

1	P	2	A	3	L	4	L	5	V		6	I	7	I	8	B	9	M		10	B	11	K		12	D	13	B	14	B	15	E	16	F	17	Q		18	L				
19	A	20	J			21	H	22	O	23	P	24	D	25	S	26	U	27	Q	28	W		29	S	30	I		31	A	32	I	33	Q	34	N	35	W		36	T			
37	P			38	M	39	E	40	O			41	M	42	J	43	K	44	G	45	N	46	U		47	W	48	T	49	A	50	C	51	O	52	O		53	M	54	W		
55	R	56	T	57	T	58	T	59	N			60	H	61	D	62	O	63	O	64	L		65	Q	66	K	67	T	68	C	69	L			70	U	71	K	72	H	73	G	
74	T			75	E	76	C	77	W			78	K	79	K	80	L	81	S		82	G		83	J	84	I	85	H	86	K	87	J	88	D		89	B	90	O			
91	F	92	M	93	B			94	R	95	A	96	K			97	Q	98	U	99	M	100	V		101	Q	102	S	103	E	104	H	105	O	106	C		107	G	108	Q		
109	F			110	J	111	N	112	V	113	C			114	N	115	N	116	F	117	R	118	D	119	F	120	V	121	R	122	J			123	F	124	W	125	K		126	J	
127	U	128	M	129	B	130	N			131	V	132	F	133	U			134	R	135	P	136	J	137	Q	138	F	139	N	140	R	141	T			142	G	143	A	144	E		

**Definitions**

**Words**

A. Affirm Openly	143	2	31	19	49	95			
B. New Testament Book	8	14	129	89	13	93	10		
C. Closes	113	50	76	106	68				
D. Treat or Pantry	24	118	88	12	61				
E. Take Pleasure In	39	15	103	75	144				
F. Nearby Dweller	119	109	138	16	132	123	91	116	
G. Not Sleeping	82	142	107	44	73				
H. Young Delinquents or Firestarters	21	104	85	72	60				
I. Miss Hearst	32	84	6	30	7				
J. Bring to Freedom	110	87	83	136	20	42	126	122	
K. Bernie's Article	11	86	66	125	96	43	79	71	78
L. Sweeping Blow	64	69	4	18	80	3			

M. Dan Rather, e.g.	99	9	53	92	41	128	38	
N. Gives Strength to	45	34	114	115	59	139	111	130
O. Speaks softly	40	90	62	52	63	51	22	105
P. Rhythmical Composition	37	23	1	135				
Q. Having Certain Roof Construction	108	101	65	27	33	137	17	97
R. Ontario City	55	117	121	134	94	140		
S. God (Fr.)	102	29	81	25				
T. Everything, Everywhere	36	141	48	57	58	67	74	56
U. "The Iceman"	26	98	70	133	46	127		
V. Having Good Flavor	131	120	112	100	5			
W. Moves to One Side	28	54	124	47	77	35		

## ANSWERS TO LAST MONTH'S WAP ACROSTIC

"It's working! After all these years of effort, there is evidence of greater cooperation between Apple and the User Groups. WAP has benefited in many ways. That means that you, dear reader, have also benefited."

Author: Bernard Urban  
 Work : WAP Editorial  
 Source: Washington Apple Pi Journal, April 1986, p3

**Words**

- |                 |              |              |
|-----------------|--------------|--------------|
| A. Bo Peep      | I. Runways   | Q. Deafen    |
| B. Effete       | J. Beneath   | R. Itself    |
| C. Reive        | K. Abate     | S. Tsetses   |
| D. Naphthalenic | L. Nathaniel | T. Offertory |
| E. Apathy       | M. Worths    | U. Referee   |
| F. Rewaken      | N. Associate | V. Irving    |
| G. Dogwood      | O. Padded    | W. Arthur    |
| H. Uranometry   | P. Esteems   | X. Logia     |





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# MAC Q & A

by Jonathan E. Hardis

**Q:** On the Mac, I used to be able to take a snapshot picture of the screen (Cmd-Shift-3 or 4) when a menu was pulled down. What do I do on a Mac+ (with the new ROMs)?

**A:** On the Mac+, you need the help of a desk accessory called "Camera". It's a "public domain" program, and I hope it will come out on a SigMac disk.

**Q:** What's become of Assimilation Process?

**A:** I've heard repeated rumors that they went bankrupt.

**Q:** What's new in the area of "Outline Processing" software?

**A:** ThinkTank now comes in version 1.3, which works on a Mac+. Living Videotext has also announced MORE, a follow-on product to ThinkTank that has more features. Further, LVT now has competition through a desk accessory called "Acta".

**Q:** On Dreams of the Phoenix's 12C calculator, there is an icon for help. What do you have to do to get it to work?

**A:** Chris Allen replies: They couldn't find a good way to present help within the memory size limitations desk accessories live under. It isn't implemented.

**Q:** I don't have a "Hayes Equivalent" modem. Using Smartcom II, can I place a call by using the telephone icon?

**A:** Normally, only fully Hayes equivalent modems can be controlled automatically by Smartcom. But there is a work-around for other modems as well. Create an autopilot sequence containing the modem control strings (such as Autotype ATDTxxx-xxxx, followed by a Wait for "Connect"), and make it the Auto Log-in sequence. Then, while in "Direct Connect" mode, clicking on the telephone icon will execute this sequence.

**Q:** Help! Gato 1.3 doesn't work with the new (Mac+) ROMs.

**A:** Call Spectrum Holobyte and ask to be put on their notification list. An upgrade is in the works. While they would like to notify all registered owners, there is some doubt about the completeness of their files.

**Q:** Do any print spoolers work on a Mac+ with a SCSI hard disk?

**A:** I hear that MaxPrint does, and others might, too.

**Q:** Help! I recently had a ROM/Disk Drive upgrade, and now I have chronic problems trying to boot the Mac. The disks work fine on other machines.

**A:** It could be a faulty disk drive, or, more likely, a bad connection to the disk drive.

**Q:** Help! My "Programmer Switch" on the Mac+ keeps getting stuck.

**A:** In May Q&A, I suggested whittling it down. I'm told a simpler solution is just to install it upside down!

**Q:** What is the latest Finder & System?

**A:** Good news! Finder 5.3 and System 3.2 are out. They can be found on licensed information services, such as CompuServe, Delphi, and BIX. Be warned - Apple now plans to crack down on private BBS operators that post these files. You should also be able to get them from your dealer soon, too.

**Q:** How can I upgrade my XLisa to this new software?

**A:** This software will work fine on an XLisa, and you don't do anything different than any other Mac owner. MacWorks, which corresponds to the old Mac ROM, will not be updated, however.

**Q:** Micro Design, maker of the Keeper file server, is out of business. What can an owner do for support?

**A:** Keeper was picked up by Reach Technologies, in Austin, Texas.

**Q:** Apple says that we should "terminate" (whatever that means!) the Mac+ SCSI bus after the last device in the chain. Why don't we do this in practice?

**A:** Terminators are built into the popular SCSI hard disks. So the problem is really the reverse. If you want to daisy-chain more than one device, you have to open them up and remove the terminators in all but the last device.

"Termination" on a transmission line means to install resistors from the line to ground. The resistance should equal the characteristic impedance of the transmission line. By doing so, signal pulses are absorbed by the resistors. If you didn't do so, the pulses would reflect backwards (toward the Mac) and perhaps interfere with subsequent, valid data.

**Q:** I backed up my Mac hard disk with PCPC's backup program. Then, I erased the disk and restored it from the backup. But now, I can't boot from the disk. Why? The files all seem okay when I boot from a floppy.

**A:** The Restore does not write the "boot blocks" to the disk. Finder does. Boot from a floppy and move the System and Finder out of the System Folder on the hard disk. Then, move them back in. That should fix the problem. (I expect FEdit Plus will be able to write boot blocks to a hard disk, too.)

**Q:** I cut some characters out of the Key Caps  
contd.

desk accessory, but they appear only as rectangles in the clipboard window. Why?

**A:** Not all fonts have all characters in them. If the font in use doesn't have a character, it usually substitutes a rectangle for it.

**Q:** Can any harm come of using a 400K disk in an 800K disk drive?

**A:** No, not to my knowledge.

**Q:** Help! I was using MacWrite and I kept getting a dialog complaining about an I/O error.

**A:** There may have been a bad spot on your floppy disk. Try another disk, and see if the problem goes away.

**Q:** How do I remove fonts from the System file and store them in "suitcases", rather than just deleting them?

**A:** After starting up Font/DA mover, press "Open...", and then "New" to create a new font file.

**Q:** MacTerminal doesn't work on my Mac+. It will dial the phone, and then hang up immediately. What do I do?

**A:** The problem is that the Mac+ can control the modem through the DTR wire, and MacTerminal doesn't handle it gracefully. You have four options. Either (1) tell your modem (usually through a DIP switch) to ignore the DTR signal from the Mac, (2) cut the DTR wire in the cable, (3) dial manually (type ATDTxxx-xxxx) instead of using the "Dial" menu command, or (4) run your version of MacTerminal 2.0 through Mike Boich's "public domain" patch program that will fix it for you. The patch program also fixes a bug involving file transfer of applications.

**Q:** Are there bugs in the new ROMs? While scrolling menus are a good idea, in MacWrite (for instance) they don't work right. Checkmarks, for instance, don't show up.

**A:** This is not a ROM problem. Applications such as MacWrite that were written in the days before the new ROMs can't be expected to work with the scrolling menus. They may make the (now incorrect) assumption that menus have up to twenty items. For example, the programmer may have declared an array with only twenty elements.

**Q:** Help! My LaserWriter is taking 3-5 minutes to print each page, yet I only use the built-in laser fonts. The printing looks coarse, too.

**A:** If you used the old (pre 3.1) Font/DA Mover to load fonts into your System file, with the new LaserWriter driver, even the LaserWriter fonts will be printed using the dot-matrix screen fonts. This will cause both of your symptoms. The solution is to remove the LaserWriter fonts from your System file, and then to reload them from the fonts disk that came with the LaserWriter Plus. Make sure you use the new Font/DA Mover. (Those versions of the LaserWriter fonts have the new FONT

resources with them, required by the new System software.)

**Quickies:** The rebates on the Mac upgrades for people who purchased Macs last fall have been extended until July 15 ... Mac Q&A will be taking a vacation next month, see you in September. ☺

## MEA CULPA by Jonathan E. Hardis

For last month's Journal, I wrote an article telling you how to patch a Mac program to get more fonts in the font menu. Well, I goofed. The copy of the program I used in composing the table of patches wasn't virgin. If you tried to find the patches where I told you they would be, you wouldn't have found them. The problem was compounded by a couple of other errors in the table, having to do with me being unable to read my own handwriting.

So now, I'm exactly where I didn't want to be. I didn't want to just give a table of patches without also giving the warnings and disclaimers that should go along with it.

Here's what I'm going to do. I hereby incorporate by reference last month's article. Please read it before making any patches. I won't even tell you this month what the program it is that we're patching. You'll find that last month, too.

Please note that the text on page 54 starting "byte E9" should now read: "byte 101 (in the 17th row, the 3rd hex character of sector 07."

### Revised Patches:

<u>Search for:</u>	<u>Change to:</u>	<u>Occurrences (Sector:Byte)</u>
0000 0C60	0000 0CB0	07:101
0014 6F02 7C14	0027 6F02 7C27	58:95
000B FACE	001E FACE	58:BD, 58:C5
41ED FAD6	41ED F350	4E:0D, 4F:F7, 58:123, 5A:63, 83:0B, 83:175, 97:143, 98:95, B5:14F
00E9 00	0089 00	81:1A9
FFC6 206E 00	FF8A 206E 00	82:01
FFEA 7005	FF8A 700E	82:09
3290 2F2E	2290 2F2E	82:13
FFEA 4EBA FF	FF8A 4EBA FF	82:43
41EC FDE8	41EC FDC2	82:1DD, 82:1F7, 83:23
0C46 000B	BC6D FACE	83:2D
0B 6FB8	1E 6FB8	83:38
4E56 FDEA	4E56 FDC4	83:45
486E FDEA	486E FDC4	83:6D
0C47 000B 6FE2	BE6D FACE 6FE2	83:18B
0C47 0015	0C47 0028	B4:43
4E56 FFBE	4E56 FF96	B4:DB
70E1	7095	B4:3F, B4:AD, B5:A1
FFE1 4E	FF95 4E	B4:1E1, B5:1D
0001 00E1	0001 0095	B5:B9, B5:117, B5:1F1
10E1	1095	B5:1C3 ☺



# MacNovice Column

by Ralph J. Begleiter

## Using a Data Base (Part 2)

If you're poised for action using a Macintosh data base program, but you've never used a data base before, you need to understand some jargon that's related to creating a useful file of material. Try imagining the data base file as similar to that cabinet full of manila folders which probably comprises your current "data base:"

• First, there's the file cabinet itself. In Macintosh terms, call it the "data base." It's the repository for all your stored information.



Figure 1a - Folders



Figure 1b - Record Sheets

• Next, within the cabinet are those separate folders (each representing a different state or customer, for instance, or a different product). Think of them as "files." In a Macintosh data base, a "file" will appear on your screen desktop as a "document" created by the data base program you're using. (Just as a MacWrite letter appears as a distinct "document" on the desktop.)

• Third, in your file cabinet, within each folder there are individual sheets of paper. Think of them in your computer data base as "records."

• On each sheet of paper, you have written information which constitutes the "heart" of your data. Probably, the sheets of paper are similar for each folder. (In other words, you're collecting the same pieces of information for clients in each state, or about each different product. You're collecting pieces of information such as names, addresses, zip codes, dates, amounts of money, and perhaps there's a place on each sheet for comments or remarks.) In a data base, these pieces of information are referred to as "fields."

(In other words, you're collecting the same pieces of information for clients in each state, or about each different product. You're collecting pieces of information such as names, addresses, zip codes, dates, amounts of money, and perhaps there's a place on each sheet for comments or remarks.) In a data base, these pieces of information are referred to as "fields."

Name _____
Address _____
City _____
State _____
Telephone _____
Childrens' Names _____ _____
Comments: Wonderful kids!

Figure 2 - Individual Records

• Finally, the arrangement of information (that is, the placement of the names, addressess, etc.) on each sheet of

paper is called the "form" in computerese.

It's worth becoming comfortable with these bits of computer jargon, because the instructions for your data base program will be difficult to follow unless you understand the distinctions.

Now, let's create a hypothetical data base file. In my previous column, I suggested you give some thought to how you'd like to use your data base after you've built it. Here's where that thought becomes important, and you'll see why in a moment.

To build a data base file, you must first create the form on which your records will be stored. Follow the instructions for your data base program to create a new form. In some programs, there's a limit to the number of individual characters you may place in a single field. There may also be limits to the number of fields permitted in a single record. The best data base programs have no limits, or at least very high ceilings.

Here's a sample:

First Name	Last Name
Street Address	
City	State
Zip Code	
Area	Phone
Childrens' Names	Comments

Notice the fields. They are the individual pieces of information you want to store. The arrangement of those fields is the form. And the record is made up of the form plus the data entered in the fields. Arrange your fields to please your eye (you'll be looking at them for a long time as you enter data!) and for ease of entering information.

For example, it may make sense to place the first name first, even if, later on, you'll want to see the names reversed. It's easier to enter a name first-name-first. And it makes sense to place the area code before the phone number, for the same reason.

Your information may lend itself to some special arrangement. Any arrangement is OK. But make it "intuitive" so you won't have to look at the screen to know which piece of information to enter next. You're data entry will flow smoothly from record to record.

If you include a field for "comments" or "remarks" be sure you've allowed enough space to accomodate the largest "comment" you're likely to make. (If your data base program allows you to change forms after you've entered data... then

don't worry about the length or size of fields. You can always change them later to accommodate an especially large comment. But some data base programs don't allow changes after data is entered...so here's where it pays to have thought-out carefully how you will use your data before starting to create the form.)

Once you've built the form on which to enter your information, test it out. Enter some sample information about one of your products or clients. If everything works smoothly, you're set. If not, now's the time to make adjustments to the form. Now, start entering your data. Copy names, addresses, etc. onto the first form. When the form is full, your data base program will present you with a "clean" form on which to enter information about the second client. And so forth.

Be sure to SAVE YOUR DATA OFTEN, perhaps after every record is complete (some programs do this automatically!). No sense having to re-enter all that stuff just because the power failed and you forgot to save as you entered information!

Your data base program will probably tell you, on screen, how many different records you have in your file. Each record may be given a number. You'll always be allowed to add or delete records from your file later on, so don't skimp. Enter everything you need.

Many data base programs (certainly the best ones) allow you to enter financial or numerical information in fields which can be automatically totalled or counted by the computer later on. The very best data bases even allow more sophisticated number crunching within the file. For instance, you may want the data base to calculate automatically the total number of widgets bought by all your customers in the file. Or, you may want to average the number of orders placed per month, or

something more fancy.

You must "install" these numerical functions into your data base form when you create the form. You designate a field as a "numerical" field (according to the instructions in your data base program). You tell the program before you enter your data what mathematical function you would like it to perform with the data in that particular field. (On the Mac, these choices are made easy with the presentation of a dialog box asking you to choose which functions you'd like - such as "total," "average," or "count.")

You won't see the results of these calculations as you enter your data. But you will see the results when you tell your program to "report" the data summary later on.

And that's really the next step to using your data base - reporting the results. This is when the computer does its magic. It automatically sorts your data alphabetically or numerically, by name, address, or any of the other fields you created on your form! The calculations take place on numerical fields. And the fields are rearranged according to your own preference. (For instance, you might want a list of all customers who bought widgets. Your computer will give you a list starting with the names of customers who have widgets in their records. Or, you might want a list of all customers sorted by states. The computer will print a list of states, with customer names next to each state. Or, you might want a telephone list, in which case the phone number will be prominently displayed.)

As we say in the trade, "tune in again next time" for some help getting your data base to report to you the way you need your information sorted. Meantime, start building your data base form and enter your information! ☺

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 Scott Galbraith - (301) 865-3035  
 Kurt Holter - (301) 663-4199  
 Bruce Taylor - (301) 371-6181

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

The 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) 845-2651 for details.

### Upcoming Programs

July 10 - Program to be announced

### SIG MAC Upcoming Programs

July 22 - Program to be announced  
 August 26 - Program to be announced

## MACINTOSH BITS AND BYTES

by Lynn R. Trusal (Frederick Apple Core)

### DAK/ADC Modem

I received more phone calls about the ADC 300/1200 baud modem (WAP Journal, December, 1985) than any other article I have written for the Journal. The latest DAK catalog still has the modem listed, so it is still available. I have used it for about 12 months with no major problems. The only problem noted by myself and other users was the speaker: it does not totally cut out after the connection is made. Static can still be heard through the speaker. I solved the problem by turning off the speaker with the volume control on the back of the modem. The general consensus is that the ADC modem is made by Prometheus. This rumor was furthered by the fact that the original manual was identical to the one supplied by Prometheus. More recent shippings have included a shorter manual which has been rewritten. I got the impression from DAK that they were forced by Prometheus to make this change.

Many other people have asked me about a cable for the modem. The pin-outs from a Mac to Hayes compatible modem are as follows: (Mac-Modem) 1-1, 3-7, 5-2, 7-20, and 9-3. If you don't want to make your own, I recommend buying a Mac to Hayes Smartmodem cable from Compu-cable which is available from MacConnection for \$16 plus shipping. I'm sure that Jay Heller (Adaptation Electronics) can make you a cable for a reasonable price. A phone line has been set up to provide technical support for the DAK modem

at (818) 888-8220, while the company handling warranty repair can be reached at (818) 787-6151. The technical support line is provided in-house by DAK, while the repair service is provided by the Mark Markman, Co. in Van Nuys, CA. For \$175 complete, including shipping and a 30 day warranty, how can you go wrong! If you do not have a DAK catalog, see the December, 1985, issue of the WAP Journal (page 67) for ordering details. Everyone I have talked to who ordered items from DAK in the past is happy with the company.

### Apple Cable Pin-Outs

There was an excellent article in the June 1986 issue of A+ magazine on Apple pin-outs for all Apple products. It was called "The Right Connections" and started on page 53. Apple cable connections were listed for Apple ][, ][+, //e, //c, ///, Mac, Mac Plus, Mac XL, and special cables. The listing included pin-outs for connection of each of these Apple computers to the Imagewriter, Apple and Hayes modems, and color plotters. Also included were Apple catalog numbers for most of the cables. In addition, pin assignments were listed for the Macintosh, modem, SCSI ports, LaserWriter, personal modem, modem 300/1200, Imagewriter I and II, Apple Daisy Wheel printer, Apple Scribe printer, the Apple ][, ][+, //e, and Apple //c serial ports or super serial card. If you haven't read the article, it is worth getting a copy.

### Copy II Mac

Version 5.2 of Copy II Mac is available and supports the contd.

new HFS of the Macintosh Plus. This is a minor revision and as such both the "Copy II hard disk" and "MacTools" sections do not yet support HFS-disks. Only the Copy II Mac portion of the program supports HFS at this time. Since the program is designed to work with 128 K Macintoshes, it does not contain the latest version of the system or finder. There is a procedure on the disk to modify the program to boot on MacPlus and Mac computers with 800K drives. The next major revision should be available by the time this newsletter appears. The list of copyable programs usually supplied in writing is now a MacWrite file on the disk, allowing it to be viewed on the screen or printed out.

#### Using Excel with the MacPlus

For those of you who have a Macintosh Plus and make extensive use of Excel, I have improved its speed and performance by using Copy II Mac to place the program, system folder, and all files on the same 800K disk. To accomplish this I did the following: I first initialized a blank disk as an 800K disk. I then used the "Copy II Hard Disk" option to copy Excel to the 800K disk and then quit Copy II Mac. Finally, I transferred the system folder and my Excel files to the disk by dragging them to the 800K disk. I was surprised how fast 15 tax forms, with all the files on the same disk, were loaded into RAM. With the normal "Copy II Mac" copy option, you cannot maintain the 800K on the receiving disk because the original Excel is on a 400K disk. Even if you have initialized the "receiving" disk as 800K, it will be a 400K disk when you are finished if you use the normal "Copy II Mac" copy option.

#### MacPlus Cable Adapters

If you are unsuccessful at finding cable adapters for the MacPlus modem and printer ports at local computer stores, you might consider the ad in MacWorld Magazine (May, 1986, p 183). N<sup>2</sup> Products, Inc., of San Jose, CA (408) 435-0227, sells MacPlus adapters which permit the MacPlus printer and modem ports to interface with the standard Macintosh DB-9 connector. The price is \$19.95 plus \$2.40 shipping for two adapters. Again, Jay Heller (Adaptation Electronics) makes similar cables and can be reached at (301) 948-7440.

#### GENie

Being an avid user of Red Ryder Macintosh telecommunication shareware (YES, I sent Scott Watson my \$40), I recently took advantage of an offer to join General Electric Network for Information Exchange (GENie) to which Scott Watson recently switched his support line for the Red Ryder program. Membership, normally \$18, was free for registered users of Red Ryder. This was somewhat misleading since a users manual, normally part of the \$18 fee, cost \$9.95. Thus the real savings was \$8.00. Scott is now putting his Red Ryder upgrades, documentation, accessory programs, and utilities on GENie. I have found GENie not to be as user friendly as other local BBS's, but that conclusion is based on limited exposure. I did download successfully several Red Ryder files with no problem. The non-prime time hours for GENie are \$5.00/hour for either 300 or 1200 baud. There are phone numbers for Rockville (300, 300/1200, 2400 baud), Salisbury (300/1200), Baltimore (300/1200, 2400), and Hagerstown (300/1200). The Hagerstown and all 2400 baud numbers have a \$2.00/hr surcharge. Non-prime time is 6:00

PM to 9:00 AM weekdays, weekends, and holidays. I hope someone writes a more lengthy review of their experiences with GENie. By the way, at the time this article was written, Scott Watson was up to version 9.2 of Red Ryder. He should join forces with Central Point Software. Both are running neck and neck to see who can bring new revisions of their software fastest. The major difference is that Red Ryder revisions are free and Central Point charges \$18 per revision.

**Interesting Fact** - According to Scott Watson, new FCC regulations specify that automatic redialing device may not be allowed to progress past 15 consecutive tries.

#### Multiplan Version 1.1

The following new features have been added to Multiplan version 1.1, which was recently released: (1) improved printing options such as ASCII printing, (2) addition of seven financial functions (i.e., IRR, MIRR, PV, FV, PMT, NPER, AND RATE), (3) variable fonts and fonts sizes available in the system file, (4) a second active window so that formulas can be displayed in one window and values in the other. Each window can be split into four panes and scrolled independently, (5) use of ASCII text files, (6) simplified worksheet linking by building a formula that refers to another worksheet, (7) a "Go To" command, (8) new command keys for commonly used commands, and (9) context-sensitive help messages. All of these features and many more are found in Excel.

#### Macintosh Mail Order Software

Two of the major mail-order houses for Macintosh software and peripherals are MacConnection, 14 Mill Street, Marlow, NH (800) 622-5472, and Northeastern Software, 88 Ryders Lane, Stratford, CN (800) 874-1108. They apparently are as different as night and day when it comes to providing prompt, accurate, and dependable service. From the WAP meetings and from my phone conversations with other members comes the general opinion that Northeastern Software does not fit the bill. They apparently do not provide an invoice and you have no idea of the exact cost until your credit card bill comes. There are often long delays in receiving software and the company cashes checks or charges credit cards immediately, even though the ordered item may be out of stock. The only time I ordered from Northeastern, I was shipped an Apple //e version of the program instead of a Macintosh version. Needless to say, I have not ordered from them again. I have not heard these complaints about MacConnection. I personally have had nothing but good experiences with MacConnection, and that seems to be the general consensus. You may have trouble getting through on their 800 number, but I have had good luck at 9:00 AM and around 5:00 PM. They also accept orders from 9:00 AM to 5:30 PM Saturdays.

#### Apple Computer To Open D.C. Office

Apple Computer, Inc., has announced plans to open a Washington, D.C. office to handle its government marketing division. The office is expected to open this summer and will eventually house 50 to 100 employees who will serve the military, civilian government agencies, and prime government contractors (from the Government Computer News by Jake Kirchner). ☺

# THERE'S A REVOLUTION GOING ON!

(Or So They Say...)

by Stephen C. Warren

This is an amazing time, with revolutions going on all over. There's a revolution of information because of computers, there's a revolution in compact disk digital technology, and there's even a revolution in South Africa, but we hardly seem to bat a proverbial eye. Now, Apple Computer announces a revolution all their own, and the pundits are quickly laying claim to the misnomer "Desktop Publishing Revolution", although I have my doubts when it's self-proclaimed. Here's why....

When Gutenberg invented movable type, or whatever it was he did, there was such a vacuum for printed material that it naturally led to a first wave of the information society. The only problem was, nobody could read! The scholars, who for centuries depended on the hand-etched scrolls produced by monks, suddenly found bound volumes of information to be scarce and quite expensive, despite the technology. With time, as printing presses became more abundant, the power of the printed word took on greater force....but producing that printed word still took a lot of money, so growth was sluggish. Books were status symbols of the wealthy, which also signified a degree of worldly power. With the impact of the great industrial society, the wealth of information grew proportionally to the number of literate readers, and today, as more and more people learn to read by the age of six or seven, our world has become one where written words are so abundant we have a hard time keeping them confined to books. The streets, the subways, the skies are all smattered with written words. So why the current rage about Desktop Publishing (D-Pub)? What has Apple done that is so revolutionary? Are we still not dependent upon the publishing powerhouses concentrated in New England? Despite the power of the independent publishers, distribution still remains the largest obstacle to mass dissemination of news and information. And those channels of distribution remain to be extended to the desktop publisher, if the goal is to create a thoroughly well-informed society.

Oh, I've seen the specialty book stores, and I've seen the avant-garde newsstands, but truthfully, they're concentrated in the major cities in this country. Until a better network for distribution is established (and I'd argue that the computer bulletin board is a much better medium of distribution for publishers-to-be), desktop publishing will remain in its current state—that is, a nice tool for designing newsletters and restaurant menus, but a low-end alternative for the average user. Why? Just look at the price tag! For example, let's say we hook up a Macintosh to a LaserWriter. That's almost \$9,000 if you pay full retail. But that's not all you need. Any good publication deserves a hard disk storage facility, so tack on another thousand at least. Since you can't get by without pictures and graphics, shell out another thousand for a decent digitizer and graphics tablet. If you want to be safe from disk failure, get a back-up storage device...another thousand. If you want to hook up to the outside world, a modem will cost you another two-to-four hundred. So that you secure

your system from theft or malfunction, add on some more for AppleCare, insurance and some hefty deadbolts for the office. Okay, so I'm taking it to an extreme...but by how much? I've left out the grandpop of 'em all: the Linotronic type processor, starting at a mere \$30,000. And if you're really into publishing, that last item is A MUST! Remember, technology teaches us to raise our standards, not lower them, and 300 dots per inch is not publishing quality if you want those really big contracts!

So where do the pundits get off by pronouncing this revolution "Publishing for the Rest of Us"? The rest of us can't afford that type of gear! The lower classes are already so disenfranchised from the electronic village they've had to give up on it completely! Ask a minimum-wage laborer what they know of Compuserve, or even the low-cost alternative, GENIE? Come on now! This is first and foremost a proposition for business, big and medium, but hardly small. I gasp at the notion of mom-and-pop shops forking over the capital for a desktop publishing station to revitalize their fledgeling restaurants and travel agencies. I realize sales are brisk, but there are a lot of people out there making hefty payments on equipment that's primarily composed of plastic, glass, and a little bit of metal. With an economy as diverse as ours, justification for buying a desktop combo can be found around every turn. But for the most part, publishers are a breed apart, and account for very little of the total market Apple needs to concentrate on. Finally they've hit on a good one: Engineers! Why they didn't pump up the CAD/CAM division earlier, I'll never know. Why then, tell me, why is everyone going nuts over Desktop Publishing?

To date, I've read so many predictions about the effect of D-Pub that I'm swimming in a pool of hysteria. Some say we'll see the downfall of the Evil Empire (aka: USSR) and all the associated Iron Curtain countries. Why? Because they'll now be voracious readers of underground publications, by way of desktop publishing. Oh? You mean people in Poland, who can afford one washing machine per lifetime, will suddenly be publishing with \$10,000 systems? That doesn't leave much left over for printing, does it? So Apple taunts us with the option of moving the design studio, typesetter and printshop right on top of a three square-foot area....why the print shop? Don't those Canon print engines sputter out after about three thousand copies? That's hardly a print shop. A Design Studio? Sure, if you don't mind the jaggies! (Oh. You're using non-bitmapped drawing software. Still a little clumsy, eh?)

Ah! The Typesetter...yes, I'm sure they have me on that one. While I can get real typesetting for \$2 per thousand characters right over in Alexandria, I still have to wait a day for processing after I send it to them via modem....it's regulation type, all right, but a bit cumbersome when I need results in minutes. So they got me on the typesetting features.

Then there's the argument that D-Pub will upset the  
contd.



# Introducing... MOUSE CLEANER 360™

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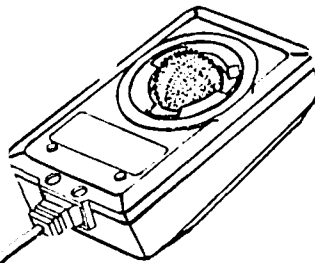
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**You've noticed those tell tale symptoms. . . jerky movements, slowed response time; your mouse is crying out for a cleaning. Forget those throw-away cotton swabs that try to "coax" dirt from your mouse.**

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The average amount of time to clean a mouse using the MC 360 is 30 seconds; all of the rollers of the mouse are cleaned simultaneously!

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Macazine

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academic applet, where young upstarts will begin to threaten the entrenched hierarchy of well-published scholars. Now that's a new twist! All of a sudden, because Joe Newcomer in the sociology department has a Mac-LaserWriter combo, he'll automatically become the expert in demographics because he did-it-himself. I have news for Joe....if he is worth anything, the only thing D-Pub has going for him is a springboard to a better publisher than himself. Face it. Academicians hardly care a damn about text production, distribution, page layout, and proofreading. It's still up to the independent book publisher to handle the dirty work, and that doesn't come cheap.

Just look at the scenario....say I'm a scholar who knows everything there is to know about demographic analysis, and yet I can't find a major publisher to pick me up on contract for a textbook. So I go through a new network of desktop publishers. They cost money, and the prices will not stay low. For now, most combo owners settle for \$10-25.00 per hour consulting. Still to consider: keyboarding time is expensive, proofreading and editing takes time, and page make-up (where the Mac-Laserwriter combo is used) will take the place of paste-up and layout. So where are the savings? If I'm smart, I'll do the typing myself and send it to them over the modem. I pay them to proofread and then I'll edit it once myself to be sure it's just right. So they set the parameters of the page make-up program, hit the buttons and go. But that's just step one. I've saved myself hundreds of dollars, sure! But printing costs are still ahead, and of all the people who applaud this revolution, who's taking the time to remind us that we still have to pay thousands of dollars for book PRINTING? My point to all of this is: in the short run, D-Pub sounds fantastic. But for a book or journal, all you're saving is composition time. At current prices for the workstation, and with the nominal change in consultant dollars spent, D-Pub remains in the hands of the few, unless something is done to force prices down. If there's any revolution going on at all, it's not at corporate Apple! It's across the street at Adobe, where real revolutionaries are at work... pushing page make-up to the cutting edge with their "PostScript" programming language.

What Adobe is doing for publishing is similar to what Ampex and others did for broadcasting in terms of digital effects and computer enhancements. Imagine doing away with the composition room, compete with stat cameras, big-tipped markers and magnifying loupes....with PostScript, a keyboardist may bypass the whole process of board artists, darkrooms and cranky color separators. Well, not by next week, I admit, but soon! There's so much happening with this new page description language that Adobe itself is slow to realize its full range. In their publication "Colophon", the artists feature one special effect after another. With a digitized image, for example, Postscript programmers can alter the output into line-art, screens or half-tones. This means at least one guy in the darkroom is out of work! In another issue, Adobe demonstrates the manipulation of text into obscure shapes and patterns, bending typography into three-dimensional perspective and creating drop-shadow that truly imitates objective reality. If the pundits are so eager to unearth a revolution, why live off a diet of Apple press releases and rumor leaks? Adobe is the one to watch out for!

They're the ones who take what Apple has created, and deliver a product that will truly change the way we see.

Because, as revolutions go, they're usually either self-proclaimed, or later pronounced by historians. While I've read that computer gaming will change the way we think, I'd predict that postscript, and other languages yet to come, will change the way we see. It's one thing to expand our thought processes from linear to non-linear association; it's quite another to develop our visual perspective with non-static imagery. Combined, we have the prospects of something truly revolutionary. If we can create a world more literate, more informed, we'll owe it in part to desktop publishing. But it will be the languages we develop that take us to higher realms of understanding, and that, above literacy and publishing, should be the more valuable goal. ☺

#### Letters to Editor contd. from pg 43

all in the manual if they have no bearing on the operation of the card. I feel that this would definitely confuse someone, especially if the user has a 1200 or 2400 baud modem (the switch settings infer that the user has a 300 baud modem). In regard to the loss of characters when the buffer is full, I stand corrected on that aspect. From Mr. Raskin's comment I can also assume that transmission from another SwyftCard will be stopped automatically if the buffer is full. In regard to the comment about the characters not going out over the modem until the return key is pressed, I agree that this would not be a problem if our organization used some other BBS software other than the UBBS program. However, I feel a great percentage of our members who do have modems, use our BBS systems and would therefore be affected by this characteristic of the SwyftCard. The comment about hanging up the modem is well taken. I guess I'm just spoiled by the ASCII Express Professional communications program, where just hitting the H key hangs up the modem. No sending of +++ or ATH is required. I didn't realize that there were programs that required the physical sending of the hangup command.

Dave Harvey

#### In Appreciation

Dear Editor,

This letter is to bring to your attention the considerable assistance given to me by an Apple Pi member, Mr. John Love, in resolving programming problems. Mr. Love showed both patience and perseverance in ferreting out technical solutions to problems which were, in effect, disabling some of our examination programs. I am particularly gratified for this assistance and I am pleased to commend Mr. Love and his work.

George A. Garrigan, PhD.

No.VA Community College ☺

# MACINTOSH FAMILY NEWSLETTERS

by Rosemary Connelly

With less than 180 days until this year's Christmas card deadline, it's time to be thinking about the annual family newsletter. That's the one that gets typed at the last minute and xeroxed for Aunt Dolly, Cousin Fred and the Livingstons in Sioux Falls.

Most people groan at the mention of a family newsletter. Some hate the thought of writing them while others dread having to read one. But now you can change all that. With an Apple Macintosh and a little imagination you, too, can be part of the desktop publishing revolution, producing a newsletter that is both fun to write and interesting to read.

Best of all, this can be a project that involves the entire family—even the dog. As soon as a toddler can grab for the mouse, he or she can create MacPaint drawings. Older kids, normally reluctant to write anything, can be motivated by seeing their words in a neat column of print. And moms and dads can use their editorial powers to write about anyone or anything that takes their fancy.

What do you need to get started? Apart from your Macintosh you'll need some software and a printer. I'm sure you already have some word processing software, either MacWrite or Word. I would also recommend some layout software such as MacDraw or one of the desktop publishing programs such as MacPublisher II or PageMaker.

Why do you need a layout program? You'll find it a tedious and time consuming to get things to come out just right if you use a word processor, especially if your newsletter has columns. Columnist Adam Green said that word processors deal with the content of a document; desktop publishing deals with its image. Layout programs allow you to control the precise positioning of text and graphics, the thickness, shading and direction of lines, even the spacing between individual characters and lines of text.

For just one annual newsletter I would recommend getting MacDraw as a general purpose program that can be used for other drawing tasks as well as simple page layout. If you intend to do a lot of newsletters, however, you should get one of the Desktop Publishing programs. I have found PageMaker 1.2 to be excellent.

As far as printing goes, your Imagewriter will do a good job printing everything you see on the screen. If you want the newsletter to look more professional try renting a LaserWriter for the final copy. Some quick-print outfits are installing them.

One optional piece of equipment you might want to invest in is a digitizer which allows you take a line drawing or a photograph and scan it into the computer. Digitizers range in price from a \$2400 model manufactured by Abatron, to ThunderScan which you can purchase from a mail-order house for \$175. The less-expensive ThunderScan does a perfectly adequate job on high-contrast art work or photos.

Once you have the family interested in the project, how do you go about executing it? First gather together all the different elements of the newsletter; the stories, drawings, nameplate etc., and make some rough pencil sketches of the

intended layout. To get layout ideas look at other people's newsletters, those from real estate agents, schools, insurance brokers, and so on. You don't have to have a graphics arts degree (though I'm sure it would help) to decide what you like and what you don't like.

Then start to lay out your first page. There will always be some surprises. Text won't fit and graphics will need to be cropped or expanded. You might not like the font you're using, or you may need to change the font size and style of your headings. The beauty of working with the Macintosh is that it's so easy to change things. Everything should be under your control and you can keep playing with it until you're satisfied.

Run off copies occasionally as an audit trail of your progress. It's fun to look back at your mistakes and makes you feel prouder of the final copy. If you are going to run off the final copy on a LaserWriter, be sure to use the Tall Adjusted mode on the Imagewriter. This mode prints wider



than the Tall mode and is closer to what you will get on the LaserWriter. Also remember, the LaserWriter does not print right up to the edge of the page. To be safe allow at least half-an-inch all around the page.

I started the Connelly Chronicle in January of this year. My first edition did not make it out of the house, but

my second and subsequent editions have enjoyed a limited circulation to close friends and relatives. House guests have contributed MacPaint drawings and of course my children, aged 5 and 7, are always a good source for art. (This summer I'm hoping they will dictate some book and movie reviews!) As editor, I have final say on how often it's published and I can always improve on the format.

With December just around the corner, now is a good time to practice drafting a family newsletter. Get your dog into the act by digitizing his paw print. Then he, too, can leave his mark on the final product. ☺



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# A DEVELOPER'S VIEW...

by Jim Lanford

This month we will take a look at updates of three products described in previous columns—the Cauzin Softstrip™ Reader, MacLightning, and Mach 1—and at samples of some Adobe uploadable fonts.

**Cauzin Softstrip System Reader.** If you read other computer magazines, you have probably noticed advertisements for the Cauzin Softstrip Reader. As I mentioned a few columns ago, we bought one in January at MacFest. The reader works quite well. It reads strips in ads and articles without problems. It was even able to read a strip (listing Cauzin employees) on a Cauzin business card.

I just received a copy of the Stripper™ program. Cauzin distributes Stripper in the form of StripWare™ (as opposed to software). Stripper allows any Mac and ImageWriter to print low density Softstrips. Low density strips contain about 1200 bytes per strip. Cauzin is going to release a LaserWriter program which will print medium density data strips. Medium density strips contain about 2200 bytes per strip, and high density is about 3800 bytes per strip.

I have included a sample Softstrip to see how this new technology will work in the *WAP Journal*. The test file is the Excel macro sheet described in the article in this issue entitled *Excel Macro Shortcuts to Align Text and Format Numbers*. Those of you with readers please let me know how this works.

One suggestion for the *WAP Journal* is to publish an annual index as a text file with the fields separated with tabs. This would allow most data bases to import the file directly. (StripWare, Softstrip and Stripper are trademarks of Cauzin Systems, Inc.)

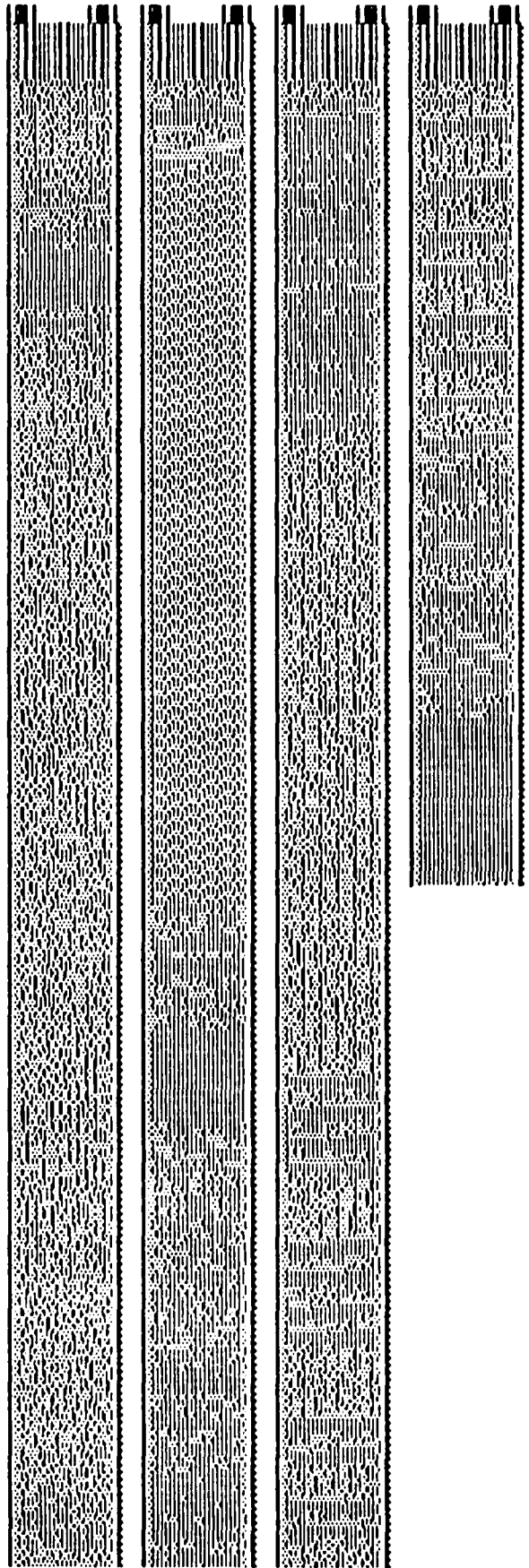
**MacLightning update.** The MacLightning DA spelling checker does not run with every program. For example, a WAP member called to inform me that it does not run with PageMaker. It also does not run with MacDraw or ReadySet-Go. I have successfully used it with MacWrite, Edit, Just Text and MockWrite.

**Mach 1 update.** When I first complained to the Palo Alto Shipping company that the version of Mach 1 they sold me at MacFest did not work on the MacPlus, I was told to send my disk back with \$5.00 for the update. This annoyed me since the salesman at MacFest assured me that it would work on the MacPlus. When someone else complained on CompuServe, they were told that free upgrades were available. When I called again, Palo Alto Shipping explained that they had forgotten to take addresses at MacFest, and that they would be happy to send me my upgrade at no charge.

When it arrived, I successfully ran the examples on the MacPlus. But when I tried some other things, it locked up the Mac, and the programmer reset switch did not recover.

**Adobe Fonts.** Because the LaserWriter only allows a few uploadable fonts at a time, I am including the sample Adobe fonts on separate pages for manual paste up. I hope Bernie does not get too upset with me for this.

Let me know how the Softstrips work: Jim Lanford, Micro Dynamics, Ltd., PO Box 55982, Washington, DC 20011, (202) 723-0050.



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**ITC MACHINE**  
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# EXCEL MACRO SHORTCUTS TO ALIGN TEXT AND FORMAT NUMBERS

by Audri Gordon Lanford, Ph.D.

Many people are afraid to try using macros because they seem complicated—almost like another language. While macros are written in a special language, Excel macros can be fairly easy to create. In this article, I'd like to show you how you can create a number of very useful macros that can be used whenever you work with Excel.

There are two things that Excel does not do easily that I really wish it would do. First, there are no Excel keyboard shortcuts for aligning text. Multiplan, on the other hand, has command keys to align text to the left, center, or right (COMMAND f,g,h, respectively). Naturally, you can align text in Excel by choosing Alignment from the Format menu, but keyboard shortcuts would be very useful.

Second, formatting numbers also requires using the menu options. Although Excel has a wide range of options for formatting numbers (and many additional formats can be created), there are no keyboard shortcuts to format numbers.

The solution? Macros, of course. Below are listings for 10 macros to accomplish all of the formatting options that I use regularly. Other formatting keyboard shortcuts can also be easily created. By using the shortcut macros provided in this article, you can create custom OPTION-COMMAND-letter sequences that save you many trips to the Format menu.

**Ten Useful Keyboard Macros:** Macros don't have to be long to be powerful. Each of the macros listed below is only three lines long.

The first line names the macro and includes the letter that will be used to identify it. For example, since OPTION-COMMAND-f will be used to align text to the left, I have named this macro Align Left: OpCmd f.

The second line of each macro contains the command to actually accomplish the formatting. For aligning text to the left, this command happens to be: =ALIGNMENT(2).

The third line of each macro is =RETURN(), which signifies the end of the macro. That's all there is to it.

The three macros in column A align the contents of selected cells to the:

- left (OPTION-COMMAND-f)
- center (OPTION-COMMAND-g)
- right (OPTION-COMMAND-h)

The seven macros in column B are useful for formatting numbers with:

- no decimal places (OPTION-COMMAND-z)
- two decimal places (OPTION-COMMAND-t)
- dollar sign, no dec. places (OPTION-COMMAND-d)
- dollar sign, two dec. places (OPTION-COMMAND-s)
  
- percent sign, no dec. places (OPTION-COMMAND-r)
- percent sign, two dec. places (OPTION-COMMAND-p)
- date: m/d/yy (OPTION-COMMAND-m)

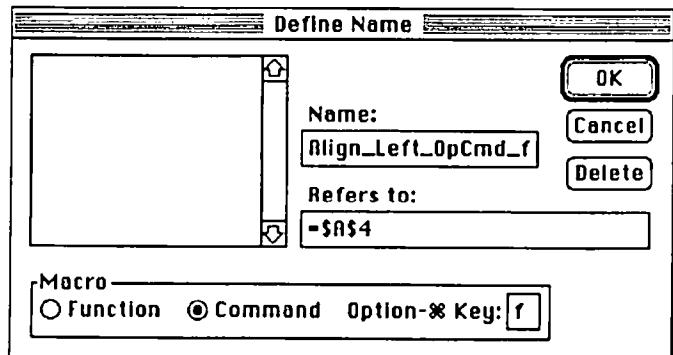
These macros can be created either by opening a new or existing macro sheet and typing in the information exactly as it is shown in the macro sheet below, or by using the macro

recorder function. If you've never used Excel macros before, I suggest that you create a new macro sheet by selecting New from the File menu and choosing Macro Sheet, and then typing in the information just as it is listed in this article. If you have some experience with macros, you might want to try the recorder. Although using the recorder is usually the easiest way to create macros, my experience is that with macros that are this short, it is faster to type in the information. (Note: If you have a Softstrip™ reader from Cauzin, you can enter the macros directly since they are included with the article *A Developer's View.*, published elsewhere in this Journal.) If you don't have a Softstrip™ reader, type in the information just as you see it in the macro sheet below.

Once you have typed in the macro information, you must define each macro by using the Define Name command under the Formula menu (Command L). Click on the title cell for each macro, and then select Define Name. For example, select cell A4, and then type Command L. The Define Name dialog box will appear (see diagram below). The title in cell A4 will appear in the 'Name' box. SAS4 will be displayed in the 'Refers to' box. In the 'Macro' box, click *Command* (since your macro is a Command macro) and type in *f* as the Option Command key (since OPTION-COMMAND-f will be your keyboard shortcut for Align Left), and then click OK.

You will have to define each of the ten macros using this procedure. Then you're done. These macros will work with any Excel worksheet, as long as you have this macro sheet you just created open when you work with Excel.

Notes: Remember that small and capital letters are different when using Excel macros. Therefore, Command Option m is different than Command Option M. The specific letters that define the names of these macros are fairly arbitrary—you can use other ones if they are easier for you to remember.



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

contd. on pg 62

# EXCEL AND SCATTER CHARTS OF SEVERAL DEPENDENT VARIABLES

by Hampton M. DeJarnette

**INTRODUCTION:** An earlier, excellent WAP article (David Morganstein's "EXCEL'ing With Your Mac", March '86, p.52) showed how to draw scatter charts with Excel. This article adds to the earlier one by showing an undocumented way to draw several scatter graphs on a single chart.

**EXAMPLE:** Suppose you wanted to compare the rates of corrosion of four different metal alloys. One way is to make three corrosion test specimens from each of the alloys A, B, C, and D. All twelve specimens would be simultaneously immersed in salt water; after one week, one specimen of each metal is pulled out (A1, B1, C1, and D1) and the weight lost by each specimen is recorded. After three weeks, a second specimen of each metal is pulled out (A3, B3, C3, and D3) and again the weight lost by each specimen is recorded. After four weeks, the same process is repeated for the last four specimens, then the weight lost by each metal is plotted according to the length of time it was immersed.

Figure 1 is the finished plot. This figure compares the corrosion of the four different metals. The horizontal axis (what Excel calls the "Categories" axis) shows the elapsed time in weeks. The vertical axis (what Excel calls the "Series" axis) shows the weight lost to corrosion by each specimen. Metal "A" corrodes fastest (loses most weight per week); metal "D" corrodes slowest (loses the least weight per week).

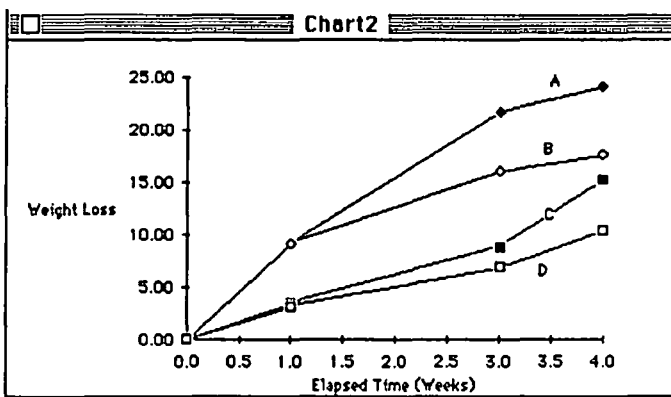


Figure 1. Finished Scatter Diagram

Strictly speaking, this is not a true scatter chart, because if (1) lines would not connect the data points, and (2) the data points would show more, well...scatter. However, the procedure shown below does make true scatter charts; the example given here was chosen because it's a better vehicle for explanation. (The only change necessary to make the chart a 'true' one is when you get to the text for Figure 4-select Block 1 rather than Block 2. See below.)

**PROCEDURE:** Figure 2 is the spreadsheet from which the data were graphed. For Metal A, the TIME values to be plotted along the horizontal axis ('Categories') are in the first column, and the data to be plotted along the vertical axis (first 'Series') are in the second column. These two columns are

'Selected' because they must be copied before being graphed; so select this set of data as shown, and then choose 'Copy' from the 'Edit' menu. (This article assumes little experience by the user in using Excel to draw graphs; older hands may want to skip down to the paragraph labeled "CODA".)

	A	B	C	D	E
1	CORROSION DATA				
2	Average Weight Loss is in milligrams (mg).				
3					
4	TIME	METAL A	METAL B	METAL C	METAL D
5	(weeks)	(mg)	(mg)	(mg)	(mg)
6	0	0.00	0.00	0.00	0.00
7	1	9.17	9.10	3.40	3.12
8	3	21.63	15.96	8.72	6.72
9	4	24.04	17.64	15.12	10.36

Figure 2. Spreadsheet Showing Data

Go to the 'File' Menu and choose 'New...'; and in the Dialog Box, double click the 'Chart' option. When the 'Chart Box' opens, go to the 'Edit' menu and choose 'Paste Special'. You will get the Dialog Box shown in Figure 3; click **both** in the circle labeled 'Columns' and in the square labeled 'Categories in First Column' as shown in Figure 3. Then click 'OK'.

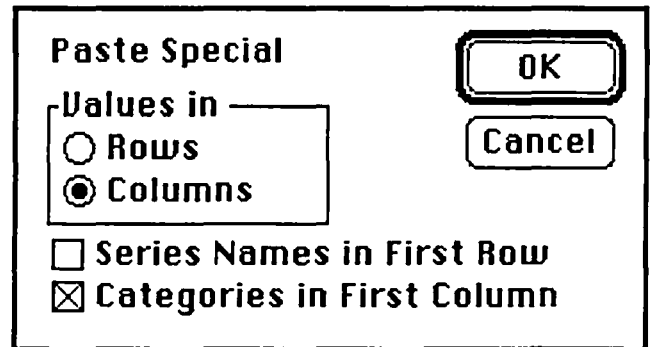


Fig 3. Dialog Box for Making Scatter Charts

Ignore the first chart drawn on the screen; it's garbage. Go to the 'Gallery' Menu and choose 'Scatter'. This draws Figure 4 on the screen; click the box shown as being selected in Figure 4. Then click 'OK'. The hardest part is now over, and you get your first graph.

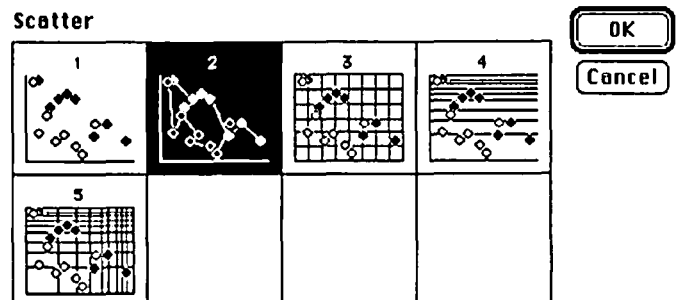


Fig 4. Selection of the Scatter Chart Format

contd.

(The next paragraph is labeled "CODA" because you will come back to it each time you plot a new series. Old hands can start reading now.)

**CODA:** Put the cursor anywhere on the spreadsheet window and click (if you don't see the Spreadsheet anywhere, just move the Chart down by clicking and dragging on its title bar until you see the Spreadsheet). This moves the spreadsheet to the front.

Because Excel can only plot numbers that lie in adjacent columns (or rows), the numbers in the 'Categories' column (range SAS6 to SAS9) must be copied and pasted immediately to the left of the corrosion data for the next metal.

Here, you must select the entire Column 'C' and then use the 'Insert' command from the 'Edit' menu. Select Column 'C' by clicking in the cell at the extreme top of the Column. Don't confuse this cell with the cell labeled "Metal C". When the blank column is inserted, copy and paste the TIME data in it.

Figure 5 shows the result. Note that the 'Categories' ("TIME") column and the 'Series' ("METAL B") column are shown as being selected; this prepares for the next step.

EHCEL.Corr.Sheet					
	A	B	C	D	E
1	CORROSION DATA				
2	Average Weight Loss is in milligrams (mg).				
3					
4	TIME	METAL A	TIME	METAL B	METAL C
5	(weeks)	(mg)	(weeks)	(mg)	(mg)
6	0	0.00	0	0.00	0.00
7	1	9.17	1	9.10	3.40
8	3	21.63	3	15.96	8.72
9	4	24.04	4	17.64	15.12

Figure 5. Second Set of Data Ready for Copying/Plotting

Now 'Copy' the area just selected. Click on the Chart window. (Again, if it's not visible, click and drag on the Spreadsheet title bar.) From the 'Edit' Menu, choose 'Paste Special'. When you get the 'Dialog Box', click both the circle labeled 'Columns', the square labeled 'Categories in First Column', and the 'OK' button as shown in Figure 3.

To plot the data for the next metal, go to the paragraph above labeled "CODA". After four iterations, you have the chart shown in Figure 1.

**COMMENTS:** It is irksome to have to copy the Category column to the left of each Series column before plotting. It would be faster and simpler if you could select one column to be the Category column and select a non-contiguous column as the Series column. Perhaps Microsoft will include this feature in an upgrade.

A second good feature would be an additional Chart selection using a linear Series axis and a logarithmic Category axis (i.e. a linear-log chart in addition to a log-linear chart).

A third desirable feature would be the capability to expand the printed chart to take advantage of a wide-carriage Image-writer. When data points are close to each other, they overlap so that--for points that plot closely to each other--one cannot distinguish among several symbols. In Figure 1, above, two pairs of data points are superposed for the first week.

Excel Macro Shortcuts contd. from pg 60

	A	B
1	Micro Dynamics, Ltd.	Phone: (202) 723-0050
2		
3	Alignment Macros	Number Format Macros
4	Align Left: OpCmd f	No Dec: OpCmd z
5	=ALIGNMENT(2)	=FORMAT_NUMBER("0")
6	=RETURN()	=RETURN()
7		
8	Align Ctr: OpCmd g	Two Dec: OpCmd t
9	=ALIGNMENT(3)	=FORMAT_NUMBER("0.00")
10	=RETURN()	=RETURN()
11		
12	Align Rigt: OpCmd h	Dollar, No Dec: OpCmd d
13	=ALIGNMENT(4)	=FORMAT_NUMBER("\$#,##0 ;(\$#,##0)")
14	=RETURN()	=RETURN()
15		
16		Dollar, 2 Dec: OpCmd q
17		=FORMAT_NUMBER("\$#,##0.00 ;(\$#,##0.00)")
18		=RETURN()
19		
20		P%, No Dec: OpCmd r
21		=FORMAT_NUMBER("0%")
22		=RETURN()
23		
24		P%, 2 Dec: OpCmd p
25		=FORMAT_NUMBER("0.00%")
26		=RETURN()
27		
28		Date: OpCmd m
29		=FORMAT_NUMBER("m/d/yy")
30		=RETURN()

Thanks, Bill Etue contd. from pg 28

kind of diversion, like a game, should be included. I invoked the principles listed in some earlier articles, especially the ones about increasing user independence and using available programs. So I included HANGMAN, by the above-mentioned Bill Etue. It has several virtues, permitting play against the computer and against an opponent, and it has real grotesque graphics. So, with some misgivings that I will mention later, I added it to the disk which I turned over to the teacher with whom I had been working.

**PART III: MOSTLY HEARSAY, BUT WELL-VOUCHED-FOR**

After a suitable interval I inquired, "How did the disk go?"

"It worked very well."

"And how about HANGMAN?"

"Oh, they loved it."

"They?"

"Oh yes, we had children from all the other first-grade classes coming to the Special Ed area wanting to play. And the teachers, too, were delighted."

"And what about the image of HANGMAN? The image ... what it stands for...." (This was my reservation.)

"Oh, they loved the picture too and the way it grew! No. No problems. The words built-in, like hippopotamus, were a little too much for the first graders so they put in their own words. And you know what? They discovered how to beat the game. They were working on -an words, like can, ran ... you know. Well, the kids quickly figured out that they didn't have to waste their guesses on all the letters. They immediately put in "-an", and that gave them ten guesses for the rest of the word. Oh, it's been a delight."

**PART IV: CONCLUSION**

So, from several disabled children and the rest of the first grade: THANKS, BILL ETUE!



# Softviews

David  
Morganstein

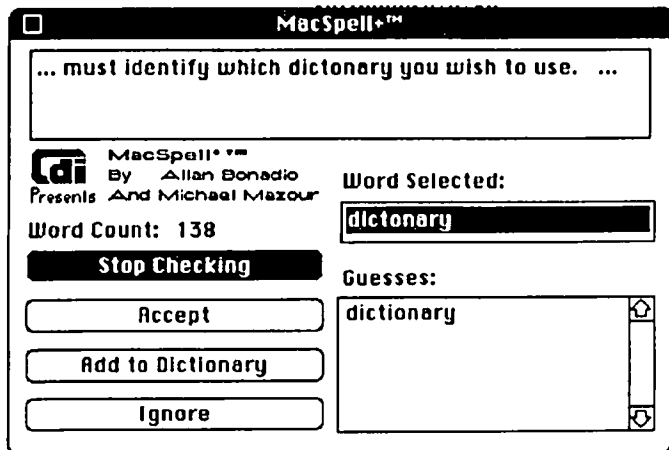


**Keeper.** A quick note about a public domain utility for Mac+ users. Run Keeper and you will cut the time to exit applications down to a few seconds! I don't know how it works (I do know that it grabs about 150K of memory ...) but nothing succeeds like success. As of yet, I have not identified any problems using it. I have it on a hard disk as the start-up program.

**Spell Checkers: MacSpell+ vs. MacLightning.** There are several spell check programs on the market. Besides Spell+ and Lightning, I've worked briefly with one of the first to be released, Mac Spell Right, and with Hayden's Speller. Insofar as Hayden's product is a separate program, it could be used efficiently only with Switcher when you can have both the spelling and editing features a few keystrokes from one another. MacSpell+ and MacLightning are Desk Accessories and can be used from within your word processor. At the time I used it, only a MacWrite version was available for Mac Spell Right (Anybody know if that is still true?). Since I use M'soft Word now, I needed spellers which work with it.

Both Spell+ and Lightning allow you to select a dictionary, a handy feature. In fact, as they open, you must identify which dictionary you wish to use. Since they are desk accessories, they can be installed directly in the word processor you use, thereby saving a precious DA slot. They both offer suggestions for words not found in the dictionary and they provide a count of words checked. Beyond these points in common, they operate very differently and offer alternative approaches to spell checking.

**MacSpell+.** This checker works equally well with MacWrite and with Word. It appears in either as a desk accessory. After selecting it, you are greeted with the following window:



When first initiated the "Stop Checking" box reads "Spell Check Document". After clicking on this option, the first unknown word will appear, along with the sentence containing it. You now have the options of Accept, Add to

Dictionary or Ignore. Accept puts the unknown word in a temporary list which accumulates with further additions. Should the unidentified word appear elsewhere in the document, Spell+ will not bother you with it. If you re-check the document later (without having closed the Spell+ window), it will continue to be accepted. Adding to dictionary does what it says. Using this option allows you to expand your dictionary to include special terms and names which occur frequently in your documents. Ignore also does as advertised.

Should Spell+ encounter an unfamiliar word, as seen in the earlier screen shot, it suggests the closest match (or matches) from its dictionary. If the correct term is presented, you need only click on it and Spell+ will replace it. Alternatively, if the desired choice is not presented, you can enter a corrected version or just edit the word appearing in the Word Selected window.

I did confuse Spell+ on one occasion. It seemed to get stuck on a hyphenated phrase which broke at the end of the line. I would urge it onward and the word count would increase but it remained stuck at the hyphenated word. It seemed to interpret the hyphenation as an indication of where to break the word.

It checks about 10 words per second, taking 3 minutes to check this review. The dictionary seems quite adequate. When checking this article, it found only one word (excluding names) it did not recognize. That word, in fact, was misspelled. Although not extremely fast, I rate Spell+ quite highly, overall.

**Lightning.** While MacSpell+ has been on the market for a while, MacLightning is a relatively new product on the Mac. There is an IBM version marketed by Borland with most of the same features. When you run Lightning, a new menu item appears at the top right of your screen. From this menu, you can select various options. Among these are: toggle the automatic "check while you type" feature, check a selected portion of the document and check a text document stored on disk. As of this time, Lightning only works with M'soft's Word. The method by which words are replaced is linked, as you will read later, to the particular word processors method for changing text. This seems to me to be a bit of a drawback as it requires corrections to be done one word at a time.

Lightning offers an automatic option which I found inconvenient. After typing a word which is not in the dictionary, you can choose to be greeted by a "beep". At this point you can issue a command to check the spelling and re-enter or correct the word. Since I make quite a few typing mistakes, this approach would slow me down immeasurably. I prefer to check the document after I have completed a rough draft.

Unfortunately, Lightning can not correct the entire document in a single step. Rather, it has a check "selected text"

contd. on pg 70

# MUCHA DA's

by David Morganstein

We all love Desk Accessories. They expand the power of the Macintosh by letting us do things we hadn't planned to do when we decided to run a word processing, spreadsheet or graphics program. They let us: delete files, telecommunicate, play a game, see what time it is and a host of other useful functions without having to leave the current application, run a separate program and return later. There is only one problem with them. They take up space.

If you are running with 400K disk drives you probably have not taken advantage of many of the dozens of useful DA's that are available either through the public domain, as shareware or as a commercial product. After all, the 400K disk can barely hold the System, Finder, printing resource, Scrapbook and a few fonts. However, with the advent of 800k drives and reasonably priced hard disks, space has taken a back seat. Or so it appeared...

As hard disk users have discovered, it appeared as though you could have access to only 15 DA's at any one time. This turns out to be the limit that the Font/DA mover program will permit as it attempts to load a new DA into the System file (This limit varies by  $\pm 1$  depending on Font/DA mover version number. Version 3.2a3 allow 15.). Several people already discovered methods that can help you to beat the "system", ahem. First, you can use the Font/DA mover to install the DA directly into the program rather than in the System file. Several spell check programs, for instance MacSpell+, work this way. ClickArt's Special Effects DA is pasted into MacPaint this way, as well. Since I only use Art Grabber and Cheap Paint from within Word where I am doctoring graphics prior to pasting them into text, I installed them in Word rather than in the System file. Second, there are utilities, including one Fkey written by Loftus Becker, that let you try out a DA without having to install it in the System. The Fkey approach lets you call up the DA from within a program.

This article is about another approach which permits you to store five DA's in the System file which, in addition to those which you can add with the Font/DA mover, brings the total number up to 20. With a few more stored in individual programs, we're talking two dozen DA's here! Let's start with credit where credit is due. The method for doing this was described in a bulletin board note written by Ron Duritsch. Thanks, Ron! This article was written because it took me several hours to figure out just how to do what was needed and I thought I could save you the learning time...

The whole thing stems from the fact that DA's have ID numbers (what doesn't in this day and age?). The numbers must be between 12 and 31. For some reason unknown to me, the Font/DA mover supplied by Apple will not add more than about 15 DA's to a file such as the System. What is more, as the DA is moved into the the receiving file, it is re-numbered. Regardless of what number it had in the source, it gets the next lowest number that is available. If you use Font/DA mover to copy a single DA to a new file and examine it with ResEdit, as we shall see, it is given ID

number 12. The next DA entered into that file will get ID number 13, etc. Ron Duritsch's basic idea sounds simple, just figure a way to put five DA's into a System file and give them numbers 27 through 31! After this, just use the Font/DA mover to copy the remaining 15 into the System file. Now for the fun part.

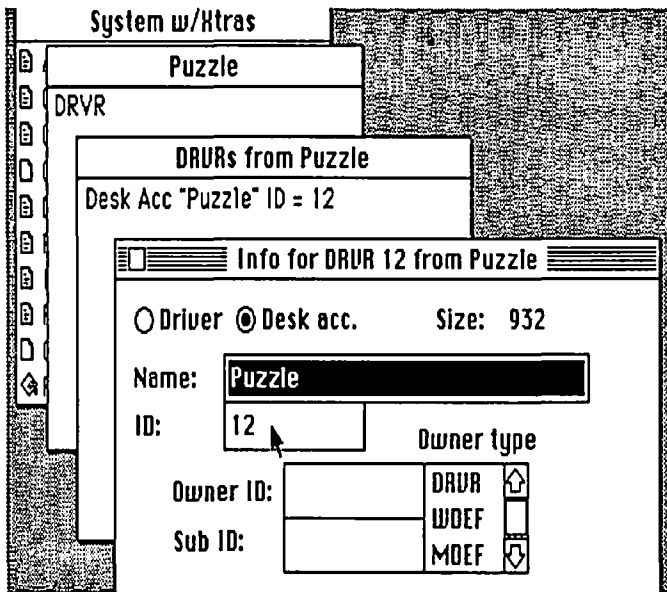
I used Apple's ResEdit (Resource Editor) program, version 1.0D11, to move and renumber things. While the idea of "Editing Resources" may sound scary, fear not! You don't have to know why it works or what the words mean. All you will be doing is Cutting and Pasting "things" and renumbering them by typing in numbers. It is all quite easy, albeit treading unfamiliar ground.

First, decide on the five DA's you will install as numbers 27 through 31. Use the Font/DA mover to create a single file for each one. If you have not done this before, you will find it no great challenge. When clicking on "Open" for the destination file, select New and enter a catchy name like "AlarmClock" for the Alarm Clock DA, etc. Put these five DA's onto an 800K disk with a System and Finder. (In the examples below, I show you what you will get if you try Puzzle, AlarmClock and Chooser). Remove all but one DA from the System file. You might combine these two steps if any of the five DA's you want are in the System file you are going to use for this exercise. Lastly, put ResEdit onto this disk as well.

Start ResEdit. You will see a window listing the files on the disk. Presumably these will be System, Finder, ResEdit and the five DA files. If you are having second thoughts about running something as magical as ResEdit, you might try this with Puzzle, AlarmClock and Chooser first and see that you get what I did before launching off on your own. I have chosen these three as they increase somewhat in complexity since each contains a few more pieces to be moved and renumbered.

Click on Puzzle. A window labelled Puzzle opens which says DRVR. Select and then double-click on DRVR. A window labelled "DRVRs from Puzzle" opens which says 'Desk Acc "Puzzle" ID = 12'. Select this line and From the File menu select Get Info. Another window opens indicating that this is a Desk Acc, that it has a size of 932 bytes, that its name is Puzzle and that its ID is 12. The only thing you will have to do is change the ID from 12 to something between 27 and 31. Select the ID of 12 and change it to 31. There, that was easy wasn't it? Close the Info window. Select the line 'Desk Acc "Puzzle" ID = 12' and do a Copy. You have now put a copy of the Puzzle DA, renumbered as 31 into the clipboard. Close both the DRVR and the Puzzle windows. When asked if you want to save the changes, say yes. This costs a little time, but if we should lose the clipboard and have to repeat this, we will be a step ahead of the game next time through. What we changed was the copy of the Puzzle DA we put into a single file.

Now select and Open (either from the File menu or by double-clicking) the System file. Select and open its DRVR  
contd.

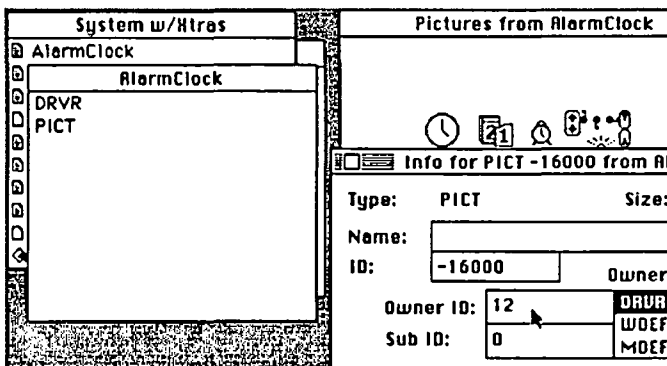


file. Do a Paste and you will see the Puzzle DA appear with an ID of 31. Close both the DRVR and then the System windows. Say yes to the question about saving the changes. This is the important save. At this time your new System is being updated with the renumbered Puzzle DA.

If you are finding this as exciting as I did, you might Quit from ResEdit for a rest. Before lying down, however, please check that a working Puzzle DA has been installed!

That was easy, right? Well so long as the DA has only the DRVR file, it is that easy. Unfortunately, most DA's have other pieces. Magical things called STR's or DITL's or PICT's. You probably don't know what they all do but you can renumber and copy them just as you did with the DRVR resource.

Next, let's try the Alarm Clock. When you open the AlarmClock file, you will see that, in addition to a DRVR, it has a PICT. Begin by renumbering the DRVR just as we did earlier, only use an ID of 30 this time. After you have Pasted the renumbered DRVR into the System, open the PICT file. Using ResEdit you can see what a PICT is, sort of. At least you can see the pictures that go into the AlarmClock. (As an aside, ResEdit can be used to change many of the pictures, strings of text, dialog boxes and fonts in your system, but we are not going to talk about that one here.) Select the pictures and use the GetInfo option again. This screen, shown below, is a little different from the DRVR GetInfo. Here we see a strange ID of -16000 but a familiar owner ID of 12. Change the 12 to 30 just as you did for the DRVR. Magically the -16000 ID changes to -15359.

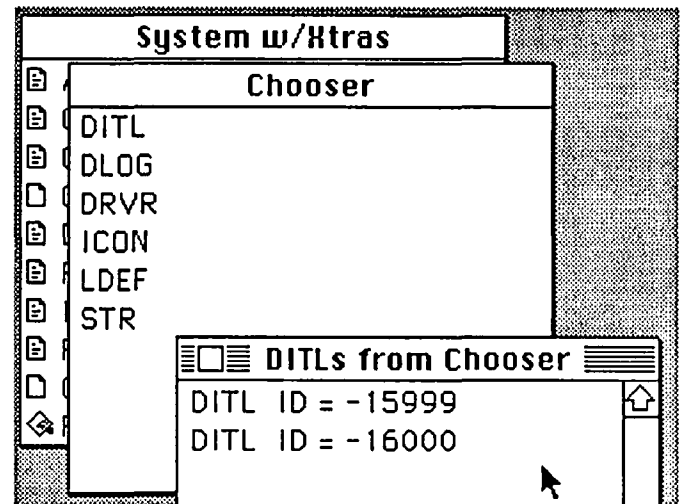


If you don't want to know any more about what these numbers are, skip to the next paragraph. You won't be missing anything you need to know. Resources have families of ID numbers so that the Macintosh operating system can pull together all the pieces when they are needed. This is a very handy approach since the pieces can be developed separately by different people yet be linked together when necessary. The formula for defining the family of ID numbers is:

$$ID = 32 * (DRVR ID) - 16384$$

DA number 12 will have a family built around  $32 * 12 - 16384 = -16000$ . The first PICT resources needed by DA number 12 will have an ID of -16000. If there is a second it will be ID -15999. Keep adding one for each additional PICT. The same system will be used if a DA requires an STR or a DITL resource. The first STR it requires will be numbered just like the PICT as  $32 * (DRVR ID) - 16384$ . The second will be one greater and so forth.

To make the DA work in its renumbered form, we must renumber and move all of the resources listed in its window. While using ResEdit is tedious (isn't Font/DA mover wonderful by comparison?), we can do it! One last example, Chooser, has several different resource types and several resources of each type. Fortunately, ResEdit can help you do the Copying and Pasting within a given type, eliminating the need to move each DITL or whatever. In the screen you see two DITL's numbered as -15999 and -16000. After renumbering them in their GetInfo box (now we are using ID 29), click on one and then shift-click on the other. Just as with Icons, shift-clicking lets you select more than one at a time. Use the Copy and Paste options to move the renumbered versions into the System file.



If you repeated all these steps two more times, you will have assembled a System file with six DA's in it. The one that had to be there to begin with and the five you moved in with ResEdit. Now you can use Font/DA mover or commercial installer programs to add another 14 or so DAs. Happy Mac'ing!

# OF LABELERS AND CATALOGERS

by Martin Milrod

Hopefully, new Mac'ers will have gotten a disk "bank" of some type, be it shoebox, plastic file case or any other non-metallic container, and organized their disks by function. Using some cutoff 3x5 index cards you should group disks by category - word processing, graphics, telecommunications, and so on. For most of us the need to label and to catalog disks sooner or later becomes apparent. It's an annoying and a burdensome task to do by hand, particularly if your handwriting is as bad as mine. Software developers have met this need by developing label and catalog programs.

Font "catalogs" are available in programs such as Font-Display or Font Librarian, and graphics catalogs are available in MacPaint and in speciality programs such as PictureBase. While these represent broad and interesting aspects, this article concentrates on general labelers and catalogers of disks and programs.

In the early days of the Mac revolution, several brave souls developed programmer utilities to label or catalog disks. Some of these still exists as public use programs in DA form in some cases, or, in stand-alone applications such as that on SigMac disk #36. They're not bad and have only a small shareware cost. Other users employ colored ribbons, labels or disks to distinguish "types" of disk collection. If these meet your needs, well and good.

There are five main programs, which provide solid cataloging and labeling functions which I recommend. These are:

## Combination Labelers and Catalogers



MDC II™ MDCstuff(II)



**My Disk Cataloger**  
New Canaan MicroCode  
136 Beech Road  
New Canaan, CT 06840  
(203) 966-6969  
\$49.95 List  
Labels, Index Cards extra



DiskRanger 2.1

**Mainstay**  
28611B Canwood Street  
Agoura Hills, CA 91301  
(818) 991-6540  
\$49.95 List  
Labels extra

## Programs which only produce labels/directories



myDiskLabeler™ 2.1

**Williams & Macias Products**  
Spokane Int. Airport Bus. Park  
PO Box 19206  
Spokane, WA 99219  
No mail order houses. Must  
be ordered directly.  
\$44.95 Color \$54.95



MacLabeler HFS

**Ideaform**  
908 East Briggs  
Fairfield, IA 52556  
(515) 472-7256  
\$49.95 + S&H List  
Labels extra

## Cataloger only



Catalog Keeper™

**in Quick & Dirty Utilities, Volume 1**  
Dreams of the Phoenix  
PO Box 10273  
Jacksonville, FL 32247  
(904) 396-6952  
\$39.95 List

Please note several common aspects of these programs: (1) they all work with HFS directories and are generally very fast; (2) all of the catalogers produce disk file, screen display and hard-copy printing (including laserprinting support); (3) except for myDisk-Labeler, all of the list prices can be significantly improved upon by purchasing through good mail order houses such as the MacConnection, (800) MAC-LISA, or through WAP's group purchase program, and; (4) to avoid costly diecut labels sold by these commercial programs, some people use paper output, trim to size and affix with rubber cement. Others use full page REMOVABLE gummed labels either in full page form or in 3" x 3" diecut labels such as those sold by Avery, (which also have to be hand trimmed.) The actual disk label size needed is 2 3/4" x 2 3/4".

These programs will be discussed in reverse order as displayed above.

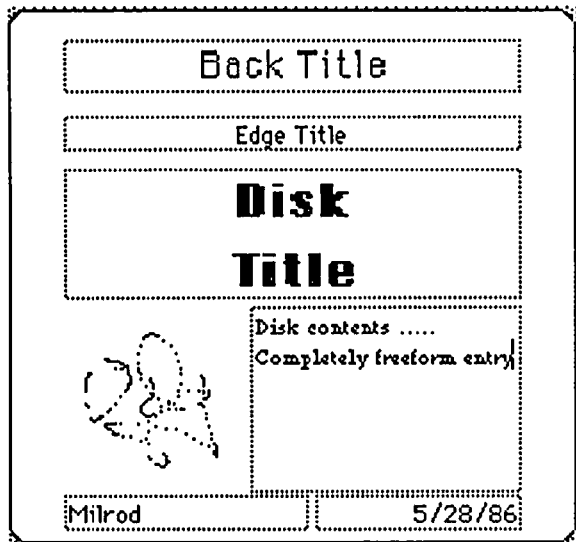
**Catalog Keeper™** is the best pure catalog program I have found. It works rapidly, permits sorting across seven categories, permits one to exclude repetitious items, such as System Folders, etc., which may have limited use. It's simply a delight to use, and its saved "disk catalogs" can be opened with WORD or MacWrite to further embellish report formatting. Among its deficits are space-intensive "disk catalog" files and the fact that the company through which this superb disk is bought doesn't have an 800 phone number and doesn't accept credit cards. Buy it at WAP or through a mail order house for about \$28. The disk has many other powerful utility programs of which, Catalog Keeper is the one I use the most. It is not copy protected.

**MacLabeler HFS** is version 2.2 of an old standby, written by Jim Lanford, a WAP member. It uses diecut labels which are always more expensive (201 QuickLabels for \$19), and the Iowa firm which markets it adds S&H charges. MacLabeler lets you select among border patterns and exclude directory contents which you may not want. It is annoyingly copy protected and a backup copy costs \$15 + S&H. It's solid but does only one thing well—produce labels, although it also produces individual disk directories which some people may find useful. It cannot catalog items across disks which is, in essence, what a catalog program does.

**myDiskLabeler™ 2.1** is only available from its authors in Spokane, Washington. Unlike all of the other programs mentioned here, it is not sold through mail order houses. It is the most versatile of the label programs I have used, and by the time you read this it will directly support color printing on the IW II using the multicolor ribbon. Users can "freeform" completely a label creating your own

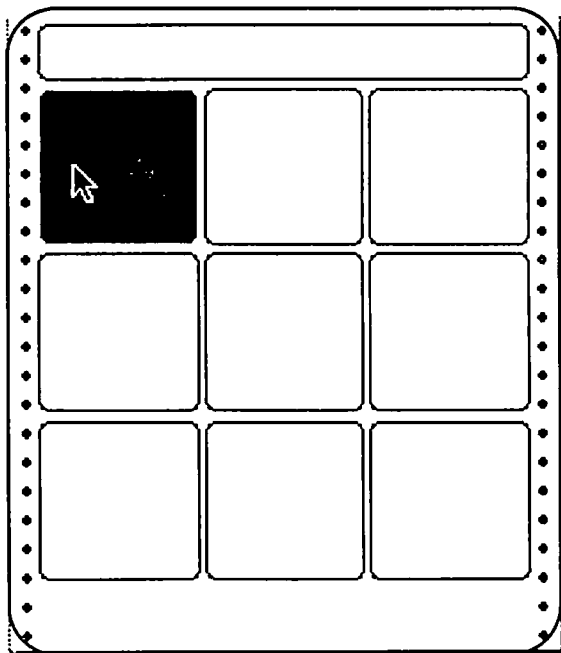
contd.

icons, (see below), or "grab" icons from application resources.



It runs on all Macs, supports HD20, Hyperdrive and other hard disks, and its authors have a fine technical support line at (800) 752-4400. All text strings are in resource files so that they can be changed for, say, foreign language use.

Its detriments are that it uses unique 9-on-a-page diecut labels which I found difficult to line up to the printhead. To most effectively use all 9 labels, you are encouraged to save the label files you produce until you have 9 and then print them all at once with automatic placing across and down the page—a pain. I used it with pre-gummed page labels and it worked just fine even though borders are not clearly marked.



It's a nice program and the most flexible I have seen or used.

**MDC II™** is a fine combination label and catalog program. It produces a split screen, the right portion of which produces labels by highlighting and printing, while the left portion of the screen produces catalogs. It has many of the same functions as Catalog Keeper and permits the limited addition of direct text input. It categorizes files neatly as

follows:

	System Files
	Word Processing
	Graphics (Paint/Draw)
	SpreadSheets
	File & DB Managers
	Games & Entertainment
	Tools and Utilities
	Fonts
	Financial & Accounting
	Programming Languages
	Mixed Bag (Misc.)
	Integrated Packages
	Communications
	Desk Accessories
	Disk Utilities
	Unassigned

It's an effective and solid program. WAP sells this through its Group Purchase program at a solid discount. It is space inefficient though, and, in my opinion, is not as flexible as the stand-alone Catalog Keeper or myDiskLabeler in each of their respective functions.

Lastly, **Disk Ranger**, is a sweet program that I like a great deal. It was the first combination label/catalog program of which I was aware and is intuitively easy to use. It lets you place up to 24 or 48 filenames on your label content and also permits you to use the disk title name or one of your own choosing.

Its independently scrollable split screens are easy to use, with the top section being used to produce labels (by highlighting selected disks and printing,) and the bottom section permitting the usual selection/deselection of files to avoid useless buildup of the files. Its "filtering function" is not as flexible as I would like it to be, as it is limited to the following items.

Check the Items to Filter:

<input type="checkbox"/> Clipboard File	<input type="checkbox"/> ImageWriter
<input checked="" type="checkbox"/> Desktop	<input type="checkbox"/> Note Pad File
<input type="checkbox"/> Finder	<input checked="" type="checkbox"/> Scrapbook File
<input type="checkbox"/> All Invisible Files	<input type="checkbox"/> System

In order to prevent you from shrieking with despair in the middle of the night, waking your family, and flinging disks against the nearest wall, I recommend that you get one or more of these programs. "Organized, labeled disks saves sanity." It also makes your Mac more enjoyable and productive. In summary, any of these programs can serve your needs well. My prejudice is to use CatalogKeeper and myDiskLabeler because they offer the greatest degree of freedom of use. ☺

# WAP BUDGET

  
 by Ed Myerson

Pro forma budget results for the fiscal year ended May 31, 1986, based on the eleven months ended April 30, are reported below together with the budget proposed by the Board for this year. The budget will be considered at the general membership meeting on June 28.

The budgets for the two years reflect cash income (depreciation is not included) and expense, and do not include purchase of fixed assets such as computers, books, equipment, etc. About eighty-five percent of the disappointing short fall of \$28,826 in gross margin, the funds we have to pay our

expenses, is attributable to lower than expected membership, group, and disketeria net revenues. The \$28,826 is partially offset by a favorable variance in expenses of \$16,009.

The Board and the Officers believe that the higher membership and group sales proposed for the new year will be achieved, and have planned disketeria sales at a more modest level. Expenses are budgeted to remain about equal to last year's. Subject to achievement of the planned membership, group sales, and other targets, a small surplus for the year is indicated.

For the Board of Directors, Edward J. Myerson - Treasurer

## WASHINGTON APPLE PI BUDGET EXECUTION YEAR END 5/31/86 and PROPOSED BUDGET YEAR END 5/31/87

	----- YEAR ENDED 5/31/86 -----	BUDGET	VARIANCE	Ye 5/31/87 PROPOSED BUDGET
PRO FORMA				
<b>REVENUES:</b>				
Membership Dues	\$114,016	\$123,900	(\$9,884)	\$148,663
Publications Sold	25,043	19,416	5,627	25,291
Group Sales	45,246	113,027	(67,781)	64,999
Disketeria Sales	58,862	72,000	(13,138)	53,000
Other	14,701	19,057	(4,356)	13,710
<b>TOTAL REVENUES</b>	<b>257,868</b>	<b>347,400</b>	<b>(89,532)</b>	<b>305,663</b>
<b>COST OF SALES:</b>				
CS- Membership	94,220	98,624	4,404	121,557
CS- Publications Sold	11,131	5,980	(5,151)	8,201
CS- Group Sales	39,897	101,784	61,887	52,603
CS- Disketeria	26,114	26,078	(36)	11,555
CS- Other	3,158	2,760	(398)	2,360
<b>TOTAL COST OF SALES</b>	<b>174,520</b>	<b>235,226</b>	<b>60,706</b>	<b>196,276</b>
<b>GROSS MARGIN</b>	<b>83,348</b>	<b>112,174</b>	<b>(28,826)</b>	<b>109,387</b>
<b>EXPENSES</b>				
<b>Office Expenses</b>				
Office Salaries- Managerial	32,799	36,182	3,383	37,440
Office Salaries- Staff	14,981	17,606	2,625	15,145
Salary related tax & Expense	3,949	4,757	808	5,784
Sub-total Salary	51,729	58,545	6,816	58,369
Rent	14,018	14,400	382	16,600
Telephone- Office	3,709	3,060	(649)	2,720
Postage- Office	5,338	9,842	4,504	8,450
Office Supplies	2,722	3,830	1,108	3,830
Equipment Rental- Office	3,073	2,643	(429)	2,614
Sub-total Other Office Expense	28,860	33,775	4,916	34,214
Sub-total Office Expense	80,589	92,320	11,732	92,583
<b>Meeting Expense</b>				
Guards- General Meeting	1,244	2,145	901	2,100
Signer- General Meeting	74	300	226	100
Space Rental- General Meeting	1,378	2,500	1,122	0
Other Meeting Expense	3,097	100	(2,997)	500
Sub-total Meeting Expense	5,793	5,045	(748)	2,700
<b>SIG Expense</b>				
SIG Mac	4,911	3,950	(961)	NA
Other Sig Expense	827	909	82	500
Sub-total SIG Expense	5,738	4,859	(879)	500
<b>Other Expenses</b>				
Accounting & Legal	5,585	9,300	3,715	6,300
Repairs & Maintenance- Computer	638	500	(138)	750
Repairs & Maintenance- Other	0	350	350	350
Insurance	1,054	2,500	1,446	1,000
Taxes & Liscences ex payroll	622	1,602	980	760
Show Expense	968	750	(218)	1,000
Sales and Other Promotion	537	1,000	463	1,000
Miscellaneous Expense	994	300	(694)	500
Sub-total Other Expenses	10,398	16,302	5,904	11,660
<b>TOTAL CASH EXPENSES</b>	<b>102,518</b>	<b>118,526</b>	<b>16,009</b>	<b>107,443</b>
<b>CASH SURPLUS/DEFICIENCY</b>	<b>(19,170)</b>	<b>(6,352)</b>	<b>(12,818)</b>	<b>1,944</b>

# BYLAWS CHANGES

Pursuant to Article XV of the bylaws of Washington Apple Pi, Ltd., notice is given of the following bylaws changes, which were made at the June 11, 1986 Board of Directors meeting. *New material is shown in bold italics; material deleted is underscored.*

ARTICLE V, SECTION 1. CLASSES OF MEMBERSHIP. There shall be ~~three~~ **four** classes of membership: individual, family, student, and educational institution and corporate patron. Members of each class shall have equal voting powers. Any member of the immediate household holding a student or family membership shall be entitled to all privileges of membership, except that the student or family membership is entitled to a single WAP Journal and a single vote. Institutional members Educational institutions and corporate patrons shall exercise the privileges of membership through a single individual and shall be entitled to a single vote. As determined by the Board of Directors, educational institutions and corporate patrons may be entitled to multiple copies of the Journal.

SECTION 2. ELIGIBILITY. Membership in the Corporation WAP is open to any person or nonprofit educational institution interested in computers of any manufacturer, size or kind. New family members and patrons may shall be required to pay an initiation fee if under the conditions prescribed by the Board of Directors.

SECTION 4. LIMITATION OF AUTHORITY. Except as otherwise specified in these Bylaws, no member shall act in the name of the Corporation WAP or take any action which that would bind the Corporation WAP.

SECTION 6. EXPULSION. A member may be expelled from membership in the Corporation WAP for (a) failure to pay the annual dues for more than thirty (30) days after the due date thereof, or (b) engaging in activities prohibited by these Bylaws or any rule or practice adopted by the Board of Directors of which notice has been given to members. Damaging WAP property or disrupting WAP services shall be ground for expulsion. Before any member may be expelled for engaging in prohibited activities, written charges specifying the alleged cause shall be filed with the Secretary and a copy thereof shall be served on the member charged and he shall. The member charged shall be given notice of the meeting of the Board of Directors at which the member's expulsion is to be considered and the member charged shall be allowed a hearing before the Board. If the Board determines that the prohibited activities are correctable, the member charged may, at the discretion of the Board, be given an opportunity to correct such conduct. If such member continues to engage in prohibited activities, he The member charged may be expelled at any meeting of the Board of Directors at which there is a quorum by the affirmative vote of two-thirds of those Directors present and voting at the Board of Directors meeting of which the member charged received notice, a quorum of

*Directors being present. The member charged shall receive prompt written notice of the Board's action.*

ARTICLE X - SPECIAL INTEREST GROUPS AND SLICES

SECTION 5. SLICES. *The Board of Directors may recognize groups of WAP members outside the Washington, D.C. area as "slices" of WAP. Slice members shall be entitled to the full benefits and privileges of membership in WAP. In all other respects, the Board of Directors shall have the power to regulate by resolution the formation, activities and dissolution of slices. The officers of a Slice shall be given notice whenever feasible of any action to be taken by the Board or the membership involving the activities of the Slice. No Slice shall act in the name of or take any action that would bind the Corporation.*

## NEW MAC PROGRAMMING BOOK

Kurt Schmucker, a fellow WAP member, has written a book, **Object-Oriented Programming for the Macintosh™**, which has just been published by Hayden Book Company. Kurt, who conducts technical seminars for Productivity Products International, has put his expertise into print, illuminating the object-oriented approach to developing software for the easy-to-use yet difficult-to-program Macintosh. The object-oriented approach to programming recasts the fundamental ways programmers go about writing successful programs by binding data and program code together in a new method that goes beyond the inadequacies of current procedural languages.

For more information, call Kurt at PPI, (301) 721-7449.

## Got A Problem?

- Buying a MacPlus and nervous about getting it all together?
- Want to run a different configuration of equipment and not sure it will all speak the same language?
- Can't get your modem to talk to you (or anyone else)?
- Tried of buying equipment from people who won't promise it will work?
- Spouse ran off with a computer technician?

If you answer is any but (e), we may be able to help you. (c) is a little out of our line of business.

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# DISKETTERIA DISPATCH: Mac Disk Notes

by Martin Milrod

The Mac portion of WAP is no longer a Special Interest Group (SIG) and, as such, beginning this month new disks are now known simply as Mac disks rather than SigMac disks. Please let us know what you are particularly interested in seeing in future Mac disks and we will try to respond to your wishes.

## Mac Disk 45: Games

Game disk, including Animal, Destroyer, HexPuzzle, IBS, LAZlife 2.0c (Gentic-law game,) MacLuff (infinite Tic-Tac-Toe,) and Snake (arcade game).

## Mac Disk 46: Games

Another game disk including a reenactment of a Civil War battle, 1863, Anirama, Ashes, Black Box, Connect Four, Maze2, and an amazing Mac interpretation of the TV game Wheel of Fortune.

## MacDisk 47: Fonts

Hebrew Fonts and Algebra fonts disk. Left-to-Right Hebrew fonts and a broad range of algebra/math fonts are included. Install using DA/Font Mover on Mac Disk 49.

## Mac Disk 48: Fonts

Fonts disk which contains the latest FontDisplay (4.0) application which fully displays available fonts by font and

point size, a great Princeton Fonts 3.0L designed for very technical display on both the laserwriter and imagewriter (if you have need for high quality technical fonts, this is the best around,) and a series of speciality fonts including Japanese.

## Mac Disk 49: Utilities

Utilities disk including several highly useful tools. Included are the latest formal release of DA/Font Mover (3.1), a reverse screen capability for the Mac, a great Art-Grabber-like DA (Artisto), an excellent Disk Librarian (1.7) application for cataloging programs across disks, and the most useful single DA we've worked with, Disk Info 1.43, among other goodies.

## Mac Disks 17.2a and Mac Disk 17.2b Red Ryder 9.2

These two disks contain Red Ryder 9.2, a favorite telecommunications program of many. The reason it takes two disks to provide all the documents is that the formal documentation for 9.2 has not yet been written. We have included the full docs for version 8.0 and the upgrade doc for 9.2. When the full 9.2 docs are available, we will provide you with a single disk once again. These disks also contain System 3.2 and Finder 5.3 in Beta version; they seem to run well. ☺

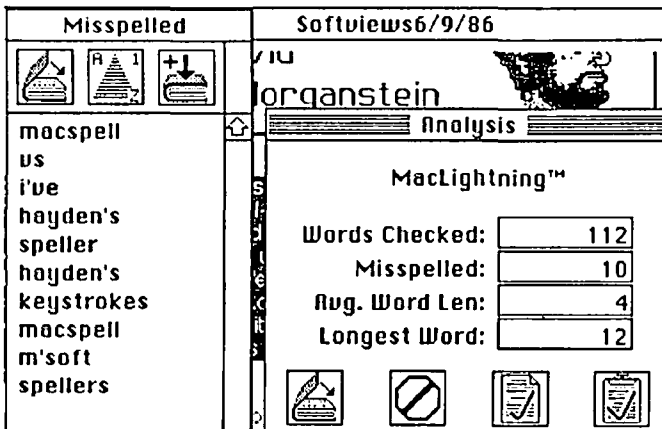
Softviews contd from pg 63

feature. To check the entire document, you must first issue the Word command to select all the text, then ask Lightning to check the spelling for the selection. The authors recommend you not select more than 10 pages at a time for checking. The only method of checking an entire document is to save it to disk as text only. Lightning can check an entire text-only file on disk; it can not check a Word file on disk.

Frankly, I don't like Lightning's approach to spelling corrections. After checking the selected text, a list of misspelled words is prepared, as you can see in the "Misspelled" window, below. Initially, the words are listed as they were found. Thus, a misspelled word which appears twice in the document will appear twice in the list. (See the word "Hayden's" in the misspellings list.) You can alphabetize the list, after which duplicates are removed. Each word must be looked up in the dictionary. After finding a substitute, Lightning offers you M'soft Word's "Change" menu. You make the corrections, one word at a time. I much prefer the Spell+ method of checking the document and correcting the words on the fly. With Spell+ the corrections go very quickly compared with the time it takes to use the Change window.

Lightning purports to offer "grammar checking". This is a misnomer since it amounts to little more than locating words which follow periods and which are not capitalized. Helpful, but not what is advertised.

Lightning is fast. It seems to check about 30 to 40 words per second running from a hard disk. It took about 30 seconds to produce the list of unrecognized words from this review. On the other hand, its dictionary comes with only 31,000 words, a modest number. It found in this review two dozen correctly spelled words which it did not recognize. Admittedly, it is a simple matter to expand the dictionary. If you select Lightning, plan to spend a little time doing just this!



In my book, MacSpell+ is the clear winner for ease of use and convenience. ☺



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

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42 One Key DOS ***	136 WAPABBS1.1 Disk 2**	*208 The Gauntlet	( ) Games Volume 2
43 IAC 29 Utilities H	137 IAC 21 Spreadsheet A	*209 Caverns of Langst	( ) Basic Utility Volume 1
44 Utilities I	138 IAC 23 Utilities G	*210 Future Quest	( ) Basic Utility Volume 2
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46 French Vocab. Tutorial	140 Education 4	*212 Sewers of Chicago	
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94 CALCULINK ***	170 Love's Follies (Util.)	703 Fig-Forth	
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106 Science Engineering	500 Master Catalog Listing	302 PIG2:	
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\*\*\* Use of this disk requires sending money directly to the author.

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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.

- ( ) - WELCOME TO THE WORLD OF APPLE - No Tutorials in June, July,
- ( ) - HOW TO USE YOUR APPLE SOFTWARE - and August. They will
- ( ) - POPULAR APPLICATIONS FOR YOUR APPLE - resume in September.

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, July 21 and 28
- ( ) Monday, August 18 and 25

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

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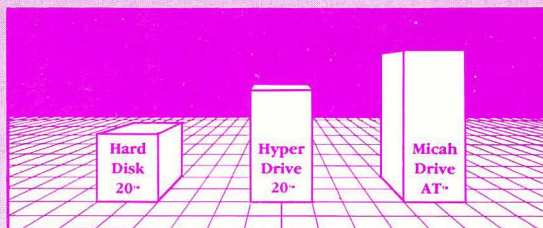
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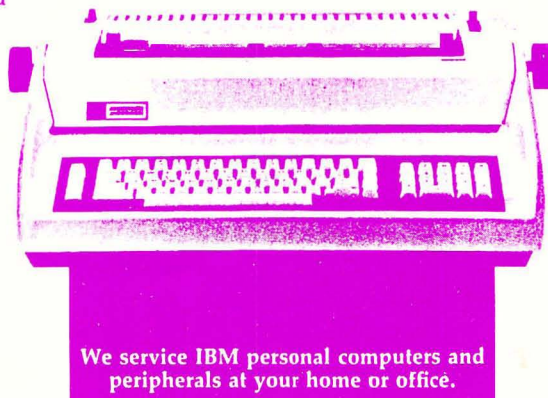
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