WASHINGTON APPLE PI

Call for
Nominations—p. 12

America Online—A
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Artists on Exhibit —p. 30

MACWORLD

M

EXPO
SUMMIT

Washington Apple Pi
General Meeting

4th Saturday • 9:00 a.m. • Community & Cultural Center
Northern VA Community College • 8333 Little River Turnpike
Annandale, Virginia
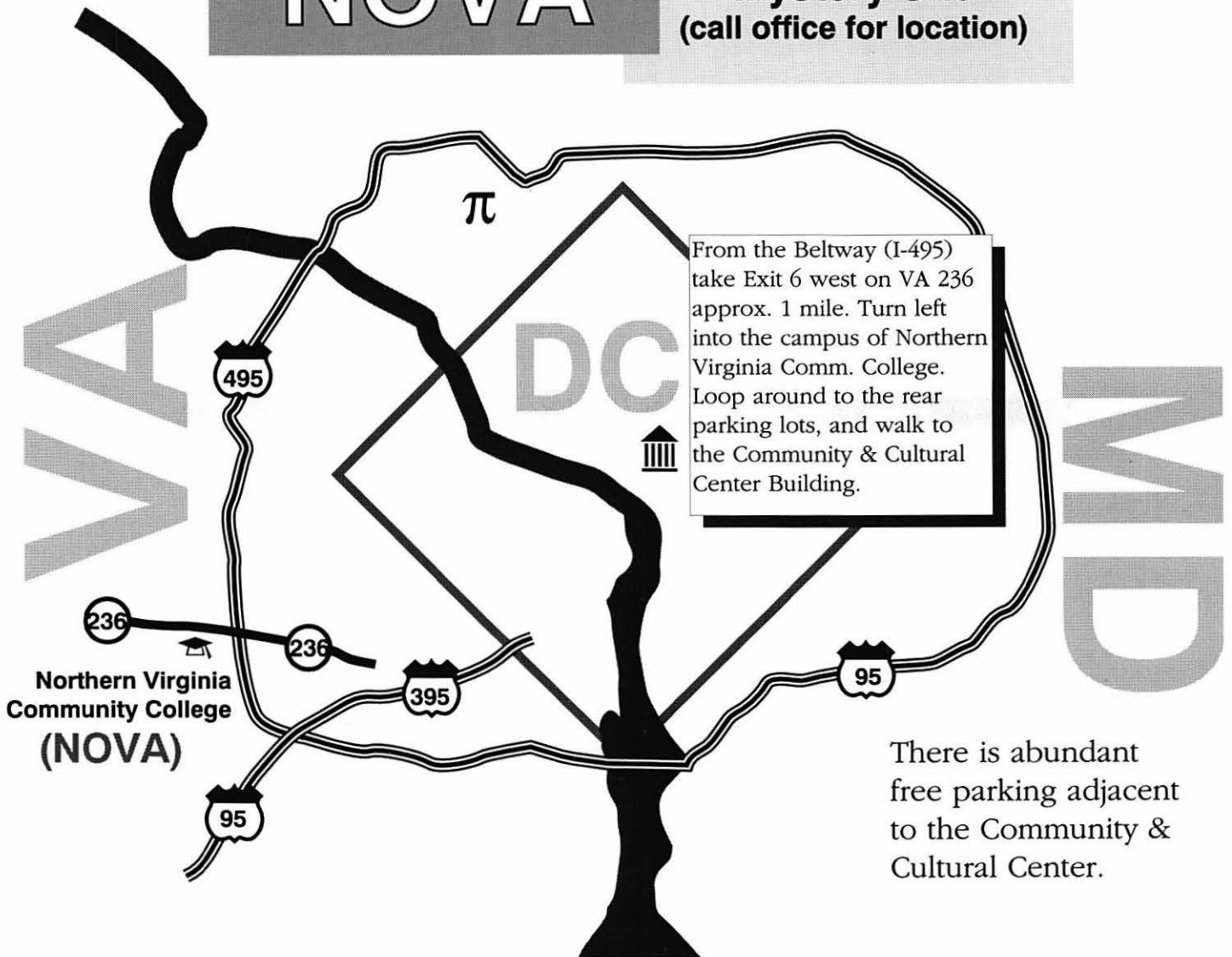**March meeting site: call (301) 654-8060 for details**

Feb. 26, 1994
WordPerfect Corp.

NOVA

Mar. 26, 1994
Timeworks

Mystery Site
(call office for location)

π

VA

DC

MD

495

236

236

395

95

95

Northern Virginia
Community College
(NOVA)

From the Beltway (I-495) take Exit 6 west on VA 236 approx. 1 mile. Turn left into the campus of Northern Virginia Comm. College. Loop around to the rear parking lots, and walk to the Community & Cultural Center Building.

There is abundant free parking adjacent to the Community & Cultural Center.

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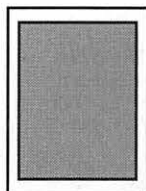
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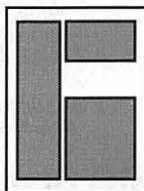
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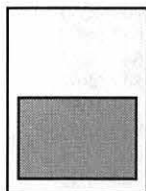
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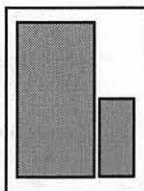
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No. of times ad runs	1-2	3-5	6-11	12+
Full Page	$450	$383	$338	$270
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Two-thirds Page	$360	$306	$270	$216
Half Page	$300	$255	$225	$180
Third Page	$225	$191	$169	$135
Sixth Page	$125	$106	$93	$75

Special guaranteed positions incur a 10% surcharge

Ad Deadlines

The Washington Apple Pi Journal is published monthly. The ad copy deadlines and ad space reservations are listed below for your convenience.

Copy may be received as traditional mechanicals, rc-paper, velox prints, or film negatives. Negatives will incur an additional $15.00 strip-in charge.

Washington Apple Pi

This issue of the Washington Apple Pi Journal was created on a Mac SE/30, proofed on an LaserWriter IINT, and produced by electronic typesetting at The Publishers Service Bureau.

The page layout program used was PageMaker 4.2a, the word processing program was Microsoft Word 5.1; the principal typeface is New Century Schoolbook (10/12) for the articles; and Helvetica for headlines, subheads, and emphasis.

Cover Design: New WAP Journal cover design was created by Ann Aiken in collaboration with Nancy Seferian. The Capital artwork was illustrated by Carol O'Connor for One Mile Up, which donated it for use on our cover.

Icon Guide

- Macintosh
- Calendar Pages
- Apple II, IIe, & IIGS
- Apple Disk Libraries
- Apple III (SARA)
- Macintosh Disketeria
- Hotline/Phone List
- General Interest
- TeleCommunications System (TCS)

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Office hours: Monday-Saturday 10-2:30*
Tuesday 7-9 p.m.

* The office will open at 1 p.m. on
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NOVA Educators SIG	Pat Fauquet	(703) 550-7423
PI-SIG	Ted Meyer	(703) 893-6845
QuickTime SIG	Ambrose Liao	(301) 530-3255
StockSIG	Morris Pelham	contact on TCS
Telecomm. SIG	Allan Levy	(301) 340-7839
Three SIG	David Ottalini	(301) 681-6136
	Paul Campbell	(313) 255-6497
UltraMacros SIG	Gary Hayman	(301) 345-3230
Women's SIG	Ann Aiken	(301) 530-1990

From the President

A Post-Holiday Guide To Buying A Home Computer: Ten Tips to Putting Technology In Your Home

by Lorin Evans

Post holiday sales offer the family considering the acquisition of a personal computer an ideal time to make their move into computing. When you combine the overall drop in prices for computers with a proliferation of easy-to-use software and regional sales hype, now is very affordable time to enter personal computing or upgrade an existing system.

A wonderful guide to help a family decide on a computer is the new book, *Parents, Kids & Computers*, by Robin Raskin, executive editor of PC Magazine and a parent with three computer-literate children. Robin cuts through the rhetoric of computers to show how buying a home computer can be a springboard to years of family fun and learning.

"The options you get on a computer far exceed those on other home entertainment systems," notes Raskin. "And a computer offers much more than entertainment. Every new software program presents you and your child with a whole new range of options for using the computer. And there are new easy-to-use computers that come already loaded with all the software you'll need for a home computer. They can even be purchased in department and consumer electronics stores."

Raskin co-authored her book with children's technology expert Carol Ellison, after noticing "how few activities are available to parents to help them connect the computer experience their kids get in school with the activities they perform on the computer at home."

Parents, Kids & Computers is a road map for the first-time computer buyer. It is intended to help parents navigate through the maze of computer brands, technical jargon, hardware and software to make the best choice for the family.

Here are Raskin's Top 10 Tips for buying a computer the whole family will use for years to come:

1. Assess your family's computing needs.

You will want a computer that serves the entire family. Begin by asking yourself some pertinent questions: What type of computer do our

kids use at school? Most schools use Apple computers and are moving to Macintoshes. Do I need to bring work home? If so, does my office use a Macintosh or DOS-based system? Will we be using the computer for personal management like family finances and record-keeping? Do we want a computer that comes with built-in sound and multimedia? Do we need any special adaptive equipment to accommodate a learning disability? Will we want to make additional equipment purchases later on? If so, how easy and economical is this? These questions will lead you to the next step: choosing a brand.

2. Go with a recognizable brand name.

There are two major personal computer families. This means you'll be choosing an Apple computer—from either the Macintosh or Performa lines—or one of the DOS-based systems. Both provide a vast range of software options, as well as service and support for your hardware. The exchange of data between the two platforms is easy to accomplish with the 3.5 inch high density drives that are standard with all Macs.

3. Look for pre-installed software.

Many of the best buys today are computers that come already "bundled" with hundreds of dollars worth of software. But consider both quality and quantity when making your decision.

4. Buy enough memory so your system can grow with your family.

There are two measurers to watch: the size of the hard drive where you will store your programs and the size of the desktop area where you will use the programs you have stored. The capacity of a hard drive is measured in megabytes (MB), while desktops area is measured in megabytes of RAM [random access memory]. The computer should have a drive with 80 MB or larger. Make

sure to have at least 4 MB of RAM for a desktop; 8MB is much better and can be added by the dealer.

5. A printer is essential.

The three types of printers are dot-matrix, inkjet and laser. Keep in mind the kind of printing you will be doing: school work, general purpose, desktop publishing, etc. The dot-matrix printer is the most basic but not necessarily the best buy; laser printers are more sophisticated and necessary for high quality PostScript printing and graphics. Sitting right in the middle is the affordable inkjet. It gives you the resolution of a laser without the price. Some models offer excellent color printing as well as PostScript. Consider both the cost of acquisition as well as the cost of operation when deciding.

6. Kids love color.

If your computer will be used principally by children, color is an option you should explore in printing. The best children's games fill the screen with vivid hues and the wondrous graphics they can create via the new Print Shop, Kids Pix, Children's Writing Center, etc. captivate children and encourage them to explore further. Inkjet printing gives you the best of both.

7. Make sure your system is easy to expand.

The latest wave in computers is multimedia, the ability to show video footage and play digital-quality sound using a CD-ROM (read only memory). Buying a system with a CD-ROM can be expensive, but the benefits will pay off. For example, you can purchase an encyclopedia on CD-ROM that would cost hundreds of dollars less than the hardback equivalent. If you're not planning to buy a computer already equipped with multimedia now, but want to add it in the future, make sure your system makes it easy and affordable to add these options when you're ready.

8. Get the kids involved.

You'll make a better choice for the whole family if the kids are included in the decision-making process. Kids are remarkably aware of the differences among various systems. They should be involved to some extend in the decision making process; remember, you do want them to use it. They will appreciate being consulted and you will probably appreciate their input; let them feel part of it early on. You should find many retailers allow families to test demonstration computers before making a purchase.

9. Protect your investment.

Always find out about the manufacturer's warranty and the store's return policy before you buy. Also, think about purchasing your computer with a credit card that provides an extended warranty at no additional cost.

10. Choose your software carefully.

A good computer game does more than entertain, it challenges kids to explore the world around them and helps them develop problem-solving and creative thinking skills. Robin encourages parents to build a software library with their children as soon as they bring home a computer. Software is the perfect gift for any special occasion. ∎

[*Parents, Kids & Computers* by Robin Raskin is available from Borders Books at White Flint or Tyson's Corner. This article was adapted from material provided by Apple Computer, Inc. The trademarks mentioned are property of their respective owners.]

by Morris Pelham

At our December meeting we forst spent a few minutes on our beating the Dow strategy and then the rest of the meeting on our new idea which uses the Fidelity Select mutual funds to outperform our beating the Dow strategy.

Our 1993 beating the Dow portfolio is up in price by 31.8% from Dec 31, 1992 to Nov 30, 1993.

Our 1994 beating the Dow portfolio is still bouncing around, and we won't be certain what is in it until after the end of the year. Nevertheless, Mark and I are both buying at least some of our 1994 stocks now, before the usual "Christmas rally" and "January effect". Mark ran his analysis on Nov 30 and came up with Union Carbide, Woolworth, Merck, DuPont and Philip Morris. I ran mine on data from the December 6 *Barron's* and came up with Union Carbide, Woolworth, American Express, Merck and DuPont.

We didn't spend any time talking about our differences, and Mark passed his around his information for everyone to look at and some to copy down. Then we moved right along to the main topic of the night, our new project to outperform the beating the Dow strategy.

Mark has a large database of mutual fund prices going back to 1988 or 89. He loaded this into *Excel* and tested the results of picking the best performing of the Fidelity Select mutual funds over a period from 1 to 10 weeks, then investing in that one fund for a period from 1 to 10 weeks. Then he had *Excel* test a variation, investing in the one fund as long as it remained in a group of the better performing funds.

Mark brought to our December meeting his *Excel* worksheet, his

data, and several transparencies he put on the overhead projector to show us the results. We spent the rest of the evening talking about all of this. It appears that profits in the range of 30-40-50% per year are possible if you pick the right fund at the right time. It appears the best fund to invest in is the one that has the best three to five week uptrend, and the best period to hold it is either 5 to 7 weeks or while it remains among the top 14 to 17 of the funds.

Obviously, this is not as simple as our beating the Dow strategy. If you are interested in trying this yourself, I suggest you do your work and bring a printout of it with you to our meeting. I have put about 6 months of Fidelity Select data into *Quicken* and run some reports on it, but my work is not as encouraging as Mark's. We didn't have time to show or talk about my *Quicken 4* results in December, but we will at later meetings.

In other news, I have joined the modern world and bought a new Mac. I got a Quadra 610 with CD-ROM and 16" Apple color monitor. I love it. Now I *need* to make some profits in 1994. When I went shopping, Falcon Microsystems had the lowest price and the most knowledgeable salespeople I found, so I bought it there. Falcon donated the Mac II ci we use at the office for

StockSIG, so I am happy to be able to give them a plug.

StockSIG welcomes both experts and novices at our meetings. Anyone using the *Quicken 4* software is particularly welcome while we are trying to figure it out. StockSIG meets the 2nd Thursday of each month at 7:30 PM at the WAP office. ∎

by John Barnes
Mac Programmers'
SIG Chair

At its meeting on December 1st the WAP Macintosh Programmers' SIG explored the programming resources that are available by way of the Internet. SIG chair John Barnes led the discussion, with major contributions from other travelers on the international information highway.

The discussion touched on such features as e-mail, file transfers, and navigation aids like Gopher and Mosaic. A live connection to the Internet using Serial Link Internet Protocol (SLIP) enhanced the demonstrations.

The attendees at the December 1st meeting listed a variety of topics that they would like to see covered at future meetings. The topics ranged from programming in C++, to Visual

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Basic for the Macintosh, to Apple Scripting, to cross-platform development, to the Internet, and beyond.

The Mac Programmers' SIG meets at 7:30 P.M. on the first Wednesday of every month at the Pi office. Keep your eyes on Board 3 of the Macintosh Conference of the TCS, on this column in the Journal, and on other local BBSs for announcements of topics for upcoming meetings.

At the November meeting John Barnes and Greg Bartolett stepped forward to carry on the work so ably carried out in the past by Nancy Byrd. John and Greg would also like all SIG members to check in with any e-mail addresses that they use. Call 301-652-0667 (John) or 301-762-1311 (Greg). This will help everyone to keep in touch while minimizing postage and phone costs.

Any WAP member who wants to experience the unique sense of empowerment that comes through creating programs to make their Mac do what they want it to do is hereby invited to join the Mac Programmers' SIG and share in its work. Sign up at any meeting or call John or Greg at the numbers given above. ∎

WAP Bylaw Amendments

by Jonathan Hardis

The WAP Board of Directors, at their October 13 and December 8 meetings, voted to amend WAP's Bylaws. The Bylaws were last amended on January 13 (Journal, March 1993.) This article is required for notice to the membership, and I elaborate to explain the changes.

Deleted material is shown in ~~{brackets}~~. New material is shown +>set out like this<+. Issues of the WAP Journal giving notice of previous amendment, adoption or repeal of particular sections are indicated in brackets.

Membership

On October 13, the Board made a number of changes to the Bylaws affecting membership status. Current memberships are now called "regular" memberships. Student membership, a class of regular membership, was defined. In addition, the Board may now establish classes of "associate" and "guest" memberships.

Associate memberships are intended as a method of allowing members of other computer user groups to enjoy a limited number WAP benefits for less than our ordinary dues. The intent is that such arrange-

ments would be reciprocal: the other groups would also offer regular WAP members a benefit for less than their full dues. The amendment was in response to an overture we have received along these lines.

Guest memberships are intended to resolve a dichotomy between our tradition and charter. WAP is technically a social club, which operates for the benefit of its members. Nevertheless, we have a tradition of inviting non-members to attend our monthly General

Meeting and some of our other activities. The bylaw changes formally allow the Board to establish "Guest Memberships" to allow those who aren't regular members to attend individual WAP functions. The intent is to ask newcomers to register at the door, and we will later mail additional information to them about WAP, encouraging them to join.

Associated with these changes, the section on membership eligibility was amended to make clear that membership in any form will not be extended to individuals who interfere with our activities. Many sections on the rights and privileges of membership were amended to limit those provisions to regular membership.

ARTICLE V - MEMBERSHIP

SECTION 1. CLASSES OF MEMBERSHIP. +>There shall be three types of membership: regular, associate and guest.<+ There shall be four classes of +>regular<+ membership: family, student, educational institution and corporate patron. Any member of the immediate household holding a family membership shall be entitled to all privileges of membership, except that the family membership is entitled to a single WAP Journal and a single vote. +>Student membership may be held by individuals, under the terms and conditions set by the Board of Directors, for less dues than a family membership.<+ 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. >+The Board of Directors may create one or more classes of associate membership. Associate membership may be offered to members of other groups and include a limited number of benefits of full WAP

membership. Associate members have no voting rights and may not hold office. The Board of Directors may create one or more classes of guest membership to enable other persons to attend an individual WAP function. Guest members have no other rights or privileges. The Board of Directors may prescribe the other rights, privileges and qualifications of all classes of membership.<+ [Amended July 1986.]

SECTION 2. ELIGIBILITY. Membership in WAP is open to any person interested in computers of any manufacturer, size or kind +>and who satisfies the Corporation that he or she is willing to participate constructively in the Corporation's activities<+. New family members, educational institutions and corporate patrons shall be required to pay an initiation fee under the conditions prescribed by the Board of Directors. [Amended July 1986.]

SECTION 7. QUALIFICATIONS FOR OFFICERS AND DIRECTORS. All officers and Directors must be +>regular<+ members in good standing in WAP. Notwithstanding Articles VII and VIII of these Bylaws, an officer or Director who ceases to be a +>regular<+ member in good standing shall be deemed to have vacated the office or the directorate effective as of the date he or she ceased to be a +>regular<+ member in good standing. [Added March 1987, and amended March 1993.]

ARTICLE VI - MEMBERSHIP MEETINGS

SECTION 2. SPECIAL MEETINGS. Special Membership Meetings may be called by the President, the Board of Directors or a signed petition of fifty (50) +>regular<+ members. Notice
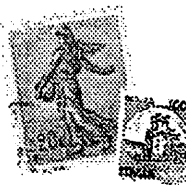
of a Special Membership Meeting, stating the date and hour of the meeting and the place where it is to be held, shall be given by publication in the WAP Journal or by a mailing to all +>regular<+ members and shall state the purpose of the meeting. No business other than that stated in the notice shall be transacted.

SECTION 3. QUORUM. One hundred +>regular<+ members in good standing must be present at a Regular or Special Membership Meeting in order to conduct business.

ARTICLE VII - BOARD OF DIRECTORS

SECTION 4. REMOVAL. A Director may be removed at any time, with or without cause, either at a Regular Membership Meeting or at a Special Membership Meeting called for such

purpose. A quorum being present, a Director may be removed by the majority vote of +>regular<+ members in good standing present and voting. [Amended March 1993.]

SECTION 8. CONDUCT OF MEETINGS. The Board shall by a simple majority at its first meeting of its term elect a presiding officer from among its members who shall preside at meetings of the Board of Directors for the balance of the term. In the absence of the presiding officer, the Board may elect a temporary presiding officer from among its members by simple majority vote for the duration of the meeting or until the presiding officer assumes the chair. By a two-thirds majority vote, the Board may permanently remove a presiding officer for the balance of the term. A simple majority is then sufficient to elect a new presiding officer. The Secretary of the Corporation, or such

other person as the presiding officer may appoint, shall act as Secretary of the meetings. A majority of the Directors currently in office (not counting vacancies) shall constitute a quorum. Meetings of the Board of Directors shall be open to {all} the Corporation's +>regular<+ members, except that upon majority vote, the Board of Directors may enter executive session to transact business which the Board determines to be confidential. [Amended June 1984 and August 1989.]

ARTICLE IX - ELECTIONS

SECTION 1. SCOPE. An election shall be held annually for ten Directors-at-Large, the President, the Vice-President for Apple II Programs, the Vice-President for Macintosh programs, the Secretary and the Treasurer. Each person who is a +>regular<+ member in good standing on April 8 shall have a ballot mailed or made available to him. The election shall be concluded, to the extent possible, by May 31 of each year in order to allow those elected to begin their terms on June 1. The newly elected Board of Directors may, at their first regular meeting of the term, appoint any qualified members to fill any vacancies remaining after the election, including Director and officer vacancies separately, pursuant to Articles VII and VIII. [Amended March 1993.]

SECTION 3. NOMINATIONS. Nominations for Director-at-Large positions and officer positions must be made at the February Regular Membership Meeting or received by the Secretary through the Corporation's office by that date. Candidates for office

must be +>regular<+ members in good standing from the time of their nomination until the conclusion of the election. +>Regular<+ members in good standing may nominate themselves or others. A single nomination for each nominee is sufficient for any position. It is the responsibility of the nominator to provide sufficient information to identify and locate the nominee, who may be known to the Corporation under another name or through another family member. [Amended March 1993.]

The Three-Year Rule

On December 8, the Board repealed a provision in the Bylaws which had become known as "the three-year rule."

On April 20, 1990, the then Board of Directors adopted a controversial Bylaw amendment which limited the term of service of any WAP officer to three years. (Journal, June 1990.) The rule applied both to elected officers (the President, Vice-Presidents, Secretary, and Treasurer) and to appointed officers (such as the Journal Editor, Librarians, and the TCS Operator), but not to Directors.

Those then in favor of the amendment argued that, after three-years, officers were prone to "burn out," and a graceful means was needed to ensure fresh blood in each office. There were also concerns expressed about "empire building," for example, leaving the decisions on which companies presented at General Meetings in the same hands, year after year. A term limit, it was argued, would allow more active members to be honored as officers, and that the organization would be healthier by forcing additional people to gain experience in each office.

Those then opposed to the amendment argued that term limits made little sense in a volunteer organization where it was difficult,

in many cases, to find competent people who were willing to serve. There were also concerns that the rule would prevent the Board from reappointing, and members from reelecting, officers with special skills and talents. Some people believed that the provision was only a subterfuge to remove an officer of that era.

While the original proposal was to put the term limit into effect immediately, a compromise was reached which delayed the effective date of the amendment to June, 1993, "grandfathering" those then in office. After the rule took effect, the incumbent Secretary and a Vice-President were ineligible to run for reelection in 1993.

At the first Board meeting of the current term, a motion was made to repeal the three-year rule. Although a majority of the current Directors were in favor of repeal, the motion failed for the lack of a 2/3 vote. However, it was agreed informally that the three-year rule would be reconsidered as part of a general overhaul of our Bylaws which was then contemplated.

By December, no general review had been undertaken, but circumstances required immediate review of the rule nonetheless.

Our Bylaws allow the Board to appoint as officers one or more Disk Librarians, who organize and distribute WAP's collection of publicly available software. Did the rule require that we strip the title from an active volunteer who has done an excellent job for the past three years? Neither the title nor the duties were exclusive to this person.

Also, two of our five elected officers were first appointed by the Board between elections to fill out the term of another person. Did the rule forbid these people from standing for election a third time? As nominations will soon open for the 1994 election, this question was germane.
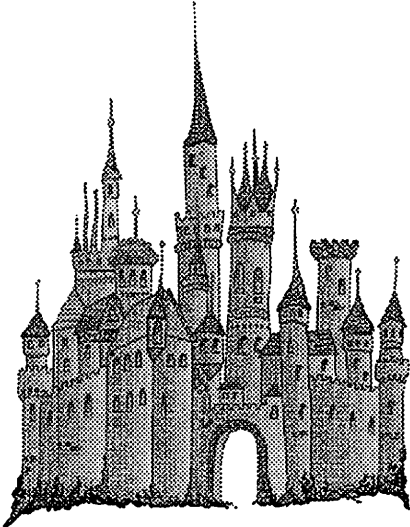
In light of all the arguments for and against term limits, and considering the implications and uncertainties of the existing rule in its current context, the Board voted on December 8 to repeal the rule. Nevertheless, as part of the anticipated general review of our Bylaws, the Board continues to welcome input from the membership on how term limits should be implemented, if at all.

ARTICLE VIII - OFFICERS

SECTION 1. DESIGNATION AND TENURE. The officers of the Corporation shall be the President, four Vice-Presidents, the Secretary, the Treasurer, one or more Editors of the Journal, one or more Librarians, the Telecommunications System Operator, and one or more Tutorial Directors. The President shall not concurrently hold the office of Vice-President, Secretary or Treasurer. [A member who has held an office for three consecutive years is not eligible to serve in that office for one year] An election shall be held annually, pursuant to Article IX of these bylaws, for the President, the two Vice-Presidents for Programs, the Secretary and the Treasurer. The Board of Directors shall have the power to appoint all officers not chosen by election. An officer shall serve a term of one year and until a successor is appointed, or until a successor is elected and qualifies before the Board. The Board of Directors may by majority vote remove any officer of the Corporation if the Board finds in its judgment that the best interests of the corporation will be served by doing so. The removal of an officer does not prejudice any of his or her contract rights. If any office becomes vacant for any reason, the Board of Directors may appoint an eligible member to fill that vacancy. [Amended June 1984, June 1988, June 1990, and March 1993.]

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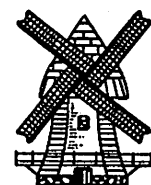
Call for Nominations

Nominations are now being accepted for people to serve as officers and Directors of Washington Apple Pi, Ltd. (WAP) for the 1994-1995 term, one year starting on or shortly after June 1, 1994.

The positions open for nomination are:

- President
- Vice-President (Apple II Programs)
- Vice-President (Macintosh Programs)
- Secretary
- Treasurer
- Directors-at-Large

The business and affairs of WAP are managed by the Board of Directors, which is composed of the officers and Directors elected each year. Those elected are expected to attend monthly Board meetings and to exemplify the service and leadership that our active volunteers provide in support of our activities and programs.

Regular members in good standing of WAP may nominate themselves or others. (Please check that the nominee would be willing and able to serve.) Nominations should be addressed to the Secretary, and must be received by the General Meeting on Saturday, February 26, either at the meeting or at the WAP Office.

Additional information may be found in the WAP Bylaws, which have precedence over this notice in case of differences. Current officers and Directors can answer questions, as well.

Help is still needed on the Election Committee to conduct the election. Please call the office to volunteer assistance.

Watch for your annual Ballot in the May Journal.

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Title	Author	Issue	Page	Subject
In the Pi Pan...	Hoyt, Debbie	08	05	editorial
In the Pi Pan...	Hoyt, Debbie	10	05	editorial
In the Pi Pan...	Hoyt, Debbie	11	05	editorial
In the Pi Pan...	Hoyt, Debbie	12	05	editorial
Inspiration 3.0	Waring, Bill	04	31	software review
Inspiration 3.0	Vernon, Tom	08	32	software review
Intel SatisFAXion 400e FAX/V.32bis Modem	Heller, Paul	12	43	hardware review
Intersect CDR-73 CD-ROM Reader with CD Gallery	Mulligan, John	05	34	hardware review
It Is Better to Look Good	Hoyt, Debbie	11	29	book review
LaserJets and Legal Terms: The Apple III at Work	Campbell, Paul	04	65	Apple III
Lingo: My Kind of Guy	Charters, Lawrence I.	02	13	book review
Logitech TrackMan Review	O'Reilly, John	05	46	hardware review
Mac ShareWare 500: An Encyclopedia of Virus-free ShareWare	Hoyt, Debbie	09	34	book review
MacEKG	Zeman, Rick	11	32	software review
Macintosh Disk Library	Weikert, Dave	01	67	Mac disks
Macintosh Disk Library	Weikert, Dave	02	70	disketeria
Macintosh Disk Library	Weikert, Dave	03	69	disk library
Macintosh Disk Library	Weikert, Dave	04	67	disketeria
Macintosh Disk Library	Weikert, Dave	05	66	mac disks
Macintosh Disk Library	Weikert, Dave	06	67	mac disks
Macintosh Disk Library	Weikert, Dave	07	66	mac disks
Macintosh Disk Library	Weikert, Dave	08	70	mac disks
Macintosh Disk Library	Weikert, Dave	09	62	mac disks
Macintosh Disk Library: New Disks - Phase Two	Weikert, Dave	10	58	Mac disks
Macintosh Disk Library: New Disks - Phase Two	Weikert, Dave	11	61	Mac disks
Macintosh Disk Library: New Disks—Phase Three	Weikert, Dave	12	64	Mac disks
Macintosh Tutorials and Seminars for August	Malkin, Keith	08	15	tutorials
Macintosh Tutorials and Seminars for July	Malkin, Keith	07	12	tutorials
Macintosh Tutorials and Seminars for October	Malkin, Keith	10	13	tutorials
Macintosh Tutorials and Seminars for September	Malkin, Keith	09	11	tutorials
Macintosh Tutorials for December	Malkin, Keith	12	19	tutorials
MacLink Plus/PC 6.0	Zeman, Rick	09	30	software
MACnificent 7.0 Education and Games CD-ROM Disc	Shapiro, Phil	08	35	education
MacNovice	Begleiter, Ralph J.	03	29	Mac novice
MacNovice	Begleiter, Ralph J.	07	43	Mac novice
MacNovice: ClarisWorks	Begleiter, Ralph J.	05	27	Mac novice
MacNovice: Getting Around n the Mac	Begleiter, Ralph J.	09	27	Mac novice
MacNovice: GreatWorks vs. ClarisWorks	Begleiter, Ralph J.	10	24	Mac novice

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Save Your Giant and Safeway Receipts!

We are collecting receipts from Giant and Safeway and
donating them to Washington area schools.
Please save yours and send them here to the office.
We'll then be able to assist local schools in
purchasing computer equipment.

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The Official America Online Membership Kit & Tour Guide

review by Phil Shapiro

The Official America Online Membership Kit & Tour Guide (Mac Edition), by Tom Lichty, 405 pages, softcover, $34.95, 1992 (first edition).
Published by:
Ventana Press, Inc. P.O. Box 2468 Chapel Hill, NC 27515 (919) 942-0220 (919) 942-1140 (fax)
ISBN 1—56604-012-4

America Online (AOL) is an information service that takes justifiable pride in being easy to learn. So it seems somewhat unusual that a 400 page guidebook would be written about the service. Having read this guidebook from cover to cover, I now realize the many benefits that can result from becoming a "skilled" America Online user.

AOL is indeed easy to learn. But the service offers a richness of information resources that many subscribers overlook. A hardcopy guidebook is just the ticket for revealing some of the information resources that have eluded your view during your online journeys.

What makes this guidebook effective is that it was not written by America Online staff. Rather, Ventana Press, an independent book publisher, made arrangements with America Online to produce the book. Interestingly enough, this book shows that an author who is an outsider to the information service could be in a far better position to describe the service than someone who works for the service itself. (This is analogous to the old saying that terrestrial creatures are in a better position to describe the features of an ocean than are the fish that swim within it.)

It's true that anyone who has used a Macintosh can learn all the basics of America Online (AOL) in less than twenty minutes. But there are lots of tips and tricks beyond the "basics" that can make your online experience more streamlined, more fulfilling, and less costly. In my estimation, this tour guide could be useful for newcomers as well as experienced AOL users. The fact that purchasers of the book are given a voucher for 10 hours of online time on AOL makes the book worth examining a little closer.

A Thumbnail Sketch of the Book

To give you a quick idea of the scope of the book, it seems sensible enough to start off by listing the major chapter and section headings:

Contents:

Chapter 1: Starting the Tour
    What is America Online?
    How to use this book

Chapter 2: Making the Connection
    Things you'll need
    Installing the software
    The initial online session
    Where to go from here

Chapter 3: Online Help & the Members
    Getting help
    Guides
    Members

Chapter 4: Entertainment
    An overview
    Book Bestsellers
    Cartoons
    The Grandstand
    The Comedy Club
    RockLink Forum
    The Trivia Club

No Fancy Macintosh Hardware Required

Early on in the book the book's author, Tom Lichty, informs us that the Macintosh model he uses is a "lowly" Macintosh Plus (circa 1984), with one megabyte of RAM. This reader found such a confession to be both noble and reassuring—noble in the fact that no true Mac enthusiasts is willing to admit in private (let alone in public) that he or she is still using a Mac Plus; and reassuring in the fact that you don't need to own a Quadra 950 with 40 megabytes of RAM to be a serious Macintosh telecommunications buff.

The hardware requirements of the America Online software are rather minimal. One megabyte of RAM is needed, two to three megabytes of hard disk drive are required, and you need to be running System 6.0, or higher, on your Macintosh. PP The financial barriers to going online are equally low. These days second hand Mac Plus computers are selling in the $300 to $350 range (with 20 or 40 meg hard drives), so even college students can hop over such hurdles.

The Opening Chapters

In the opening chapters of this book you'll learn more about what the America Online service is all about. To help demystify the creature, actual photographs of the "Stratus" computers that are the physical America Online are shown. So even though this information service is diverse and ethereal in nature, the core essence of the creature actually has physical and tangible dimensions.

One of the main point made in the opening chapter is that the America Online software shields users from the usual technicalities of telecommunications software. What this means is that AOL users never need concern themselves with "word length," "stop bits," "parity," or "transfer protocols." Those sorts of things are taken care of in the background, with no user involvement.

Elucidating the Complex

One chapter I found particularly useful was Chapter 12, "FlashSessions & the Download Manager." FlashSessions allow you to automate the sending and retrieving of electronic mail—thereby helping to minimize your online connect time. You do not need to know about FlashSessions to make use of America Online, but knowing about them can be helpful in keeping online costs to a minimum.
PP FlashSessions also allow you to perform multiple file downloads automatically. The Macintosh forum libraries on AOL contain upwards of 25,000 public domain and shareware files. While browsing the

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descriptions of these files, you can click on a button titled: "Download Later." That file then gets added to a list of files that will be downloaded when you activate your FlashSession.

If this sounds a little complicated, that's because it is. But the convenience of being able to download multiple files at once (without having to babysit the computer) is a great convenience. Chapter 12 gave me enough courage to start experimenting with FlashSessions. I doubt if I would have explored this feature of AOL if I didn't have a well-written guidebook at my side.

The best of guidebooks include witty asides and light, self-deprecating humor. Tom Lichty throws in the occasional cute comment in his explanations to keep you turning the pages. For example, in Chapter 12 when he explains about how you can compose electronic mail messages offline and then send them as a batch using a FlashSession, he remarks: "In the previous chapter you sent yourself a letter. Yes, it was an exercise in futility, but you saw electronic mail in action. We're about to repeat the exercise, but this time we'll have the computer do it for us. We'll not only experience futility, we'll experience automated futility." The idea of a computer automatically performing futile tasks on our behalf kept me grinning for about six pages.

Other topics covered in the book include how families or schools can use multiple screen names for a single AOL account, how you can include boldface or italicized text in your e-mail messages to other Mac users, how you can obtain tech support from software publishers online, how you can keep up with the latest news in the computer industry by reading the "Newsbytes" press releases, how small business's can find useful information and advice in Microsoft's Small Busi-

ness Center, how you can download political and humorous cartoons as GIF (graphic interchange format) files, and a lot of other stuff.

It's embarrassing that I've have had an account on America Online for the past two years and have been unaware of so many of these online areas. I've come to learn that the information resources on AOL don't jump out at you if you don't go looking for them. It behooves newcomers to the service to browse around the service to gain a sense of what AOL has to offer. Or, better yet, browse through this guidebook, without incurring the online connect time expenses.

A good overview of what AOL has to offer can be gained by scanning the several hundred "keywords" listed in Appendix A of the America Online Membership Kit & Tour Guide. (Keywords allow you to quickly move from one area of AOL to another.) Along with keywords to the political news areas, sports news areas, travel info area, and computer forum areas, are also the keywords to "special interest" areas such as DisABILITIES, Mensa, biking, gay and lesbian forum, legal forum, writer's club, aviation club, and emergency response club. Each of these areas has its own public message board, organized into folders and topics.

Layout of the Book

The phenomenon of desktop publishing has increased public awareness about the aesthetics of page layout. Consequently, thorough book reviewers have taken to including brief remarks about the layout of books they review. The AOL Membership Kit & Tour Guide is layed out with large borders surrounding the body of the text. The body of the text is set in Palatino, a rounded font considered gentle to the eye.

Almost every other page in this

guidebook includes one or more screen shots. Tasteful use of background grayscale fill patterns adds texture to some of the screen shots. Nice job of layout.

Conclusion

Newcomers to America Online could well benefit from this guidebook. Old-timers on AOL may be surprised at how much this book has to offer. I'm glad I gave this book a chance to show me things I didn't know.

Note: User Group and Educational Discounts on Ventana Books

"User groups can order up to 10 books (mixed titles ok) for 20% off - Ventana pays the shipping. For orders of 10 or more, they get 50% off, still with free shipping. Educational discounts - 25% The educational discount is good for instructors *and* employees. We'll stretch that definition to anyone teaching a course, taking a course through an institution of some sort, or even affiliated with an academic group. A school purchase order is preferable, but teachers can place orders on school stationary."

(The author takes a keen interest in the popularization of telecommunications. He can be reached on America Online at: pshapiro; and on GEnie at: p.shapiro1)

Macintosh Tutorials

Volunteers and Instructors

You can't have training without teachers. If you have expertise in any subject useful to Mac or Apple users, please consider teaching. Instructors have an opportunity to work with students in small groups and informal settings. The teaching process is truly rewarding. Besides the spiritual and intellectual, rewards also include compensation; you will be paid. We especially need someone who can offer training in *Excel*. Call me if there is a subject that you are qualified to teach.

I am very pleased with the response to our requests for volunteers. We have a very bright and enthusiastic group of volunteers working to bring you the best possible classes and programs. We encourage and welcome additional support for the training program. Graphic designers, desktop publishers, and illustrators—we could use your help in promoting our program with brochures and fliers. For further information call Beth Medlin at the Pi office, (301) 654-8060.

Macintosh Tutorials

The Macintosh introductory tutorials are a three-part introductory series designed for beginning users or those desiring to brush up their skills. The primary focus of these courses will be on the System, Desktop, Icons, Windows, and basic concepts in System 7, but System 6 hangers-on are welcome and encouraged to participate. Their issues and concerns will be addressed. Please try to take all three parts; this is the most beneficial arrangement.

Introduction to the Macintosh, Part I (Course # M021494) You should go through the Guided Tour disk that comes with your computer or system upgrade kit before you come to class. You'll learn: how to safely turn your Macintosh on and off; what the basic dos and don'ts are; how to understand common Macintosh terminology found in manuals and other documentation; and how the basic components of your Macintosh system, hardware and software, work. You'll also learn why the Macintosh user interface is consistent across all applications, and how this makes learning and using software easier.

Materials Required: Your Macintosh, hard disk drive, start-up disk, and an unformatted DSDD 800k disk.

Date: Mon., February 14, 7-10 pm.

Introduction to the Macintosh, Part II (Course # M022194) Part II will continue the exploration of the basic components of your Macintosh system, hardware and software. You'll learn more of the dos and don'ts; the finer points of the Menu Bar, Error Messages, Dialog Boxes, Icons, Folders, Keyboard Shortcuts, Scrapbook, and Clipboard will be discussed. You'll learn the basics of installing software,

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Some Specifics

■ **Where:** Unless otherwise stated, all tutorials sponsored by Washington Apple Pi are given at the office located at 7910 Woodmont Avenue, Suite 910, Bethesda, Maryland.

■ **When:** Unless otherwise stated, all tutorials are three hours in length and begin at 7:00 PM on the date listed. The office building is secured at 6:00 PM. To gain access, pick up the telephone located by the glass entry doors and tell the operator where you are going.

■ **Fees:** $25.00 per class for members and $35.00 per class for non-members. Pre-registration and payment must be made to hold a seat.

■ **Class Size:** Class size is limited to 6 students per class.

■ **Bring my Computer?** All classes are taught seminar-style with the instructor using a computer and an overhead display. We encourage students who wish hands-on training to bring their computers.

■ **Instructor Cancellation:** If a class is canceled by the instructor, all students will be notified of the cancellation. Please check your home answering machine if you have not given a work number for notification.

■ **Student Cancellation:** A cancellation must be received by the office 72 hours before a class is scheduled. The only exception to this is a cancellation due to illness.

February Tutorials are the 4 basic ones:

—Intro to Mac 1 02/14/94 (M021494)

—Intro to Mac 2 02/21/94 (M022194)

—Intro to Mac 3 02/28/94 (M022894)

—Maintaining the Mac 02/23/94 (M022394)

as well as about the Chooser, peripheral devices, and how they are connected to the Macintosh.

Materials Required: Your Macintosh, hard disk drive, start-up disk, and an unformatted DSDD 800k disk.
Date: Mon., February 21, 7-10 pm.

Introduction to the Macintosh, Part III (Course # M022894) Part III will follow up the concepts in Parts I and II. You will learn more advanced Macintosh skills and terminology; about the system software and using, installing, and updating system files; about managing memory, hard disk space, fonts, sounds, and other resources, the Apple menu, aliases, launching applications, inter-application communications (Publish and Subscribe), and Balloon Help. You'll also learn about how to buy hardware and software, how to upgrade, and what kinds of software are available for your Macintosh.

Materials Required: Your Macintosh, hard disk drive, start-up disk,

and an unformatted DSDD 800k disk.
Date: Mon. ,February 28, 7-10 pm

Maintaining Your Macintosh (Course # M022394) How to maintain and troubleshoot your Mac. Topics will include: organizing and managing your hard disk; backing up and back-up strategies, archiving, disk formatting, defragmentation and optimization; managing start-up resources (including System 7 extensions or System 6 INIT's); avoiding conflicts and incompatibilities; virus protection; memory management; upgrading or replacing the operating system; system enhancements; customizing software installation; cleaning your mouse; and Macintosh "housekeeping" philosophies.
Date: Wed., Feb. 23, 7-10 pm.

Internet Classes

Basic and advanced courses in using the Internet are being offered on a weekly basis at the University of Maryland's Shady Grove Campus, in Rockville, Maryland. The classes are intended for busi-

ness professionals, but I imagine anyone with an interest in learning to use the Internet could benefit from them. Note: The classes are taught on IBM-PC systems, rather than Apple II's or Macs. This should not make too much of a difference in understanding the concepts being taught. For the most part, telecommunications is "platform neutral."

Here is a list of the classes that are taught:
Basic Internet I: Basic Tools (e-mail, ftp, telnet) 3 hours $65
Basic Internet II: Basic Tools (newsgroups, utilities)   3 hours $65
Basic Internet III: Basic Tools (gopher, wais, www) 3 hours $65
Advanced Internet I: E-mail (discussion groups) 3 hours $100
Advanced Internet II: Gopher 3 hours $100
Advanced Internet III: Business/Environment Resources 3 hours $100
Advanced Internet IV: Education/Government Resources 3 hours $100
Advanced Internet V:

Washington Apple Pi
Tutorial Registration Form

Washington Apple Pi
7910 Woodmont Ave., Su. 910
Bethesda, Maryland 20814
301-654-8060

Basic Information

Name_____

Address_____

City/State/Zip_____

Phone (day)_____ (evening)_____

Member Number_____ Non-member _____

Number of Classes _____ x Class Fee $ _____ = Total Fee $ _____

☐ Check/Money Order   ☐ Credit Card

Card Number _____

Card Expiration _____ Signature _____

Can you bring your own computer to the class?   Yes ☐   No ☐

Course Numbers

Please fill in the course number of the class(es) that you wish to attend.

Class #1_____

Class #2_____

Class #3_____

Class #4_____

Class #5_____

Class #6_____

WAP Form #CL006 (mod. 7/90). Mail registration and payment to the above address.

Health/Medicine Resources
3 hours $100
Advanced Internet VI:
Law Resources 3 hours $100
Advanced Internet VII:
Science Resources 3 hours $100
For futher information, contact the class instructor, John Makulowich, at: The Writers Alliance, Inc. 12008 Golden Twig Court Gaithersburg, MD 20878-2346 USA +1 301 738 6080 (voice) +1 301 738 6040 (fax) Internet: makulow@nova.umd.edu The University of Maryland System Shady Grove Center is located at 9640 Gudelsky Drive, Rockville, Maryland. The telephone number is (301) 738-6000.

Desktop Publishing SIG Seminars coming soon!

In the next couple of months there will be 3 seminars on desktop publishing.

They will take place on March 19, April 16 and May 14. Details on the subject matter, location etc., are to be determined.

See the March *Journal* for more information.

Notes to Special Offer:
* Refurbished products are equipment that has been returned to Apple by existing resellers. It may have been returned for any number of reasons, including discontinuation of that model, a return by customer, or a malfunction in the product. All returns are checked for proper function, repaired if necessary, repackaged, and marked "refurbished" on the box.
** Orders will be taken on a first come, first serve basis and only from Feb. 1 through Feb. 28, 1994.
*** Shipment of all orders will be made the week of March 1.
****All products come with a 90-day in-home warranty.
***** You must be a member of a user group, such as WAP, to participate.

Special Computer Offer From Apple

There is a DUO and two Power-Books being offered by Apple Computers to Pi members for the month of February.

The first offering is brand new. It is the DUO 210 4megs RAM/80 meg HD bundle. The microprocessor is the 25 MHz 68030. Included is the Apple 14" Basic color monitor (.39 dot pitch), minidock, AC desk charger and extra battery. This new system carries a full one year warranty. Price is $1449.00.

The second item is a PowerBook 170. This model has the 25 MHz 68030 microprocessor and a 25 MHz 68882 math coprocessor as well as an active matrix screen. It comes with 4 meg RAM/40 meg HD, and an internal 2400 baud fax/data modem installed. This refurbished unit carries a 90-day warranty and sells for $1329.00.

The final item for February is a PowerBook 165. It has a 33 MHz 68030 processor, 4megs RAM/120 meg HD. It can display 16 shades of gray on its backlit supertwist screen. It has built-in support for up to 256 colors on a variety of external monitors. The PowerBook is also refurbished, has a 90-day warranty, and sells for $1379.00.

Product #	Description	User Group Price
UGCDUO	Duo 210 4/80 bundle	$1449.00
M1050LL/A	PowerBook 170 4/40 w/modem	$1329.00
M1642LL/A	PowerBook 165 4.120	$1379.00

User Group Member Purchase Program Order Form

First Name _____ Last Name _____ M.I. _____
Ship to address: _____
(no PO Boxes) _____
City _____ State_____Zip _____
Day Phone# _____ Evening Phone# _____
Type of Payment: VISA # MC#_____ Exp. _____
Signature _____Cashier's Check # _____
Qty: Product # Description Price Exten:

_____

_____

_____

Subtotal: _____
(Only in the state of CA 8.5%) Sales Tax: _____
Shipping Costs: _____
Total:_____

Shipping charge for each product ordered is $15.00

Artists on exhibit

by Blake Lange

fig. A
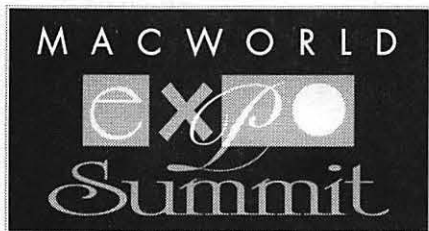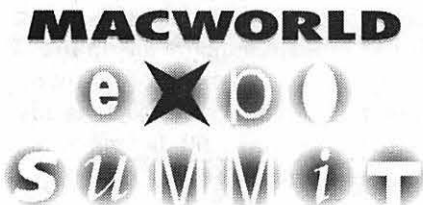
fig. B

This column will look at the art and artists of Washington Apple Pi and the techniques and tools used to create the art.

Artist Info: David B. Gordon, Lead Designer; Linda Austin, Art Director; Greg German, Graphic Designer; Image Communications, Inc., McLean, Virginia. Landing the account for promotion of the MacWorld Exposition in Washington, D.C. is quite a plum for a local design firm, yet this company has a history of successful promotions in the computer field. The beautiful materials distributed by America Online are their creations.

This story is about the development of the logo for the Washington MacWorld Expo scheduled for May 10 through 12. Of interest is not only the exemplarily graphics but also the creative process.

Technology in graphics design has developed to the point that this logo could be developed in just two weeks. Initially, twenty-five versions of the logo were created out of which fifteen, after extensive revisions, were presented to MacWorld for review. Three designs were picked for further refinement until settling on the final choice (fig. E).

The final choice was then rendered in several colors from which taupe was selected.

Tools: Macintosh Quadra 950, 2 gigabyte drive, 78 MB RAM, 17" Apple RGB Monitor, Mickrotec Color Scanner, Tektronic Phaser 3 printer for proofs, Quark Express, Adobe Photoshop and Adobe Illustrator.

Techniques: This was the first major project for lead designer Gordon in which he used the features of Adobe Illustrator's new version 5.0.

For most of the logos, the type converted to outlines was modified to fit the design. In the first logo shown (fig. A) the pathfinder filter "back minus front" was used so that when the background color was modified it would show through the letters.

The logo with all the rough edges on the circle and global map (fig. B) was created by using the new distort/roughen filter applied many times until the desired effect was created. The map had the effect applied to a
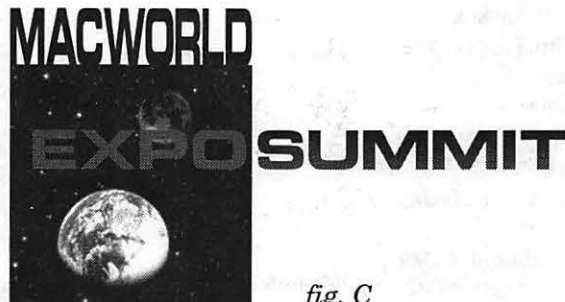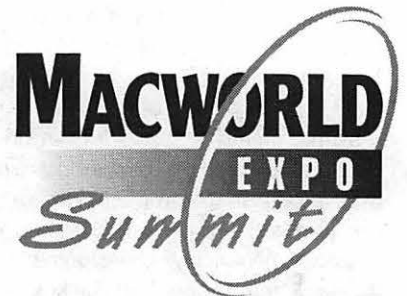
fig. C

lesser extent and then was placed on the circle using the back minus front command.

The planets illustration (fig. C) was imported from Photoshop and placed into Adobe Illustrator. Using the new Mosaic filter to change each pixel of a PICT object to a vector graphic, the artist was able to experiment with different effects from inside Illustrator!

The logo with the sun around the letter "O" in "EXPO" (fig. D) was created using the new polygon filter to create a twelve-pointed star that was then "twirled" using the new twirl filter.

The version actually approved (fig. E) uses the new gradient fill feature. In the older versions of Illustrator gradients were created by using a blend command that created a number of objects, each slightly different in color—an unwieldy process at best. The new ease of gradient art seems to be a harbinger of things to be seen at the Expo. See you there!

MACWORLD EXPO SUMMIT

MACWORLD EXPO SUMMIT

MACWORLD EXPO SUMMIT

fig. E

MACWORLD EXPO SUMMIT

MACWORLD Summit

MACWORLD EXPO SUMMIT

MACWORLD expo SUMMIT

fig. D

MACWORLD M EXPO SUMMIT
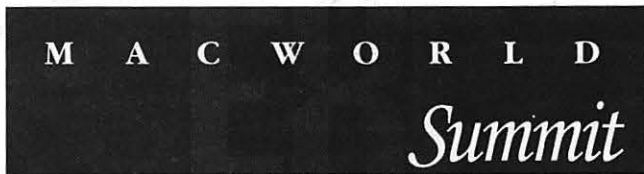
New Macintosh Files on the TCS

by Lawrence I. Charters

December saw two milestones for the Washington Apple Pi bulletin board, the TCS (Telecommunications System). The first milestone: since August, the board has collected 4,000 files, totaling over 700 megabytes. The second milestone is a bit harder to explain, since it requires a little knowledge of how hard drives work on the Macintosh.

The main hard drive for the TCS is divided into five partitions. The Mac IIfx which drives the board sees these partitions as separate drives, four "small" ones of over 100 megabytes and one big one with over half a billion bytes of storage. In December, this large partition completely filled, prompting a major reallocation of space.

In the past, before the "new TCS," filling a hard drive caused the entire system to crash, and the only solution was to engage in a mass purge of files. It wasn't even possible to purchase more drives for storage, since the manufacturer had ceased to exist long ago. As a result, the average life expectancy of a file on the bulletin board was three months or less. But in December, almost 150 megabytes of files were shifted around among the partitions to make room. Not one file, not one byte, of data was lost. And it took mere minutes; other than the TCS Crew, no one even noticed a change.

As Apple Computer Corp. enters its 17th year, and the Macintosh welcomes its 10th anniversary, it is worth looking back and appreciating how far we have come. Computer bulletin boards had their beginnings in the days of 300 bps modems that cost $700 or more, and file storage was a matter of how much you can fit on a floppy diskette. Today, a 14,400 bps modem is under $200, and there are individual files on the TCS measured in megabytes. Ten years from now...?

The usual fine print: this listing represent only a small portion of the constantly changing library of files available for downloading. Call the Pi Office at 301-654-8060 for information on how to subscribe to the Washington Apple Pi Telecommunications System, the Pi's "24 hour a day General Meeting."

Area 3: Apple System Software

CDROM.4.05.SIT: latest version of Apple's Macintosh CD-ROM driver Installation disk. Disk Image format requires Disk Copy 4.2 to make floppy.

MACCHECK1.0.5: latest version of Apple's superb disk (and system) diagnostic utility. It checks for damaged fonts, lists the fonts, checks for damaged files, list various kinds of files, lists drivers, displays all kinds of nifty disk information — and even tells you how many hours your Mac has been on since it was first powered up.

AEVMGR.CPT: latest version of the Apple Event Manager for the AV Macintosh computers.

Area 6: Misc Documents

DCBB1193.TXT: listing of "all" DC/MD/VA bulletin boards (Washington Metro) as of Nov. 1993.

LOREMIPSUM.SIT: "Latin" nonsense text for filling out sample page-layout pages.

LW8.SIT: bunch of ResEdit hacks for customizing the LaserWriter 8.x driver.

POSTALRATES.SIT: heavily formatted Microsoft Word document with postal rate charts.

TIFF6.PS.SIT: latest specifications for TIFF images; the document is a PostScript file which must be downloaded with a utility (you can't view anything useful on the screen) to a PostScript printer.

BAT.TXT: small example of a dying genre: a TTY picture of a bat.

SIMPSONS.TXT: TTY family portrait.

MONALISA.TXT: TTY art of the Mona Lisa. Kinda elongated.

NBB9301.TXT: expanded version of the Computer Literacy Bookshops new book bulletin, first quarter 1993.

NBB9302.TXT: expanded version of the Computer Literacy Bookshop new book bulletin, second quarter 1993.

NBB9303.TXT: expanded version of the Computer Literacy Bookshop new book bulletin, third quarter 1993.

NETBKS.TXT: expanded, annotated list of books on networking from Computer Literacy Bookshop.

Area 7: GIF Graphics

THRASHER.GIF: close-up photograph, 256-color of a thrasher in a natural setting.

MB500SL.GIF: Mercy Bends 500SL, gleaming German metal, glass, plastic, rubber, leather, monthly payments...

NIAGARA.GIF: either the famous horseshoe-shaped falls between the U.S. and Canada or the result of a terrible plumbing error.

FRACTALROOM.GIF: technically, probably a virtual room, for fractious people?

BABOONS.GIF: silhouetted against a

spectacular sunset. This is a HUGE photo.

ZAPPA.GIF: portrait of the late Frank Zappa.

ZAPPA2.GIF: this photo isn't as politically correct, which may actually be more in keeping with his view of the world.

BORGATES: interesting commentary on computer software with a Star Trek: The Next Generation theme. Quite clever.

ALIENS.GIF: color photo showing flying saucers over Southern California, downloaded off a NASA Goddard computer.

ENTERPRISEN.GIF: color picture of the starship Enterprise, Next Generation version.

AODS1ACLOSE.GIF,
AODS1CLOSEO.GIF,
AODS1EARTHO.GIF,
AODS1NEWTER.GIF,
AODS1POLARS.GIF,
AODS1SATURN.GIF,
AODS1THEART.GIF,
AODS1TRITON.GIF,
AODS2CLARKESMOO,
AODS2EUDORAI.GI,
AODS2LOSTIN.GIF,
AODS2OFFTHECR.G,
AODS2OUTSID.GIF,
AODS2OVERDRAG.G,
AODS2PSIDRA.GIF,
AODS2XRAYIN.GIF: superb series of astronomical artwork with the general title "Art of DracoSpace." The artist is a Macintosh sysop on GEnie.

CARINANEBUL.GIF: color photo of the Carina Nebula

EARTHSMOON.GIF: huge, bright photo of Luna, Terra's sister planet.

ECLIPSE1.GIF: photo of a total eclipse of the sun, taken off the coast of Southern California with a digital camera and "developed" on a Macintosh.

Area 8: JPEG Graphics

CENTRIS650.CUT: neat color cutaway picture of a Centris 650/ Quadra 650/PowerPC ???

CLOUDTOPSOV.JPG: photo of cloud tops over the Pacific.

JAGUAR.JPG: if I owned this car...I'd sell it and buy a Quadra or PowerPC.

BABOONS.JPG: massive photo of baboons on a tree, silhouetted by a spectacular sunset.

Area 10: MIDI Music

MUSICFUNDEM.SIT: Music FUN(damentals) is a music teaching game written by a music professor at Brown University. It uses to advantage, but does not require, MIDI equipment.

MIDISCOPE.SIT: excellent diagnostic tool allowing you to view and capture all or selected types of MIDI data in real time. Many features, misguided interface.

MIDI.ADAPT.TXT: text file describes a home-brew MIDI adapter for the Macintosh.

BULK.SYSEX.SIT: utility lets you capture and download data from and to any MIDI device.

HYPERMIDI.SIT: package contains an integrated set of HyperCard commands which programmers can use to communicate with MIDI devices.

MINITRAX154.SIT: utility, written to demonstrate Altech's MIDI BASIC language, allows simple recording and playing of songs, plus it can quantize, transpose, and perform various other transformations on the recorded music. Samples included.

KAMIKAZEDX.CPT: utility written by an enthusiastic MIDI BASIC user in Japan for the DX. Its documentation is not quite totally incoherent.

CZLIBRARIAN.SIT: utility written by Altech for the Casio CZ series keyboards.

ESQ1LIBRARY.SIT: utility written by Altech for Ensoniq keyboards.

Area 12: PowerPC

PPC.SIT: info on the PowerPC from IBM; Postscript file.

Area 22: Mac Applications

FAMILYEVENT.SIT: genealogy program with flexible report writing capabilities.

ADDRESSBK36.SIT: latest version of a very fine shareware address book program.

Area 23: Mac Utilities

MONITOR.SWITCH: switch color depths and resolutions on the fly.

RECIPEBOXDE.CPT: nice shareware FileMaker Pro database, a fully functional recipe box.

MACAOAN3.2.CPT: updated shareware amortization schedule.

CLOX.SIT: three clocks, each a stand-alone application, of little or no use unless you have either MultiFinder or System 7.

INQUISITION.SIT: *interesting* collection of files (not really a utility) that use AppleEvents to check the fields in FileMaker Pro.

CHECK32.SIT: utility to check and see if your programs are 32-bit clean.

Area 24: Mac Extensions

STRETCH2.SIT: iconize & stretch windows the way Microsoft thinks you should.

NETWORKCALE.SIT: not a bad networkable calendar.

CROOKEDMOUS.SIT: fun little INIT which will cause your mouse to move at an angle 45 degrees counterclockwise from the angle it should be moving.

BARNEYBLAST.SIT: with this Barney Blaster After Dark module installed on your system, the big purple guy will appear on your screen, chuckle (ugh), hop a few times (groan), and then, mercifully, get shot in the gut with a delayed-fuse explosive projectile.

SNDMSTR174.SIT: latest release of SoundMaster 1.7.4, a control panel you can use to assign sounds to various system events.

PREVIEW302.SIT: slick printer extension that gives a print preview even in applications that don't specifically have such a feature.

GREGSBUTTON.SIT: a control panel that let's you customize the user interface of a Mac running S7.

AURORA.SIT: allows you to add custom colors to your windows, background, scrollbars, text, highlight colors, etc.

DEPTHMASTER: set each application to a custom color depth

XMASLIGHTS.SIT: hang flashing Christmas lights under menu bar

XMASBULBS.SIT: After Dark module of a hugely tangled string of brightly colored Christmas decoration bulbs.

QUITIT1.0.SIT: Control Panel that quits an application when the close box is clicked on the last open window.

PLAYON.SIT: control panel device that takes sound input to the back of the Mac and plays it on the Mac's speaker.

MOUSEBROKEN.SIT: control panel to customize mouse movement, usually in ways that would seriously degrade performance and sanity.

AD.SYSTEMVINE: After Dark module that puts about 13 system icons up on the screen at random.

Area 25: Mac Font

FONTCASCADE.SIT: small application which allows you to display a font in large, even very large, sizes, on screen or printed.

Area 26: Mac Sound

SPEAKER1.13.SIT: play with new Speech Manager and PlainTalk voice synthesis (both of which are required).

MSZSOUNDS.SIT: customize the sounds used in Zterm.

SHUTTLEBAYD.SIT: sound heard when the shuttle bay doors are opened on the Enterprise.

ITCHYSCRATC.SIT: The Itchy & Scratchy show!!

SOUNDTRECKE.SIT: Sound-Trecker 2.0, *the* program for playing MOD music files on a Macintosh. New in this version is the ability to peer into the internal MOD file specifications, six voices, and other goodies, plus a wicked way to export files to a Mac sound file format.

FALALA: sound excerpt from Deck the Halls carol

HERSHEYXMAS: sound file similar to the Hershey Kisses Commercial

LITTLETOWNO.SIT: sound excerpt from O Little Town Of Bethlehelm

OTIDINGSOFC.SIT: sound excerpt from O tidings of Comfort and Joy

SILVERBELLS: sound excerpt from Silver Bells Xmas tune

XMASCHIMES: four Christmas

Chime sounds

XMASWHISTLE: kid saying Christmas with whistle.

ROCKYOU.SIT: We will — we will — ROCK YOU!

Area 27: Mac Graphic Images

JCLIP.SIT: six MacPaint drawings in classic Japanese style.

HOLIDAYPPAT.SIT: holiday desktop patterns for Before Dark.

STIMPYTICON.SIT: professional quality 3-D icon of Stimpy

ICONS.SEA: some high-quality, if bizarre, icons

C94CALPAGE.SIT: 1994 calendar on a page, in Adobe Illustrator EPS format

STATESART.SIT: EPS images of all 50 states as separate files; these are all to the same scale.

WORLDMAP.EP.SIT: EPS map of the world; not very detailed, but pretty.

PATTERNSOFN.SIT: an import file for the Before Dark application/control panel. Lovely nature patterns.

MARKTWAINSTEREO: stereo PICT image of Mark Twain. You can view this with GIFConverter, TeachText 7.0, or anything else that can read a PICT image.

XMASTREEPPAT: Christmas tree desktop pattern

XMASICONS.SIT: great Christmas Icons

Area 28: Mac Graphic Utils

KAITIPS.23.SIT: 23rd in a series from Kai Krause, developer of Kai's Power Tools for Adobe Photoshop. This article in WORD 4-5, deals with "The Shadowy Mask," a method of creating titles against "shadowy" backgrounds.

GCON.2.33.4.SIT: GIFConverter is a superb GIF viewer and can also save GIFs into other formats along with displaying JPEG files. This archive contains 2.33 and the updater to turn it into 2.34.

MACMANDELMO.SIT: wonderful utility for making Mandelbrot movies. MACPLASMA1..SIT: application does nothing useful except make wonderful color animations that pulsate. Play some '60s music while you watch it.

MPEG.UTILS.SIT: two programs, a player for MPEG format movies, and a utility that converts MPEG to QuickTime.

Area 29: Mac Telecomm

NET.MAC.2.3.29: packet radio (ham radio) program

NUNTIUS.1.1.3: a System-7-dependent Macintosh NNTP news reader.

CONGRESSFAX.SIT: STFfax phonebook with the fax numbers of all the Congresspeople the compiler could compile.

ATMAP0.1B7F.CPT: utility will map an AppleTalk network, including routers and other communications links.

OP288.SIT: AppleTalk Remote Access settings for the new Hayes Optima 28.8 modem.

USRCRV32T1.SIT: AppleTalk Remote Access settings for the new US Robotics Courier V.32 terbo 19.2K modem.

Area 30: Mac Product Demos

SIMCITY2000DEMO: demo slide show (256 Color) of the wild new version of SIM City, the game that lets you play politics without getting elected.

WP3.0TESTDR.SIT: working demo of WordPerfect 3.0 for the Macintosh, a serious contender against Microsoft Word, the most widely used Mac program of all time.

RAEASSISTDE.SIT: working demo of Rae Assist, a calendar / to do / appointment / name and address package.

CYCLONEINSTALLE: outstanding update of a classic game

MAYHEMDEMO.SIT: demo of a game which lets you do what you always wanted to do: be the monster. Smash cities flat! Chase the little itty bitty people!

SPINDOCTORD.SIT: Spin Doctor is *different* — you control a spinning bar through just a few keys, and guide it through all kinds of colorful and dangerous obstacles.

TINIESDEMO.SIT: cute 256 color puzzle game where you have to move little critters around a maze to match them to their 'sleeping pads.'

GLIDERDEMO.SIT: demo of the popular game Glider (v4.0)

SWAMPGASDEM.SIT: demo of the educational game Swamp Gas

BATTLECHESS.SIT: demo of the outrageous chess game 'Battle Chess,' where the pieces are animated, and sometimes do nasty things to each other.

Area 31: Mac Product Support

CDROMTOOLKI.CPT: update FWB's CD-ROM Toolkit to v.1.03.

AI5.01PATCH.SIT: Adobe Patcher to Illustrator 5.01b

AVDSP.SEA : Photoshop Plug-in for AV Macs

QUICKEN.CPT: update Quicken to Quicken release 6

AUTODOUBLERUPDA: patches Autodoubler 2.0.X to 2.0.3

Area 32: Mac Games

PATCOMM1.1.SIT: clone of the arcade game Missile Command

SSONICRKILL.SIT: Super Sonic: The Road Kill

SLAMDUNK171.SIT: well-done college and pro basketball simulation game.

MOVODII.SIT: one or two player game in which you operate a tank-line vehicle, but *not* a simple shoot-em-up.

CARD.SHELL.VOL: more card games for Card Shell

CLASSIC.DALEKS: revised, System 7 compatible version of the "first" Mac game.

BEEBOP1FRENCHBR: a Breakout game with a French twist, really nice colors and sounds.

MAELSTRMV14.CPT: newest version of Maelstrom, arguably the best space shooter game for the Mac.

QUAGMIRE.SEA: move you robot through all the levels of the building and save Dr. Quagmire.

Area 34: Mac Hypermedia

HAMILGARDEN.SIT: cleverly done — and relatively simple to duplicate — "virtual" tour of Hamilton Gardens, in New Zealand.

SIMMSTACK411.SI: latest version of a wonderful stack that tells you almost everything there is to know about Macintosh memory for computers and printers.

Area 35: Mac Multimedia/QT

SKIER.SIT: clip showing a skier (snow type)

SAFESEXPSA.SIT: safe sex public service announcement

DGDC.MOVIE.SIT: elaborate rotating color molecule

MPEGFAQ3.SIT: all you ever wanted to know about MPEG (and more).

ADDAMSFAMILYI.S: clever, and enlightening, interactive preview? summary? vita? whatever? on the film "Adams Family Values."

WBGSLIDESHO.SIT: nice nature slide show from Japan.

ROMANTICMAR.SIT: Romantic Marine slideshow, from Japan

MANDELMOVIE: Art through higher mathematics. This QuickTime clip will occupy 7.5 megabytes of disk space. The movie was created using MacMandelMovieMaker, a funny name for a wonderful program designed to make QuickTime movies of Mandelbrot set animations.

BIRDHATQT.SIT: a bird in the hat is worth two in your computer

FRACTAL.MOO.SIT: Mandelbrot fractal movie

MAC.PICSMOV.SIT: QuickTime clip for Macintosh computers suffering an identity crisis.

STAR.TREK.P.SIT: space: the final frontier, etc.

RTRACEFLYTH.SIT: nice fly-through ray trace clip

SRBSEPET208.SIT: an orbital booster does its thing

WEATHERMOVI.SIT: NOAA satellite view of Hurricane Emily

HUBBLEREPAI.SIT: stand-alone 3D animation and model of the Hubble Telescope repair, complete with shuttle, little astronauts, shuttle arm, etc..

TERMINATOR2SPEC: clip from Terminator 2 special

PLAYMATE.SIT: Playmate jumps around in a skin tight cat suit for the cameras.

ECLIPSEFROMTH.S: movie shows what a total lunar eclipse would look like if you were on the surface of the moon. Done with Voyager, and pretty neat.

MAX.MOOV.SIT: seven seconds from the original pilot of Max Headroom. August 1987. This movie will blow your mind.

Area 36: Mac Information

TIDBITS #202 to *TIDBITS #206* (Nov. 15, 1993 to Dec. 13, 1993): the weekly electronic Macintosh magazine, filled with news and gossip for those too impatient to read MacWeek.

ZIPADEE.SIT: extensive database, in FileMaker Pro format, of Zip codes (covers all 5-digit zip codes in the country).

WORD5FAQ.SIT: a number of FAQ (Frequently Asked Questions) lists from the Word Mac conference, covering Word 5.0.

WORDFAQWD4.SIT: Word 4 Frequently Asked Questions

COMPTON.SIT: text of claims to patent on multimedia search engine by Compton's New Media.

WORDHELP.SIT: series of documents (in Word 5.1, of course) on how to get the most out of Word 5.1, by Reed College.

Area 37: Mac Programming

INITICONSP.SIT: Pascal source to display INIT icons

Area 38: Mac Technical

MAKEMOOVS.SIT: articles on QuickTime Movie making

ETHERNETCAR.SIT: Ethernet card questions, and some answers, too.

LOCALTALKCO.SIT: LocalTalk Connector Schematic

NETWORKWIRI.SIT: Network Wiring Guide

PHONENETINF.SIT: more information than you ever wanted to know on PhoneNet connectors for LocalTalk.

WHENETHERNE.SIT: information on when you should consider Ethernet over LocalTalk.
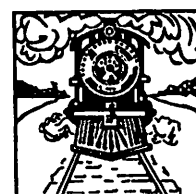
Apple // History

Compiled and written by Steven Weyhrich
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(PART 1 — PRE-APPLE HISTORY)
[v1.0 :: 18 Sep 91]

Introduction

This project began as a description of how the Apple II evolved into a IIGS, and some of the standards that emerged along the way. It has grown into a history of Apple Computer, with an emphasis on the place of the Apple II in that history. It has been gleaned from a variety of magazine articles and books that I have collected over the years, supplemented by information supplied by individuals who were "there" when it happened. I have tried not to spend much time on information that has been often repeated, but rather on the less known stories that led to the Apple II as we know it (and love it) today. Along the way I hope to present some interesting technical trivia, some thoughts about what the Apple II could have been, and what the Apple II still can be. The Apple II has been described as the computer that refuses to die. This story tells a little bit of why that is true.

If you are a new Apple II owner in 1991 and use any 8-bit Apple II software at all, you may feel bewildered by the seemingly nonsensical way in which certain things are laid out. AppleWorks asks which "slot" your printer is in. If you want to use the 80 column screen in Applesoft BASIC you must type an odd command, "PR#3". If you want to write PROGRAMS for Applesoft, you may have some of those ridiculous PEEKs and POKEs to contend with. The disk layout (which type is supposed to go into which slot) seems to be in some random order! And then there is the alphabet soup of disk systems: DOS 3.3, CP/M, Pascal, ProDOS, and GS/OS (if you have a IIGS). If you use 16-bit software EXCLUSIVELY, you will probably see none of this; however, even the most diehard GS user of the "latest and greatest" 16-bit programs will eventually need to use an 8-bit program. If you can tolerate a history lesson and would like to know "the rest of the story," I will try to make sense of it all.

I think one of the Apple II's greatest strengths is the attention they have paid over the years to be backward compatible. That means that a IIGS "power system" manufactured in 1991, with 8 meg of memory, a hand-held optical scanner, CD-ROM drive, and 150 meg of hard disk storage can still run an Integer BASIC program written in 1977, probably without ANY modification! In the world of microcomputers, where technology continues to advance monthly, and old programs may or may not run on the new models, that consistency is amazing to me. Consider the quantum leap in complexity and function between the original 4K Apple][and the ROM 03 IIGS; the amount of firmware (built-in programs) in the IIGS is larger than the entire RAM SPACE in a fully expanded original Apple][!

This strength of the Apple II could also be considered a weakness, because it presents a major difficulty in making design improvements that keep up with the advances in computer technology between 1976 and the present, and yet maintain that compatibility with the past. Other early computer makers found it easy to design improvements that created a better machine, but they did so at the expense of their existing user base (Commodore comes to mind, with the PET, Vic 20, Commodore 64, and lastly the Amiga, all completely incompatible). However, this attention to detail is just one of the things that has made the Apple II the long-lived computer that it is.

In examining the development of the Apple II, we will take a look at some pre-Apple microcomputer history, the Apple I, and the formation of Apple Computers, Inc., with some sideroads into ways in which early users overcame the limits of their systems. We will follow through with the development of the Apple IIe, IIc, and IIGS, and lastly make some comments on the current state of affairs at Apple Inc. regarding the Apple II.

Pre-Apple History

Let's begin our adventure in history. I've designed a special interface card that plugs into slot 7 on an Apple II. It contains an item its inventor called a "Flux Capacitor" (something about the being able to modify flux and flow of time). The card derives its power from a self-contained generator called "Mr. Fusion" (another item I dug out of the wreckage from a train/auto accident in California a couple of years ago). Connected to the card via a specially shielded line, Mr. Fusion runs on trash (and is, therefore, the ultimate computer peripheral, if you recall the old principal of "garbage

in, garbage out"). Let's put a few issues of PC MAGAZINE into Mr. Fusion, and switch on the Flux Capacitor. (Incidentally, for this to work, it needs an Apple II equipped with a specially modified Zip chip running at 88 MHz). Boot the disk and set the time circuits for 1975. Ready? Set? Go! ** CRACKADOOM ** !!

Did you make it all right? (Just don't touch anything — you don't want to disrupt the space-time continuum, you know!) Now, since the first Apple II wasn't released until 1977, what are we doing back in 1975? Well, to understand how the Apple II came about, it helps to know the environment that produced it. In 1975, the microcomputer industry was still very much in its infancy. There were few "home computers" that you can choose from, and their capabilities were very much limited. The first microprocessor chip, the 4-bit 4004, had been released by Intel back in 1971. The first video game, Pong, was created by Nolan Bushnell of Atari in 1972. Also in 1972, Intel had gone a step further in microprocessor development and released the 8-bit 8008, and then the 8080 in 1973.

The year 1974 saw Scelbi Computer Consulting sell what some consider to be the first commercially built microcomputer, the Scelbi 8-H, based on Intel's 8008 chip. However, it had limited distribution and due to the designer's health problems it didn't go very far. The first home-built computer, the Mark 8, was released that same year. The Mark 8 used the Intel 8080 chip, but had no power supply, monitor, keyboard, or case, and only a few hobbyists were ever finished their kits. Overall, the microchip had yet to make much of an impact on the general public beyond the introduction of the hand-held calculator.

With the start of 1975 came a significant event in microcomputer history. If you will consider the early microprocessors of the years 1971 through 1974 as a time of germination and "pregnancy" of ideas and various hardware designs, January of 1975 saw the "labor and delivery" of a special package. The birth announcement was splashed on the front cover of a hacker's magazine, Popular Electronics. The baby's parents, MITS, Inc., named it "Altair 8800"; it measured 18-inches deep by 17 inches wide by 7 inches high, and it weighed in at a massive 256 bytes (that's one fourth of a "K"). Called the "World's First Minicomputer Kit to Rival Commercial Models," the Altair 8800 used the Intel 8080 chip, and sold for $395 (or $498 fully assembled). MITS hoped that they would get about four hundred orders for clones of this baby, trickling in over the months that the two-part article was printed.

This would supply the money MITS needed to buy the parts to send to people ordering the kits (one common way those days of "bootstrapping" a small electronics business). This "trickle" of orders would also give MITS time to establish a proper assembly line for packaging the kits. However, they misjudged the burning desire of Popular Electronic's readers to build and operate their own computer. MITS received four hundred orders in ONE AFTERNOON, and in three weeks it had taken in $250,000.[1] The Popular Electronics article was a bit exuberant in the way the Altair 8800 was described. They called it "a full-blown computer that can hold its own against sophisticated minicomputers now on the market... The Altair 8800 is not a 'demonstrator' or souped-up calculator... [it] is a complete system." The article had an insert that lists some possible applications for the computer, stating that "the Altair 8800 is so powerful, in fact, that many of these

applications can be performed simultaneously." Among the possible uses listed are an automated control for a ham station, a digital clock with time zone conversion, an autopilot for planes and boats, navigation computer, a brain for a robot, a pattern-recognition device, and a printed matter-to-Braille converter for the blind.[2] Many of these things will be possible with microcomputers by 1991, but even by then few people will have the hardware add-ons to make some of these applications possible. Also, despite the power that micros will have in that year, the ability to carry out more than one of these applications "simultaneously" will not be not practical or in some cases even possible. The exaggeration by the authors of the Popular Electronics article can perhaps be excused by their excitement in being able to offer a computer that ANYONE can own and use. All this was promised from a computer that came "complete" with only 256 bytes of memory (expandible if you can afford it) and no keyboard, monitor, or storage device.

The IMSAI 8080 (an Altair clone) also came out in 1975 and did fairly well in the hobbyist market. Another popular early computer, the Sol, would not be released until the following year. Other computers released in 1975 that enjoyed limited success were the Altair 680 (also from MITS, Inc., based on the Motorola 6800 processor), the Jupiter II (Wavemate), M6800 (Southwest Technical Products), and the JOLT (Microcomputer Associates), all kits.[3] The entire microcomputer market was still very much a hobbyist market, best suited for those who enjoyed assembling a computer from a kit. After you assembled your computer, you either had to write your own programs (from assembly language) or enter a program someone else wrote. If you could afford

the extra memory and the cost of buying a BASIC interpreter, you might have been able to write some small programs that ran in that language instead of having to figure out 8080 assembly language. If you were lucky (or rich) you had 16K of memory, possibly more; if you were REALLY lucky you owned (or could borrow) a surplus paper tape reader to avoid typing in manually your friend's checkbook balancing program. Did I say typing? Many early computer hobbyists didn't even have the interface allowing them to TYPE from a keyboard or teletype. The "complete" Altair 8800 discussed above could only be programmed by entering data via tiny little switches on its front panel, as either octal (base 8) bytes or hexadecimal (base 16) bytes. With no television monitor available either, the results of the program were read in binary (base 2) from lights on that front panel. This may sound like the old story that begins with the statement, "I had to walk five miles to school through snow three feet deep when I was your age," but it helps to understand how things were at this time to see what a leap forward the Apple II really was (er, will be. Time travel complicates grammar!)

Notes
[1] Steven Levy, HACKERS: HEROES OF THE COMPUTER REVOLUTION, pp. 187–192.
[2] H. Edward Roberts and William Yates, "Altair 8800 Minicomputer, Part 1", POPULAR ELECTRONICS, 7(1) (January 1975), pp. 33, 38. The article is interesting also in some of the terminology that is used. The Altair is described as having "256 eight-bit words" of RAM. Apparently, the term "byte" was not in common use yet.
[3] Gene Smarte and Andrew Reinhardt, "15 Years of Bits, Bytes, and Other Great Moments", BYTE,

(September 1990), pp. 370–371

(PART 2 — THE APPLE I) [v1.0 :: 18 Sep 91]

The Apple I: Development

At the Homebrew Computer club in Palo Alto, California (in Silicon Valley), Steve Wozniak, a 26 year old employee of Hewlett-Packard and a long-time digital electronics hacker, had been wanting to build a computer of his own for a long time. For years he had designed many on paper, and even written FORTRAN compilers and BASIC interpreters for these theoretical machines, but a lack of money kept him from carrying out his desire. He looked at the Intel 8080 chip (the heart of the Altair), but at $179 decided he couldn't afford it. A decision to NOT use the 8080 was considered foolhardy by other members of the club. Consider this description of the microcomputer "world" as it was in the summer of 1975:

"That summer at the Homebrew Club the Intel 8080 formed the center of the universe. The Altair was built around the 8080 and its early popularity spawned a cottage industry of small companies that either made machines that would run programs written for the Altair or made attachments that would plug into the computer. The private peculiarities of microprocessors meant that a program or device designed for one would not work on another. The junction of these peripheral devices for the Altair was known as the S-100 bus because it used one hundred signal lines. Disciples of the 8080 formed religious attachments to the 8080 and S-100 even though they readily admitted that the latter was poorly designed. The people who wrote programs or built peripherals for 8080 computers thought that later, competing microprocessors were doomed. The

sheer weight of the programs and the choice of peripherals, so the argument went, would make it more useful to more users and more profitable for more companies. The 8080, they liked to say, had critical mass which was sufficient to consign anything else to oblivion."[1]

Another chip, the Motorola 6800, interested Wozniak because it resembled his favorite minicomputers (such as the Data General Nova) more than the 8080. However, cost was still a problem for him until he and his friend Allen Baum discovered a chip that was almost identical to the 6800, while considerably cheaper. MOS Technology sold their 6502 chip for $25, as opposed to the $175 Motorola 6800. Wozniak decided to change his choice of processor to the 6502 and began writing a version of BASIC that would run on it. A friend over at Hewlett-Packard programmed a computer to simulate the function of the 6502, and Wozniak used it to test some of his early routines. When his BASIC interpreter was finished, he turned his attention to designing the computer he could run it on. Except for some small timing differences, he was able to use the hardware design he had earlier done on paper for the 6800.[2] To make the computer easier to use, Wozniak favored a keyboard over the front panel switches that came on the Altair. He also made it simple to use a television for a video terminal. (Recall that at this time the most common mechanism used for input/output was a teletype, which consisted of a keyboard, typewriter, and if you were lucky, a paper tape reader/puncher). Functionally, it was a television terminal attached to a computer, all on one printed circuit board (another enhancement over the Altair). Wozniak used two 256 x 4 PROM

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BPI & Howardsoft (Tax)	
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Dollars & $ense	
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Home Accountant	
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Gary Hayman	(301) 345-3230
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Bernie Benson	(301) 951-5294
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Gary Hayman	(301) 345-3230
Leon Raesly(days: 5 am-5pm)	(301) 599-7530
Bill Campbell	(301) 498-6380
Allan Griff	(301) 654-1515
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Roger Burt	(301) 424-6927
Morgan Jopling	1 (301) 721-7874
Milt Goldsamt	(301) 649-2768
Dan White	(301) 449-3322
Allan Griff	(301) 654-1515

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ProTerm	
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Ray Settle	(301) 647-9192
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DBMaster, Pro IIe	
Bob Sherman	1 (305) 944-2111
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dBase II&III,Data Perfect. Db Master-PRO	
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A.D. (Bill) Geiger	(703) 237-3614
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Gene Carter	(202) 363-2342
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James Edwards	(301) 585-3002
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Word Star	
Art Wilson	(301) 774-8043

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General	
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Andy Gavin	(703) 734-3049
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Rich Sanders	(703) 450-4371
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Barry Fox	(717) 566-6709
Multiscribe GS	
Ray Settle	(301) 647-9192

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Allan Levy	(301) 340-7839
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Dale Smith	(301) 762-5158
Nancy Seferian	(202) 333-0126
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MouseTalk	
Dale Smith	(301) 762-5158
Ray Settle	(301) 647-9192
TimeOut Series & Utilities: ProSel	
Ray Settle	(301) 647-9192
Barry Fox	(717) 566-6709
816 Paint/Writ'rs Ch.El	
Andy Gavin	(703) 734-3049
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Apple II laser printing	
Bob Sherman	1(305) 944-2111

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Dave Ottalini (9-10:30 pm)	(301) 681-6136
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Robert Howe	(916) 626-8198
David/Joan Jernigan (before 9 pm)	(703) 822-5137
Steve Truax	(304)-267-6429
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Tom Linders	(408) 741-1001
J. Carey McGleish (evenings)	(313) 332-8836
Pascal	
Dr. Al Bloom	(703) 951-2025
Apple Speller	
Robert Howe	(916) 626-8198
AppleWriter	
Eric Sheard	(908) 782-6492
Stemspeller	
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Dan White	(301) 540-1070
Don Avery (Bethesda/DC)	(202) 362-1783

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Neil Laubenthal	(703) 691-1360

February 1994

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1	**2** Mac Programmers SIG DTP SIG	**3** Columbia Slice Game SIG	**4**	**5**
6	**7** PI SIG	**8** TeleComm SIG	**9** DB SIG WAP BoD	**10** Stock SIG	**11**	**12** Annapolis Slice Frederick Slice
13	**14** *Intro to the Mac–Part 1*	**15**	**16** Excel SIG UM SIG	**17**	**18**	**19**
20	*Writer's Deadline* **21** *Intro to the Mac–Part 2*	**22**	**23** *Maintaining Your Mac* NoVa EdSIG	**24**	**25**	**WAP 26** General Meeting AW SIG
27	*Editor's Deadline* **28** *Intro to the Mac–Part 3* IIGS SIG - Va					

March 1994

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1	**2** Mac Programmers SIG DTP SIG	**3** Columbia Slice Game SIG	**4**	**5**
6	**7** PI SIG	**8** TeleComm SIG	**9** DB SIG WAP BoD	**10** Stock SIG	**11**	AIII SIG **12** Annapolis Slice Frederick Slice
13	**14** *Intro to the Mac–Part 1*	**15**	*Writer's Deadline* **16** Excel SIG UM SIG	**17**	**18**	**19** *DTP SIG Seminar*
20	**21** *Intro to the Mac–Part 2*	**22**	**23** *Maintaining Your Mac*	*Editor's Deadline* **24**	**25**	**WAP 26** General Meeting AW SIG
27	**28** *Intro to the Mac–Part 3* IIGS SIG -NIH	**29**	**30** NoVa EdSIG	**31**		

Meeting Notices

Unless otherwise noted, call the SIG chairs or Slice officers for meeting information. A list of the SIG and Slice chairs is on page 4 of every Journal. Calendar events in italics are tutorials, workshops, or seminars.

Annapolis Slice
2nd Saturday; 9:30 AM; Severna Park Library on McKinsey Rd (off Rt 2), Severna Park, MD.
Answering Machine: (410) 923-6748
CrabApple BBS: (410) 553-6929

Apple IIGS SIG
Normally on the Monday after the WAP General Meeting; 7:00 PM; McLean Govt. Center, McLean, VA (even months) and NIH (Bldg 31, C Wing, 6th Floor, Conference Rooms), Bethesda, MD (odd months). Call Gary Hayman (301) 345-3230, for details.

Apple III SIG
Quarterly on 2nd Saturday; 10:00 AM; WAP Office.

AppleWorks SIG
Meetings at various locations and on various dates. Call Gary Hayman (301) 345-3230, for details.

Columbia Slice
1st Thurday; 7:00 PM. Call for location.
BBS (410) 964-3706.

DataBases (Mac) SIG
2nd Wednesday; 7:15 PM; Computer Science Corporation, 3160 Fairview Park Drive, Merrifield, VA (Just inside the Beltway at the rt 50 junction).

DeskTop Publishing (DTP) SIG
1st Wednesday; 7:30 PM; PEPCO Auditorium, 1900 Pennsylvania Ave. NW, DC.
Information: Barbara Schull (301) 589-5337.

Excel SIG
3rd Wednesday; 7:30 PM; WAP office.

Frederick Slice
General meeting time, 2nd Saturday; 10:00 AM; United Methodist Church; 22 Main Street in Walkersville.

Game SIG
1st Thursday; 7:30 PM; WAP office.

HyperTalk SIG
Meets bi-monthly on the 3rd Wednesday of the odd numbered months (i.e., January, March, May, July, September and November) at the Fairlington Community Center, 3300 South Stafford St., Arlington, VA at 7:30 pm.

Mac Programmers
1st Wednesday; 7:30 PM; WAP office.

NoVa Education (Ed) SIG
Last Wednesday; 7:30 PM; Walnut Hill Ctr., VA.

Programmer's Interface (PI) SIG
Meetins are announced on the Announcements Board of the TCS.

QuickTime SIG
Every other month; 7:30 PM; WAP Office.

Stock SIG
2nd Thursday; 7:30 PM; WAP office.

Telecomm SIG
2nd Wednesday; 7:30 PM; WAP office.

UltraMacros SIG
Meetings at various locations and on various dates. Call Gary Hayman (301) 345-3230, for details.

WAP Garage Sale
June and December.

WAP General Meeting
4th Saturday; 9:00 AM; Northern Virginia Community College, Annandale Campus, Community Cultural Center Auditorium.

Women's SIG
Usually held every quarter on the fourth Thursday of the month at the Pi Office at 7:30 PM. Call SIG Chair, Ann Aiken (301) 530-1990 for details.

Notice: Plans change! Anyone with calendar information please call the Calendar Editor, Bill Wydro (301) 299-5267 or Beth Medlin at the WAP office (301) 654-8060.

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Dan White	(301) 449-3322

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Borland Products
Doug Ferris daytime only	(800) 826-4768

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Peter Yared	(301) 564-1560

FileMaker Pro
Tom Parrish	(301) 654-8784
Mort Greene	(703) 522-8743

Foxbase
Rick Shaddock	(202) 829-4444

Helix
Jim Barry to midnight	(703) 662-0640
Harvey Levine	(301) 299-9380

MS-File
John Spencer	(301) 730-1084
Mort Greene	(703) 522-8743

Omnis 7
Jeff Alpher to midnight	(301) 630-2036

OverVue
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Tom Parrish	(301) 654-8784

Pro-Cite
Elizabeth Mangan	(703) 750-2710

DESKTOP PUBLISHING
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ReadySetGo
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Freddi Galloway (V/TTY)	(410) 268-5793

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Mort Greene	(703) 522-8743

Quark Xpress
Ron Mann	(202) 333-3409

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Ling Wong	(703) 803-9109

Aldus FreeHand
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Tom Parrish	(301) 654-8784

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Tom Parrish	(301) 654-8784
John Spencer	(301) 730-1084

ImageStudio
Mort Greene	(703) 522-8743

Studio/1
Jamie Kirschenbaum evenings	(703) 437-3921

SuperPaint 2.0
Mort Greene	(703) 522-8743

VideoWorks
Mort Greene	(703) 522-8743

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C
Harry Erwin (before 10 pm)	(703) 758-9660

Fortran
Harry Erwin (before 10 pm)	(703) 758-9660

Inside Mac
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John Love	(703) 569-2294

Pascal
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Michael Hartman	(301) 445-1583

SMALLTALK-80
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Jim Graham	(703) 751-4386
Dick Byrd	(703) 978-3440
Bob Pulgino	(301) 474-0634
Tom Cavanaugh	(301) 627-8889
Paula Shuck (before 10 pm)	(301) 740-5255
Kirsten Sitnick	(301) 750-7206
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Rick Shaddock	(202) 829-4444

WingZ
Kirsten Sitnick	(301) 750-7206

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CompuServe
Michael Subelsky	(301) 949-0203

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Tom Cavanaugh	(301) 627-8889
Freddi Galloway (V/TTY)	(410) 268-5793
Kirsten Sitnick	(301) 750-7206

ThinkTank-More
Jim Graham	(703) 751-4386
Tom Parrish	(301) 654-8784

Hebrew Word Processing
Tim Childers	(301) 997-9317

Microsoft Works
Amy Billingsley	(301) 622-2203

WordPerfect—Mac
Curt Harpold	(202) 547-8272

MISCELLANEOUS
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MacProject
Jay Lucas	(703) 751-3332
Norbert Pink	(703) 759-9243

HyperCard
Rick Chapman	(301) 989-9708
Tom Witte	(703) 683-5871

HyperTalk
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Tom Witte	(703) 683-5871

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Mort Greene	(703) 522-8743

Backfax
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Richard Kozloski	(703) 352-1523

SoundEdit
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Assistive Tech
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John Wiegley (after 2:15)	(703) 437-1808

IBM
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Math-OR Applns
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Modems-General
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Hayes Smartmodem
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Printers-General
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MX-80
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Stock Market
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MS/DOS
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Ginny & Michael Spevak	(202) 244-8644

Frederick Apple Core Help Line

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Oscar Fisher (Frederick)	694-9237	A2, GS	Doug Tallman (Frederick)	663-3268		Mac
Dick Grosbier (Frederick)	898-5461	A2, GS, Mac	Scott Galbraith (Monrovia)	865-3035		A2 , GS
Harold Polk (Frederick)	662-6399	A2	J. Russell Robinson (Hagerstown)	739-6030		Mac
Tony Svajlenka (Frederick)	694-6209	A2	Ken Carter	834-6515		A2. GS

Annapolis Slice Help Line

Area Code 410 Call in the PM unless you have an emergency.

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Richard MacLean (Crofton)	410-721-8157	MacIIsi	Bill Waring (Severna Park)	410-647-5605	Mac,Excel
Steve Toth (Edgewater)	410-956-6557	Mac+	Helen Hamerstrom (Severna Park)	410-647-1720	Mac, CD-ROM
Bob Peterson (Crofton)	410-721-9151	MacSE			
Sandy Bozek (Annapolis)	410-974-6062	MacII,Scanner	**Apple II**		
Lou Sapienza (Crownsville)	410-923-3415	Mac IIsi, Canvas, DTP	Seth Mize (Glen Burnie)	410-766-1154	IIGS,II+,III
Barry Conner (Annapolis)	410-573-7140	Mac Telecomm	Louise Tanney	410-647-0875	IIGS, AW
Brian Bassindale (Arnold)	410-757-9541	Mac IIci, CAD	Helen Hamerstrom (Severna Park)	410-647-1720	IIGS,IIe,DTP,HS
Gini Waters (Crownsville)	410-923-0139	Mac+, DTP	Manse Brouseau	410-757-5215	IIc,AW
Bill Derouin (Severna Park)	410-766-1154	Mac+, DTP	Bill Derouin	410-647-0802	IIe,pc,AW,DB
			Dick Stewart (Millersville)	410-987-2057	IIc+

(programmable read-only memory) chips to create a 256 byte program (called a "monitor") that looked at the keyboard when the computer was turned on. This monitor program could not do much more than allow entry of hex bytes, examine a range of memory, and run a program at a specific address.[3] (The Altair needed these "bootstrapping" instructions to be entered by hand each time the computer was turned on).

Because there were no cheap RAMs available, Woz used shift registers to send text to the TV screen. Consequently, his video terminal was somewhat slow, displaying characters at about 60 characters per second, one character per scan of the TV screen. (This speed would be similar to watching a computer communicate via a modem at 1200 baud). It was slow by 1991 standards, but an advancement over the teletypes that could only type 10 characters per second. The computer had 8K of dynamic RAM. You could load BASIC into 4K of memory and have 4K left over for your own programs. It had a video connector, but you had to connect a monitor on your own. You also had to buy the keyboard separately and wire it into a 16-pin DIP connector. The power supply had to be connected to two transformers to get 5 volts and 12 volts for the motherboard. There was no speaker, no graphics, and no color. There was a single peripheral slot, and when it was first released there was nothing available to plug into this slot. It was entirely contained on a single printed circuit board, about six by eight inches in size (most hobby computers of that time needed at least two boards), used only 30 or 40 chips, and because it could run BASIC programs it got people's attention.[4]

The Apple I: Marketing

Let's adjust our time circuits for 1976, and jump forward in time. By now, Steve Wozniak had completed his 6502-based computer and would display enhancements or modifications at the bi-weekly Homebrew Computer Club meetings. Steve Jobs was a 21 year old friend of Wozniak's and also a visitor at the Homebrew club. He had worked with Wozniak in the past (they designed together the arcade game "Breakout" for Atari) and was very interested in his computer. During the design process Jobs made suggestions that helped shape the final product, such as the use of the newer dynamic RAMs instead of older, more expensive static RAMs. He suggested to Wozniak that they get some printed circuit boards made for the computer and sell it at the club for people to assemble themselves.

They pooled their financial resources together to have PC boards made, and on April 1st, 1976 they officially formed the Apple Computer Company. Jobs had recently worked at an organic apple orchard, and liked the name because "he thought of the apple as the perfect fruit—it has a high nutritional content, it comes in a nice package, it doesn't damage easily—and he wanted Apple to be the perfect company. Besides, they couldn't come up with a better name."[5] Jobs approached the owner of a new computer store in the bay area called "The Byte Shop." This businessman, Paul Terrell, expressed an interest in the Apple Computer (to be known later as the "Apple I"), but wanted only fully assembled computers to sell. If they could provide this, Terrell told them he would order fifty Apples, and pay cash on delivery. Suddenly, the cost of making (and selling) this computer was considerably more than they expected. Jobs and Wozniak managed to get

the parts on "net 30 days" (30 days credit without interest), and set themselves up in Job's garage for assembly and testing of the Apple I. After marathon sessions of stuffing and soldering PC boards, Jobs delivered the computers to the Byte Shop. Althoughthese "fully assembled" computers lacked a power supply, keyboard, or monitor, Terrell bought them as promised. In July of 1976 the Apple I was released and sold for $666.66, which was about twice the cost of the parts plus a 33% dealer markup.[6] Two hundred Apple I computers were manufactured, and all except twenty-five of them sold over a period of ten months.[7] Although the Apple I was easier to begin using than the Altair (thanks to its built-in ROM code), it was still a time consuming process to set it up to do something useful. Steve Wozniak would have to type in about 3K of hexadecimal bytes before BASIC was ready to use. He could do it in about 20 to 30 minutes, but he almost knew the code by heart.

The typical user was more limited in ability to use BASIC on the Apple I. To broaden the appeal of the Apple I (and at the insistence of Paul Terrell), Wozniak designed a cassette interface. It was mounted on a small two-inch-high printed circuit board and plugged into the single slot on the motherboard. The card sold for $75 and a cassette tape of Woz's BASIC was included with it. The advertisement Apple included with the card stated, "Our philosophy is to provide software for our machines free or at minimal cost." The interface worked, but worked well only with cassettes running on expensive tape recorders. To further try to enhance sales, the Byte Shop stores found a local cabinetmaker that made some koa-wood cases for the Apple computer (so it would no longer be just a "naked" circuit board).[8] Interestingly, al-

though most of the action in the micro world was going on in Silicon Valley, news of the Apple I made its way east. Stan Veit, owner of the east coast's first computer store, bought an Apple I and took it to a meeting of the Association of Computer Machinery. Those attending were quite skeptical that a REAL computer could fit into a small briefcase; they were sure that the machine was just a portable terminal, attached by a hidden phone line to a mainframe somewhere![9]

NOTES

[1] Michael Moritz, THE LITTLE KINGDOM, p. 123.

[2] Moritz, pp. 124-127.

[3] Williams & Moore, p. A69.

[4] Gregg Williams and Rob Moore, "The Apple Story, Part 1: Early History", BYTE, December 1984, pp. A68–A69.

[5] Frank Rose, WEST OF EDEN: THE END OF INNOCENCE AT APPLE COMPUTER, p. 33.

[6] Moritz, pp. 138–144.

[7] Williams & Moore, pp. A69.

[8] Moritz, pp. 147–149.

[9] Chien, Philip, "Apple's First Decade: A Look Back", THE APPLE II REVIEW, Fall/Winter 1986, p. 12. (PART 3 — THE APPLE II) [v1.0 :: 21 Sep 91]

The Apple II: Hardware And Firmware

Moving our time machine on to 1977, we can now look at Steve Wozniak's next generation Apple. Even as the Apple I was completed and was slowly selling, Wozniak was already working on making enhancements that would make his computer faster and more functional. He wanted to make it display in color. He worked to combine the terminal and memory functions of the Apple I by moving the display into main memory, allowing instant screen changes. Many of his changes

were not added with the end user specifically in mind. Wozniak stated:

"A lot of features of the Apple II went in because I had designed Breakout for Atari. I had designed it in hardware. I wanted to write it in software now. So that was the reason that color was added in first— so that games could be programmed. I sat down one night and tried to put it into BASIC. Fortunately I had written the BASIC myself, so I just burned some new ROMs with line drawing commands, color changing commands, and various BASIC commands that would plot in color. I got this ball bouncing around, and I said, 'Well it needs sound,' and I had to add a speaker to the Apple II. It wasn't planned, it was just accidental... Obviously you need paddles, so I had to scratch my head and design a simple minimum-chip paddle circuit, and put on some paddles. So a lot of these features that really made the Apple II stand out in its day came from a game, and the fun features that were built in were only to do one pet project, which was to program a BASIC version of Breakout and show it off at the club."[1]

Wozniak added other features that he felt were important for a computer that was useful, one that he would want to own. Since the 6502 processor could address a total of 64K of memory, he designed the computer with the ability to use either 4K RAM chips, or the newer (and more expensive) 16K RAM chips. The first Apple II's came standard with 4K of memory, and more could be added, to a maximum of 12K (if using the 4K chips) or 48K (if using the 16K chips). Specially wired strapping blocks attached to the motherboard told the Apple II how much memory was present and where it was. According to the 1981 edition of the APPLE II REFERENCE MANUAL, the Apple could have memory in the following sizes:

4K, 8K, 12K, 16K, 20K, 24K, 32K, 36K, or a full 48K. (These sizes were determined by the different ways that three RAM chips, either 4K or 16K, could be installed). The strapping blocks were even designed with the flexibility of allowing blank spots in memory if there were no RAM chips available to fill those spots.

The first 4K of memory always had to have RAM present, since it was used by the 6502 processor, the ROM routines, and the text screen display. If, for example, you only had two other 4K RAM chips to install and you wanted to display hi-res graphics, you could strap one chip to the lower half of hi-res memory from $2000-$2FFF, and the other to the upper half of hi-res memory from $3000-$3FFF.[2] Since 16K RAM chips cost about $500 when Wozniak designed the Apple II, not many users could afford them. Whereas the Commodore PET and the Radio Shack TRS-80 could not easily be expanded beyond the 4K they came with, the Apple II from the beginning was designed with expansion in mind.[3] The row of eight expansion slots was another feature about the Apple II that was a strong selling point. Unlike the TRS-80 or PET, you could easily expand the Apple II by simply plugging a card into one of these slots. This degree of expandability made it more expensive to build, however. Steve Jobs didn't believe that anyone would ever need more than two slots, one for a printer and one possibly for a modem. Wozniak knew from his experience with computers at Hewlett-Packard that computer users would always find SOMETHING to fill those extra slots, and insisted that they keep the number at eight.[4]

One problem Apple had to deal with was getting FCC approval for the computer. The RF (radio frequency) modulator that had been designed gave off too much interfer-

ence, and it was probable that the FCC would not approve it. (The RF modulator allowed a user to attach the Apple to a standard television receiver, instead of requiring the purchase of an expensive computer monitor). Rather than have the release of the Apple II delayed for re-engineering of the RF modulator to get that FCC approval, Apple gave the specifications for the RF modulator to Marty Spergel. He ran a small company (called M&R Electronics) that specialized in obtaining hard-to-get parts that electronics and computer hackers wanted for their projects. Their agreement allowed M&R to make and sell the RF modulators, while Apple could concentrate on making and selling the Apple II. Dealers would sell an Apple II with a "Sup'r Mod" (costing about $30) if the buyer wanted to see the graphics on their color TV.

Jobs assured Spergel that the item would sell well, maybe as many as fifty units a month. (Years later Spergel estimated that he had sold about four hundred thousand Sup'r Mods).[5] Other features that Wozniak (and Allen Baum, who helped him with the project) included in the Apple II ROMs included the terminal software to do screen text display, expanded Monitor functionality, and cassette input/output routines. They added the ability to split the screen into different sized windows. They also wrote a disassembler, which was one of the most important features of the Apple II from the beginning and a significant part of its open design. It allowed ANYONE to view the 6502 code that ANY program used, and matched the philosophy of the Homebrew Club of making all computer knowledge available to everybody. In the Apple I days, when Apple was supplying software "free or at minimal charge", Wozniak and Baum published an early version of their 6502 disassembler in a hacker's

magazine. It was designed to be loaded in memory on the Apple I from $800 to $9D8 and the routine could be executed from the monitor. This early code was quit similar to the disassembler that was later included in the Apple II ROM.[6] Having an expanded Monitor program in ROM and color graphics were not the only features in the Apple II that attracted people to it. Having Wozniak's BASIC language in ROM, available immediately when the power was turned on, made it possible for non-hackers to write programs that used the Apple II's color graphics. An interesting bit of trivia about Wozniak's Integer BASIC was that he never had an assembly language source file for it. He wrote it in machine language, assembling it by hand on paper:

"I wrote this BASIC processor, and I wrote a little ALGOL simulator and got it simulated. It looked like it would work, but I had forgotten to build the machine. I had no assembler, that was another thing. To use an assembler, they figured that somebody was going to buy this processor [the 6502] to use for a company, and their company can pay a few thousand dollars in time-sharing charges to use an assembler that was available in time-share. I didn't have any money like that, so a friend taught me that you just sort of look at each instruction, you write your instructions on the right side of the page, you write the addresses over on the left side, and you then look up the hex data for each instruction—you could assemble it yourself. So I would just sit there and assemble it myself. The [Integer] BASIC, which we shipped with the first Apple II's, was never assembled—ever. There was one handwritten copy, all hand-written, all hand-assembled. So we were in an era that we could not afford tools."[7]

Even to this day there is not an

official source code listing of Integer BASIC at Apple. And interestingly, the only error I am aware of in the Integer interpreter is one involving a single byte. If a line is entered that has too many parentheses, the "TOO LONG" error message is displayed instead of the "TOO MANY PARENS" message.[8]

I want to take a short break in this discussion of the Apple II firmware to look at some other items that will make further descriptions easier to understand. If you are a programmer already, you may want to skip this section, since you probably already know this stuff. First we will examine some definitions of terms that are commonly known to programmers, but possibly not to you. Next will be a brief excursion into the realm of hexadecimal, and finally a look at the memory map of the original Apple II.

First, let's look at definitions of some words that I have been loosely throwing around:

—BIT The smallest piece of information that a computer can deal with, it is either a "0" (off, clear) or a "1" (on, set).
—BYTE The most convenient piece of information (for humans) that computers use. One byte consists of eight bits, and ranges from "00000000" (0 decimal) to "11111111" (255 decimal).
—NIBBLE (also spelled "nybble"). One half of a byte, consisting of four bits, ranging from "0000" (0 decimal) to "1111" (15 decimal). WORD Two bytes (or four nibbles, if you prefer), consisting of sixteen bits, and ranging from "00000000 00000000" (0 decimal) to "11111111 11111111" (65535 decimal). Not used much in microcomputers.
—BINARY A system of counting using only two digits, "0" and "1" (base 2). Computers speak in binary at their most basic level; anything else is translated into binary, so the

computer can understand it.

—DECIMAL A system of counting using ten digits, "0" through "9" (base 10). Most of the Western world uses this system.

—HEXADECIMAL A system of counting using sixteen digits, "0" through "9" and "A" through "F" (base 16). Programmers use this system as a convenient way of organizing groups of binary numbers.

—KILOBYTE Abbreviated "K", "KB", or "Kbytes", it refers to 1,024 bytes. A 64K computer has 64 x 1024 = 65536 bytes.

—MEGABYTE Abbreviated "M", "MB", or "meg", it refers to 1,024 Kbytes, or 1,024 x 1,024 = 1,048,576 bytes. A 32 MB hard disk, the largest size volume that ProDOS can handle, holds 32 x 1,024 = 32,768 Kbytes, or 32 x 1,024 x 1,024 = 33,554,432 bytes. GIGABYTE Abbreviated "G", "GB", or "gig", it refers to 1,024 MB, or 1,048,576 Kbytes, or 10,737,441,824 bytes. The Apple II Smartport (which will be mentioned later in this history) can handle disk devices up to 4 gig in size (although the software to handle that type of size has yet to be written).

—RAM Random Access Memory. Any data stored in this memory disappears when the computer is turned off. ROM   Read Only Memory. Data cannot be stored in this type of memory, but instead it usually contains programs or other information that does not disappear when the computer is turned off.

—HARDWARE The physical electronic components and mechanical parts that make up a piece of computer equipment. Examples would be the keyboard, disk drive, or television monitor (also called CRT, or Cathode Ray Tube).

—SOFTWARE The digital instructions executed by the computer in RAM.

They may act on the hardware that is attached to the computer.

Examples would be a BASIC or Pascal program, an assembly language routine to read a clock, or a disk operating system. Since software is executed in RAM, it disappears from memory when the computer is turned off.

—FIRMWARE The same as software, except it is executed from ROM, and does not disappear when the computer is turned off. Almost any software could be in ROM, except programs that modify themselves as they run.

Next, let's look at hexadecimal numbers in more detail. Since computers deal in binary (base 2), the true language of computers is either in terms of "0" (off) or "1" (on). However, it quickly becomes cumbersome to refer to large numbers in binary; the base 10 number "458" is "111001010" in binary. So programmers have decided to group numbers in such a way as to make it easy to convert part or all of that number to binary if necessary, but still have numbers (almost) as easy to deal with as our standard base 10 system.

Now, in the familiar base 10 system there are ten digits, 0 through 9. When counting, after you pass 9, you add one to the digit to the left of the 9, change the 9 to a 0, and continue. So, "09" becomes "10", "19" becomes "20", and so on. However, in the base 16 system there are sixteen digits, 0 through 9, and then A through F (representing decimal 10 through 15). When counting, then, you go 7, 8, 9, then A (not 10), B, C, D, E, F, 10, 11, 12, and so on. In the Apple world we have traditionally used a preceding dollar sign to signify a hexadecimal number, so "25" means twenty-five, but "$25" means thirty-seven (2 x 16, plus 5). To translate a hexadecimal number to decimal, use powers of 16:

$$\$B65F = (11 \times 16^3) + (6 \times 16^2) + (5 \times 16^1) + (15 \times 16^0) = (11 \times 4096) +$$

$$(6 \times 256) + (5 \times 16) + (15 \times 1) = 45056 + 1536 + 80 + 15 = 46687$$

The same thing can be done in reverse to convert base 10 to hexadecimal, starting by dividing the number by 4096, then the remainder by 256, then 16. If the number is greater than 65536, you need a bigger power of 16 (and you are probably not dealing with an 8-bit Apple II!) Or you can just get a programmer's calculator like mine that automatically does the conversion for you...

When dealing with memory addresses on an Apple II, we usually designate them as four digit hex numbers (such as the $B65F example above). Numbers less than $1000 often are printed without the leading blank ($400 instead of $0400), and numbers less than $100 are treated the same way ($32 instead of $0032).

The Apple II: Memory Map

To understand the memory layout of the Apple II, consider this analogy: Imagine a cabinet with sixteen shelves, and sixteen separate slots or pigeon holes on each shelf (similar to those found in old roll-top desks). Each slot refers to a specific address in memory on the computer, and each slot can hold a number between 0 and 255. (Since a byte is eight bits wide, the largest number that can be represented by eight binary bits is 255). The bottom shelf is row "0", and the leftmost slot in that row is slot "0". The address of that slot, then, is $00. As we move to the right, the addresses increase, $01, $02, $03, and so on to $0F at the end. We then go up to the next row, (row "1"), and the addresses continue in the same fashion with $10, $11, $12, and so on as before. The sixteenth row is row "F", the rightmost slot in that row is slot "F", and the address of that slot is $FF. This cabinet has, then, 256 slots (16

x 16), and represents what is called a "page" in the Apple memory. The cabinet itself has an address (since computers need addresses for everything), and this one's address is "00". The full address of row "5", slot "A" on cabinet "00" is $005A.

Only the Altair 8800 came with just 256 bytes of memory, so we have to account for the entire 64K memory space that the 6502 chip in the Apple II can handle. There is a cabinet sitting on top of cabinet "00", and it is laid out in the same fashion with its 256 slots in sixteen rows. This is cabinet "01", and on top of that one is cabinet "02"; this continues on up until we reach cabinet "FF" way up at the top. Apple programmers refer to these cabinets as "pages" of memory. There are 256 pages of memory, each with 256 bytes on a page, making a grand total of 256 x 256 = 65536 bytes of memory (or slots that can hold a number, if you prefer the analogy).

In discussing the memory map on the Apple II, we can refer to pages of memory with a hexadecimal two-digit number for shorthand if we wish. The general layout of the Apple II memory is as follows:

Page $00: used by the 6502 processor for storage of information that it can access quickly. This is prime real-estate that is seldom available for general use by programmers without special care.

Page $01: used by the 6502 for internal operations as a "stack." Page $02: used by the Apple II firmware as an input buffer when using the keyboard from BASIC, or when a program uses any of the firmware input routines.

Page $03: general storage area, up to the top three rows (from $3D0 through $3FF) which are used by the disk operating system and the firmware for pointers to internal routines. Pages $04-$07: used for the 40 column text screen. Pages $08-$BF: available for use by pro-

grams, operating systems, and for hi-res graphics. Within this space, Woz designated pages $20-$3F for hi-res "page" one, and pages $40-$5F for hi-res "page" two.

Page $C0: internal I/O and softswitches Pages $C1-$C7: ROM assigned to each of the seven peripheral cards Pages $C8-$CF: switchable ROM available for any of the seven cards Pages $D0-$D7: empty ROM socket #1 Pages $D8-$DF: empty ROM socket #2 Pages $E0-$F7: Integer BASIC ROM Pages $F8-$FF: Monitor ROM

The memory space on the Apple II between $C000 and $CFFF was assigned to handle input and output. From $C000 to $C0FF the space was reserved for various softswitches used to control the display, and various built-in I/O devices, such as the keyboard, paddles, annunciators, and the cassette port. (A soft-switch is simply a memory location that, when a number is stored there, changes something in the computer—such as switching on graphics mode). From $C100 to $CFFF the space was reserved for ROM on the plug-in peripheral cards for each of the seven slots. Slot 1 was given the space from $C100 to $C1FF, slot 2 from $C200 to $C2FF, and so on. The $C800 to $CFFF space was special slot-selectable ROM that was uniquely available for each of the seven peripheral cards. For example, a program running on the card in slot 6 to control a device could use the $C800-$CFFF space for its own purpose. When control passed to the card in slot 3, that card could use a program of its own that ran in the same $C800-$CFFF space. This was accomplished by allowing each card to have ROM code that covered pages $C8-$CF, and making that space "switchable", depending on which card wanted to use it. Having this space available made writing ROM code simpler, since it would not have

to be capable of running at various memory locations (depending on in which slot a card was plugged).

The memory from $D000 to $D7FF and $D800 to $DFFF was empty on all early Apple II computers. On the motherboard were two empty sockets that were available for the user to plug in their own ROM chips. The $D000-$D7FF space was most often used by a plug-in ROM chip sold by Apple, known as "Programmer's Aid #1." It contained various utilities for Integer BASIC programmers, including machine language routines to do the following:

- Renumber BASIC programs
- Append one BASIC program to the end of another
- Verify a BASIC program that had been saved on tape (to confirm it was an accurate save)
- Verify non-program data that had been saved on tape
- Relocate assembly language routines to a different location in memory (most would only run in one place in memory)
- Test the Apple II RAM Generate musical tones through the built-in speaker Handle hi-res graphics from BASIC, including code to clear the hi-res screen, set colors, plot points and lines, draw shapes, and load shapes from tape.

All the routines on the Programmer's Aid #1 ROM were written by Wozniak between June 1977 (the RAM test routine) and April 1978 (program renumber and append), except for the music routine, which was written by Gary Shannon.

The other empty ROM socket (covering memory from $D800 to $DFFF) was never filled by Apple. Various third-party vendors sold ROMs for that socket (or for the $D000-$D7FF socket used by the

An Encouraging New Trend: the Rise of Church-Sponsored Computer Learning Centers

by Phil Shapiro

A few months ago I received a phone call from Vivianne Mozon, director of the afterschool Math/Science Learning Center at Shiloh Baptist Church, in downtown Washington DC. In talking with her I came to learn about the interesting enrichment activities that Shiloh Baptist Church has been offering to elementary and middle school students. For the past seven years Shiloh Baptist church has sponsored afterschool and evening classes for children and their parents. These classes are specifically designed to promote learning and awareness in the fields of math and science.

My interest in this project was piqued when I heard that one facet of these enrichment activities includes access to 10 Apple //e computers in the church's learning center. Last week I paid a visit to the church to find out a little more about what this heartwarming project is all about.

The afterschool component of the project, which takes place Mondays through Thursdays from 3 to 6 PM, includes both computer and non-computer activities. When students arrive at the learning center they are given about an hour's time to work on their homework, under the watchful guidance of adult volunteers. The adult volunteers involved with this project range from retired teachers to retired government workers to undergraduate education students.

Some high school students work as volunteers, too.

An emphasis is given to the math and science curriculum, although students use the supervised homework time to work on language arts and social studies homework as well. Supervised homework takes place between 3 and 4:15 PM. A fifteen minute break is then given, which includes a snack and a drink.

Between 4:30 PM and 6 PM the twenty or so students are broken up into two groups. One of the groups goes to the computer lab; the other group participates in an organized math or science activity.

Computer lab activities range broadly across the curriculum. This past month students have been using AppleWorks to write letters to a sister learning center in Soweto, South Africa. Naturally, students also make use of drill and practice software, such as *Math Blaster Plus*.

When I inquired about how members of the Washington Apple Pi user group could help support this project, I was told that the lack of educational software is one of the limitations holding back the full use of the computer lab. In many cases the church owns just one or two copies of commercial educational software programs. This means that different students are forced to work on different programs in any given class period—placing an added burden on the computer instructor.

Another pressing need is for blank (or used) 5.25 inch floppy disks to save the students' creative writings. Extra floppy disks also come in handy when making copies of Apple // public domain and shareware programs.

After visiting the computer class I spent a few minutes chatting with Mrs. Constance Tate, one of the founders of this project and an ongoing science instructor. Formerly a Science Coordinator for the Baltimore City Public Schools, Mrs. Tate helped start this project to bring a greater awareness of math and science to inner-city students.

She points out that the mission of the project is not just to increase math and science skills, but rather to ignite a lifelong interest in these subjects. An important secondary goal is to help students understand how centrally important math and science are in all of our lives.

She went on to explain that the goals of the project are not to specifically urge students to pursue a career in math or science. That, she says, is a conclusion she hopes the students will draw on their own.

When I asked what fields of science the instructors tend to emphasize, she answered that instructors intentionally cover a broad range of scientific subjects—from life science to chemistry to earth science to astronomy. Lessons are fashioned to show how science can be relevant to students' lives.

To help involve parents in the project, evening classes for children and parents are scheduled. These "Family Science" and "Family Math" classes tend to be very popular and are held in seven week sessions, three times per year.

It appears that these types of church-sponsored enrichment classes are becoming increasingly prevalent, both in Washington DC and in other cities around the country. It behooves computer user group volunteers to

step forward to lend a helping hand. A little technical assistance often goes a long way in making the learning centers successful.

Other church-sponsored computer activities taking place in the Washington DC include the Allen Community Outreach Center, 2443 Ainger Pl. SE, Washington DC 20020. Contact: Reverend Ponce Brown. Phone: (202) 678-3387. This learning center offers computer enrichment activities to children on Saturdays. They have an Apple //e and an Apple //c.

If you know of other church-sponsored computer learning centers in the Washington DC metropolitan area, please take a moment to jot down a few words to let other members of the club know about what is going on and of how others might lend assistance and support. By each of us giving a little time and/or material support to these projects, our combined assistance can help boost these projects to new heights.

Contacts:
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For those interested in visiting, Shiloh Baptist Church is located about two blocks southwest of the Shaw/Howard University subway stop, on the Green Line. Use the south exit to the subway station. A long term volunteer computer teacher is very much needed. ∎

(The author takes a keen interest in computer equity issues. He can be reached at (202) 686-5465, or via electronic mail on GEnie at: p.shapiro1; on America Online at: pshapiro)

How to Align the
A 143 Micro SCI Drive

by Tom Linders

J oe Dobrowolski (of Apple Users Group International fame) bought an A143 from someone who had moved it from its nice metal enclosure and put it into an Apple Disk /// enclosure. The end result was a bit of jury-rigging and a drive that wouldn't read any disks at all due to a bad write I C as well as screwed up head alignment.

How Do You Align the A143?
There are four parts to the alignment, and, if done correctly, they should result in a reasonable job. I do not have an alignment disk, so I used one of my A143 data disks, as well as one of Joe's ///EZP disks.

Step zero
Verify the problem
The best thing to do, if you're sure the disk is out of alignment, is to read and write from a disk, or at least format and verify a blank disk. When the drive formats and verifies it reads the bottom side and then the top side. If it will read and write on itself, but not from another disk, then alignment is the problem.

Step one
The mechanical stop
To start with, make sure that step zero has been attempted. If that has been done and the drive reads and writes on itself, but not on other disks, then back the mechanical stop off a turn or two. The mechanical stop is an allen head

screw that is at the far right hand rear of the drive.

Step two
The optical stop
On the left side of the drive rail is the optical stop. Before proceeding into the how of the adjustment, it is wise to take a moment to review the way the optical stop works. From my earlier article, the optical stop is activated when a light path is interrupted by a mechanical device. This signal is "wire ored" into the write protect circuit and sensed during the head retract operation. If the optical beam is cut, then the write protect line supplies a signal to the computer that causes the head step pulses to stop. (The fourth pulse line is used as a head select line).

To align the optical stop, loosen the two screws and push the optical stop as well as the head toward the center of the drive as far as they will go. Put in a disk that has A143 data on it and try to read from it. I like to use the systems utility "list file" option. As the disk tries to read track 00, it may stop and try real hard. It will be observed that the optical sensor has three stop points, and the best place to try to find track 00 is when it is right at the front point of the rear phillips screw head (middle position).

If, try as you might, you cannot get the drive to read track 00, this would be a good place to stop and

repeat step zero. Put the optical stop just in front of the rear most phillips head screw and tighten the two screws down prior to running step zero again.

Step three
The stepper motor

If step two doesn't work, and it didn't work on Joe's drive, then the final step will be to move the head step motor slightly by loosening the two mounting screws and turning the motor one way and then the other. Prior to doing this, it is advisable to mark the motor ear positions with a pencil, in case you have a strong desire to return to the place you started. As you rotate the motor, you can see the head et al move with it. On Joe's drive, it was a simple adjustment of the motor, and then everything was quite normal.

Then you should run the mechanical stop screw back until the point just about contacts the moving part of the head mechanism.

I tightened up the screws and then read a Word Juggler disk of mine, as well as Joe's ///EZP disks. I also did this as I finished up each step of the disk reassembly. Then, prior to shipping it back across the Atlantic, I did a read and write, as well as a read and write from my WJ disk as well as his ///EZP disk.

This procedure is not for the faint of heart, but it works, and would probably work better for me if I had a decent alignment disk.

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Notes from the Apple // Vice President

The Garage Sale was quite an event. I enjoyed seeing many of you there, working, buying, and selling. Since there was not a December meeting to report on, I will once again plea for presentation topics and providers for the months of February through May. We have January covered, but need topics for the following months. Some of you mentioned possible topics, but we haven't finalized dates yet.

Now that we all own orphan machines, we need each other more than ever. Several Apple owning colleagues have recently called me for advice after visiting a local computer store and being told that their machine is: no good, useless, obsolete. And being told that software is not available, that peripheral hardware is not available (one woman wanted to get a modem for her GS), etc. I was glad that these people called me for advice, but wonder how many others out there had the same experience and didn't think to call or don't know who I am. I approached the manager of the store, only to be told that his salespeople wouldn't say such things, that the customer must have misunderstood, etc. I asked if he ever suggested WAP and was told that there are membership brochures under the counter. I gave him my card and asked him to refer all Apple users to me. What do you think are the chances of that happening?

On the positive side, I shared copies of Cheap Paint to the art teachers in the county, and am pleased to be getting some real enthusiasts. The art supervisor will be paying the shareware fee for all teachers that actively use it. It has revived interest in the GS, which my immediate supervisor misunderstands, thinking that it was overrated. I will continue chipping away at the citizens of Loudoun County, and am sure that you are doing the same in your home turf.

I hope you caught Karen & Ron Evry's article in the current issue of II Alive? It is a comprehensive article about using Apple software in education. If you haven't subscribed to II Alive, you may want to consider it. I personally like to encourage all developers and publishers who continue to support the Apple //. I plan to bring copies of "GS+," "SoftDiskGS," "Shareware Solutions," and "II Alive" to the next meeting. Quality Computer's catalog also contains an excellent magazine for teachers called "Enhance." I recommend all of these resources.

This article is short, but Kathryn tells me that there are lots of Apple articles written for this issue. David has some items to bring up in an article that he has written. Check it out. (see p. 13)

See you at the meeting!

Joan Jernigan

Disk Cleaning and Speed Adjustments

by Tom Linders

I. Disk Cleaning

Some people say to clean the disk drive heads with some sort of disk cleaner every two or three days. Some others say to do it once every six months to two years. If you are writing the great American novel, then follow the advice of the former, otherwise, do as the later says.

The next thing is, what to clean the disk drive heads with. The only thing I know of that is reliable is alcohol. The question is what kind? There are three general kinds of alcohol:

* Rubbing
* Denatured
* Isopropyl

Of these three kinds the best is the third kind, isopropyl. Rubbing alcohol has too much (30%) water, and you are not usually aware of the denaturing agent (the thing that makes you sick if you drink it) in denatured alcohol. In the later alcohol the denaturing agent may be JP-4, MEK, etc. I use Isopropyl, 99% pure, that I buy from Longs for $1.23/pint.

Also, remember, if the disk drive head is very dirty, make sure that the head load pad is also checked to make sure it is clean.

If you are having trouble with a disk drive, bring it to me (after a phone call) and I'll check it out for you. The only charge is my cost for the parts involved, which is usually not very much.

II. Disk Speed Checks

There are several ways to check the disk speed. The best way I know of is to remove the bottom of your Disk][or Disk]/[and check the speed with a strobe light. The best strobe I know of is a neon bulb with 50 or 60k ohm resistors in each leg of the little bulb. Not having a bulb, just use a regular lamp (a fluorescent one is better).

The bottom of the disk hub has a strobe wheel with two tracks, one for 50 Hertz and one for 60 Hertz. In Europe use the 50 Hertz track and in America use the 60 Hertz track. The speed is good enough when the little bars move less than one space in ten seconds.

The disk drive speed should be set to 300 R P M or one revolution in 200 milliseconds (200 milliseconds = 0.2 seconds = 1/5 second). There are many commercial programs that check this out by just booting a disk and (sometimes) inserting a blank disk. In order to check disk drive speed the disk usually writes to the disk (but not always).

The above programs work just great if you have an American Spec Apple computer. An American spec Apple Computer has a master crystal frequency of 14,318,180 Hertz. The European computers have a master crystal frequency of 14,250,450 Hertz. Not much of a difference, but enough to make any speed tests rather inaccurate. I shall discuss three programs, Apple Diagnostics, EDD, and Copy][+.

1. Apple Diagnostics—This program gives a count of plus minus about 100. For the European model Apple computers to have their drive speed set accurately the count should read +13 +/- 2 counts. For the Ameri-can Apple computers the counter should read about -3 +/- 2 counts. The reason for the negative setting is that the drift is usually in the positive direction.

2. EDD—This program sets the disk drive speed in two ways, one for making program copies, and the other for just everyday use. For the American machine, just set the both drives to original for everyday use, and set as directed for copying. For a European model, set the drive speed the same way as for the American models, except set the count about +3 to +4 counts (to the right) from the indicated nominal.

3. Copy][+—This program presents the speed as a measurement of the period of rotation of the drive. Remember, period is the inverse of speed. For this program the American model should have the speed set to 200 +/-0.1 milliseconds (ms) and for the European machines, try 199.1 +/-0.1 milliseconds. Remember, you need to use a version equal to or lower than 4.4 in an Apple ///.

An easy way to set the speed is to have a hole drilled into the side of the disk drive so that disassembly is not necessary every time you want to check the drive speed.

The same thing applies as applies in cleaning, if you have a problem give me a call and bring your drive to me. Actually the whole computer is better as sometimes the problem is not with the drive but with the brains behind the drive.

III. General Interest

For you Apple][or //e owners (not //c), I still have a pair of those controller card connectors that will not allow you to plug the disk cables in wrong. You could be avoiding a disaster if you spend a couple of bucks.■

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DAR: Apple /// Disk Archive and Retrieval

by Allan M. Bloom

DAR is Apple /// guru Bob Consorti's first shareware program, possibly the first shareware program ever for the ///, and it is great for anyone who wants to exchange Apple /// software electronically, whether via bulletin board like WAP's TCS or ///'s Company or via on-line services like CompuServe, or via the InterNet's ftp file transfer protocol archives. DAR archives a 5.25 inch floppy disk into a single SOS codefile for storage on an on-line service as a binary file. That is its "archive" function. After you download a DAR'd binary file to your ///, DAR will "retrieve" a recreation of the original floppy disk from that file.

This is a marvelously useful tool. Let me give you an example of why. A very personal example. I wrote a fair amount of freeware back in the good old days, and a lot of it was distributed by user groups, but it all had to be on disk. I wrote in Pascal, and much of what I wrote used special library files — home grown, from others like Bob Consorti, and from Apple itself. No way anyone could just download the program. He or she would also have to download the appropriate libraries and wire them together in exactly the right way. Adding insult to injury, my stuff was large enough that it often required two disks to boot and load. Most folk don't know how to wire up a two-stage pascal boot. And, of course, he or she would have to download the documentation files separately.

No one in his or her right mind would post my programs to an on-line service or make more than one attempt to download them. Now, with DAR, it is as easy as pie. Maybe even easier. I've never had much luck with pie. All I have to do is DAR a boot disk to a file and upload that DAR file to an on-line service. Someone who wants to use that disk needs only to download the DAR file, run DAR in "retrieval" mode, and get a fully functional boot disk for the program.

And DAR is about as good as an Apple /// program gets. The user interface is state of the Apple /// art, and then some. It is the first /// program I've seen that uses a "thermometer" progress bar, instead of a bunch of dots or an odometer, to show you its progress in archiving a disk or retrieving a file. But it hardly needs it. DAR is an interpreter, so it is blazingly fast. It takes a very few seconds to either convert a 140K disk to a DAR file or to create a disk from a DAR file.

Yes, I like DAR, and I recommend it. And I sent Bob Consorti his $20 shareware fee, which some take as the sincerest form of flattery. Shall we, gentle reader, take a look at this program? When you boot the DAR disk, or launch DAR from Catalyst or Selector, you are greeted with the following main menu screen:

The "help" key (?) tells you the following about the program. This program allows you to make archives of any non-copy protected 5.25" disk. These archives are stored in normal files that you can place on a hard disk or other large capacity storage device. When you want to make a copy of the disk that has been archived you can easily retrieve it.

By using this program you can eliminate or reduce your need for boxes and boxes of disks and something else. Until now there was no easy way of using a communications program to transmit or receive an entire disk. You previously had to use Binary II to transmit a file or group of files at a time and the person who retrieved the file had to reconstruct the disk. Using this utility you can archive an entire disk to a file, send the file and the other person can retrieve the disk quickly from the archive.

D3 Archiver/Retriever	Shareware Version 1.0
(c) 1993 by Bob Consorti: ON THREE, Inc.	All Rights Reserved

(1) Archive a disk	
(2) Retrieve a disk	
(3) Shareware Information	
(4) Quit	

Use the Up/Down Arrow Keys to Select.	Press RETURN to Accept

Selection : (1) Archive a disk	Press ? for Help

When sending disk archives in this manner you must use XMODEM or Binary II in The Communications Manager (TCM) or other communication programs. Note that the file created by archiving a disk will only contain the blocks that were actuall used by the files on the disk. This will usually compress a 140K disk into a smaller size and save on modem transmission time and costs.

The "Shareware Information" key (3) tells you where to send your $20 check (cash for non-US folk) and what will happen to you if you don't. Bob apparently has Dave Ottalini's cousin Vito (The Knee Breaker) on retainer. Yes, I'm just joshing. But if you use DAR and don't pay Bob his $20, your conscience will bother you so badly that a case of shingles is the best you can expect. Why take the chance? Pay up. If Bob finds this exercise rewarding, there's no telling what other goodies might be forthcoming.

Archiving A Floppy Disk

Let's move on to the functional parts of DAR. The first option from the main menu is "(1) Archive a Disk," and it is the default option. That shows Bob's (and my own) bias as a software creator and uploader and BBS sysop and such the like. Which yields my first sniggling criticism. In my years of customer service (or whatever they call my day job), I've learned there are more of them than there are of me. I'd hope there are more DAR downloaders than uploaders, so I'd prefer seeing "Retrieve" as the first, and default, menu entry. But I quibble. Let's see what the archivers are presented with. There are actually four separate screens that I've condensed here into one figure:

The first screen asks for the location of the disk to archive. You are given the option of a 140K 5.25 inch disk in the inboard (D1) or first outboard (D2) disk. Arrow up or

---

D3 Archiver/Retriever   Shareware Version 1.0
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'Archive a disk'

Screen 1:

Highlight the 5.25" disk drive that contains the disk you want to
archive and press RETURN to select it.
    —> .D1
        .D2
Use Up/Down arrows to highlight, RETURN to select, ESCAPE to exit.

Screen 2:

Enter a line of descriptive text about this archive and press RETURN.

ASCIDIF: ASCI Text to DIF Format, Disk 1 of 2   AMB:12/93

Screen 3:

Enter the pathname of the file to save the archive to & press RETURN.
File selection is available by typing a disk or volume name and pres-
sing the Up/Down arrow key. Use RIGHT/LEFT arrow to select/deselect
a file, ESCAPE to exit. OA-DELETE (\) will 'pop-off' a directory level

---

/PRO/COPY/ASCIDIF1.DAR

Screen 4:
                 Working...

    [IIIIIL_____]

Archive was successfully saved to disk. Press ESCAPE to exit.

---

down until the one containing your disk is highlighted, then press return. Couldn't be simpler.

This brings you to another nice touch. Screen 2 lets you add a line of descriptive text to your archive. In this case I entered the program name, a brief description, a notation that it is disk 1 of a 2-disk set, my initials (Vanity, thy name is not necessarily woman), and the date I created the DAR file. The descriptive text line is good for a couple reasons. Apple /// file names can be rather more descriptive than those on Messy-DOS machines, but they can still be

a tad cryptic. Text helps figure out what exactly you have. And, in this case particulary, you the user are told that this is disk 1 — and that you'd best have disk 2 to complete the set.

The next screen asks where to put the DAR file. It uses the latest Apple /// conventions (up/down arrows and such) to select the directory in which to store the file, so you don't have to remember the whole path name. If you selected an inappropriate directory (Eye hand coordination problem?), pressing openapple-delete will get rid of (pop

off) the last sub-directory name you entered. Nice touch, Bob.

Once you tell DAR what you want to do and where you want to do it, DAR presents Screen 4, telling you that it is "working" and showing you by a "thermometer" bar how much of its work is done. Once finished, you press ESCAPE to return to the main menu.

Once the DAR file has been created from disk (Screen 4) press ESCAPE to return to the main menu. If, at this point, you press (4) to exit, you will be asked the following question:

Are you sure you would like to exit?

Press Y to Exit, ESCAPE to Return.

That is a nice touch. Just in case you hit the (4) key by mistake. Good user-friendly programming practice. It could be a real bore to have to re-boot or re-launch DAR for mere lack of eye-hand coordination, yes?

Retrieving A Floppy Disk From Archive

Now let's look at the function that you, gentle reader, are most likely to use — DAR's "retrieve" that turns a downloaded DAR file into a disk again. By the way, and I assure you this is no small BTW, DAR is not at all sensitive to the "type" of file you download. You can download via another kind of computer (Intel-Inside, Mac, whatever), a process that is guaranteed to not tag the DAR file with the proper SOS file type, and DAR doesn't care. Neat! Example: I download a DAR file from wherever to my Macintosh, which is a tad better "connected" than is my ///. I trans fer the file to the ///. System Utilities shows it as an "unknown" file, type hex-00. A DAR-created file is of the "datafile" or "binary" persuasion, type hex-06.

By rights DAR should not even see any other file type, so you, gentle reader, should have to use a type changer utility to get the DAR file legitimate. Don't believe me? Ever try to get 3EZP to recognize a printer with a read/write driver? Probably not. Trust me then. Bob did a "good thing" when he didn't make you change the downloaded file's type. The system isn't that friendly. If you download DAR.INTERP itself from a service, you must change its type to "sosfile" before the system lets you use it.

OK, that out of the way, let's see what happens when you want to create a floppy disk from a DAR file. Again, there are several screens that I have condensed into this one figure (see page 55).

This is looking familiar, I trust? It is almost the reverse of DAR's archive function. The first question (Screen 1) asks for the location of the source DAR file. Once you impart that information, DAR tells you everything it knows about the file you selected and offers to retrieve it for you if you press RETURN. If you inadvertently requested the wrong file, pressing ESCAPE will avoid embarrassment.

Once you have selected the source DAR file, Screen 3a asks you to select the drive containing the 5.25 inch disk as the target file. That drive must be D1 or D2. If you have put a good Apple /// disk into the drive, you'll see the message on Screen 3b, asking if it OK to replace the contents of that disk. If not, fear not. You'll be invited to format the disk before proceeding. Good gravy! Did Bob think of everything?

Once you get the destination drive settled, you get the "working" screen, followed by the invitation to ESCAPE when finished. But here, instead of returning to the main menu, DAR offers (Screen 4b) to make another copy for you. Hot Damn! Gee, I like the way Consorti thinks. It is always a good idea to have at least one backup of every floppy disk whose contents you are fond of. And here is DAR making that easy. You don't have to run the program twice. You don't have to use System Utilities to copy the disk. DAR lets you make a backup floppy without hassle.

DAR Wish List

There is no program I've seen that is so perfect that I don't have a wish list for future versions. My only gripe about DAR is related to folk that have problems with binary files on the internet. Lot's of folks do. It is pretty standard to "ascii-encode" binaries, so the files are straight text. Text files more reliably navigate the various nodes of the internet. Mac has its HQX (binhex-4) encoding, DOS and Unix have UU, and the poor benighted Apple /// has John Jepson's "codefile trans mitter." Remember that puppy?

Dr. Jepson did a pretty primitive job. Two separate BASIC programs, one to encode and one to decode. Instead of HQX encoding (each six bits of input going into a byte of output), he went for the "nibble-to-byte" mode. That doubles the size of the output hexified file instead of adding "only" a third. And of course you must remember the pathname of the file to be converted. And it is slower coming than Christmas.

I don't fault Dr. Jepson for being primitive. Back in those days, what else did we have? I would like to see HQX for the Apple ///. Maybe even built into DAR. Hoo boy would that be hot stuff! I sent Bob a copy of the binhex-4 specs. If he sells enough DAR, he might be willing to add that feature to DAR or write a separate program

The Bottom Line

DAR is a great Apple /// utility. It keeps our beloved Sara cooking well into the '90s. I expect the WAP /// SIG will start loading its ///'s Company

D3 Archiver/Retriever   Shareware Version 1.0
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'Retrieve a disk'

Screen 1:
Enter the pathname of the archived file to retrieve and press RETURN.
File selection is available by entering a disk or volume name & pres-
sing the Up/Down arrow key. Use RIGHT/LEFT arrow to select/deselec
file, ESCAPE to exit. OA-DELETE (\) will 'pop-off' a directory level.

.U1/ASCIDIF1.DAR

Screen 2:

Archive version: 1.0.
 Archive was made on: Sunday, December 12, 1993, at 10:31.
User supplied description:
ASCIDIF1: ASCI Text File to DIF Format, Disk 1 of 2   AMB: 12/93

Press RETURN to retrieve this archive, ESCAPE to exit

Screen 3a:

Highlight the 5.25" disk drive that contains the disk you want to
save the archive onto and press RETURN to select it.
            —> .D1
               .D2

Use Up/Down arrows to highlight, RETURN to select, ESCAPE to exit.

Screen 3b:

Erase the volume /FRED.WHATEVER retrieving this archive (Y/N)?
Y

Screen 4a:

        Working...

        IIII|_____|

Archive was successfully retrieved. Press ESCAPE to continue.

Screen 4b:

To make another copy of this archive, insert a new disk into the
selected disk drive and press 'C' to begin. Press ESCAPE to return to
the main menu.

---

and TCS file areas with DAR'd files.
I know I have already begun loading
the InterNet Apple /// archive
(anonymous ftp to names.wvu.edu,
directory public/apple3) with DAR
files. DAR itself is at that archive site
as the straight binary DAR.INTERP
file.   DAR is that unique program.
It is a standard.

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Drawing & Printing Graphs with the Apple ///

by John Lomartire

For any Apple /// user faced with the need to prepare graphs, especially in quantity or on a regular basis, there is no better software than Apple /// *Business Graphics*, originally sold (in 1981) by Business and Professional Software of Cambridge, Massachusetts. It has capabilities that would astound many users even today. For example, there is no limit on the number of data points that can be entered because it can use a virtual file approach to store data so you can have as many data points as your selected storage disk will hold. Also, it is the only graphics software that I have seen that permits fitting of sine waves to data. Even the latest MS-DOS or Macintosh software costing hundreds of dollars does not do this, as far as I can tell. Interestingly, this capability can be used to fit a set of "nested sine waves" to data so that the resultant combination of sine curves fits the original data almost exactly even when the data plots are irregular and/or erratic in shape. (More about this technique at another time.)

A set of data can be shown in the form of bar charts, pie charts, XY diagrams, multiple bar charts, etc. The program will also generate projections of data to future periods, generate histograms, and more. All in all it was a development ahead of its time.

Here then, are a couple of points that may be of interest to anyone wanting good graphs from their Apple /// *Business Graphics* software.

Printing

Business Graphics does provide for printing hard copies of any graph but it is a most awkward approach and probably the software's weakest feature. First, the software has to be modified (or PIK'ed as the authors say) to fit particular families of printers. A special PIK program is needed for this. Second, and even more horrendous, is that in printing, the axes are plotted first, then each point is plotted in the order of its appearance in the tabular entry. Net result is violent printer action. The paper flies back and forth as it is positioned for each point to be printed. It takes a good tractor feed and a sturdy printer to produce a graph, and even then it is not nearly as good quality as the same chart on the computer screen. Alignment of the chart on the paper is also not easy and sizing options are limited.

A way has been found around these problems. It requires the use of another piece of software, *The Graphics Manager* by Dr Astrahan and sold by On Three.

The Graphics Manager was written to load, manipulate and print Fotofiles. Business Graphics SCREEN files are Pascal Data files. **It has been found that *Business Graphics* screen files will load into *Graphics Manager* directly and without any alteration!!!!** *Graphics Manager* will accept these screen files after posting an alert that you are not loading a fotofile.

The tremendous capabilities of *Graphics Manager* makes printing of high quality graphs easy, plus making sizing and positioning of the printed charts completely controllable. Any kind of graph— bar, line, pie, etc.—produced by *Business Graphics* can be printed by this technique.

Limit Lines

With XY graphs of data, it is often desirable to generate a curve that represents the input points and *Business Graphics* does permit fitting of straight lines, parabolas, logarithmic curves, and sine waves to the data. However, once the best fit curve has been generated, it is often of interest to know, and in particular to illustrate, how widely the points are scattered around the specified curve.

Unfortunately, *Business Graphics* does not give this valuable statistic directly but it does provide all information needed for its calculation.

Once the data points have been entered, the command LIst STATistics will bring up a table of information including, among other things, the number of point pairs (N); the Standard Deviation (Std Dev-x) of all the X points around their overall horizontal mean; and another Standard Deviation (Std Dev-y) of all the Y points around their overall vertical mean. Next, when a curve (Line, Parabola, Log, or Sine) has been fitted to the data, a Normalized Standard Error (NSE) is shown. The smaller the NSE, the better the fit. Also available (with the LIst CURve command) is the equation for the particular curve.

One measure of variability of individual points about a curve is known as the Standard Deviation of y on x, or SD y/x. Without going into the math, this value can be calculated as follows:

SD y/x = [NSE] times [Std Dev-y] times [((N/(N-2))^.5)]

Example:

Suppose you have entered 25 pairs of points and LI STAT shows N=25, and Std Dev-y = 1.4 for these entries.   Next you have fitted a straight line to the points and the NSE is shown as .855 with an equation of Y = 2.65*X + 5.3.

SD y/x =   NSE * Std Dev-y * ((N/(N-2))^.5)

= .855 * 1.4 * ((25/23)^.5)

= .855 * 1.4 * 1.043

= 1.25

Usually the standard deviation (SD y/x) is increased by a factor of two to get the so-called "95% limits". In this example, the equation for the lower limit line would be Y = 2.65*X + (5.3 - (2*1.25)) or Y = 2.65*X + 2.8; in similar fashion, the upper limit line would be Y = 2.65*X + 7.8.

Business Graphics can now be used to draw a composite graph that shows the original points, the best fit curve, and the lower and upper limit curves. If properly done, almost all the points will fall between the two limit lines and the graph set is now a good visual projection of the variability (or uncertainty) accompanying the chosen curve.   A most valuable piece of information! Extending the upper and lower limit lines beyond the last known values can be of great advantage. As each NEW point is entered, a failure to fall within the limit lines is an early alert that the system's behavior pattern may be changing from what has been established from past history.

Once generated within *Business Graphics*, this composite graph can be saved as a Screen file and this same Screen file can be loaded directly into *Graphics Manager* to produce an excellent hard copy of any size and positioned at any point of the page.

Basically Organized

by Paul Campbell

W ell, I finally decided to get all my Business Basic programs organized a little while back, especially after *someone* mentioned what an old version of "Menu Maker" I was using on my Apple // / (you know who you are!). Menu Maker version 5.0 had already been in my box of disks for a little while, so I figured it was about time that I put it to use.

The only reason for using Menu Maker 5.0 instead of the newer version 6.0 is because of the way 5.0 handles pathnames. In version 5.0 you can advance into different subdirectories and then back out one level at a time by pressing the spacebar. Pressing ESCAPE takes you all the way back to the beginning menu. Version 6.0 offers the ability to type-in your destination, but my system gets used by novices who would be completely lost if they were asked for a pathname. With this in mind, I decided that it was worth keeping version 5.0 for the sake of simplicity.

The Setup

All of the Basic programs were moved to a new directory and the original directory was cleaned out (all the files were deleted). Menu Maker 5.0 was installed under the /PRO/LANGUAGES/BASIC/ subdirectory with the name "hello" and the program itself was modified to include the correct prefix. In order for this setup to work properly, you will need copy the SOS.INTERP file from your Business Basic program disk to the Ba-

sic directory on your hard drive. An alternate method, when using BOS, is to specify the "hello" file as the program file and "BASIC.RTINTERP" as the language file in the BOS menu editor.

Next on the agenda was creating sub-directories for the different groups of Business Basic programs such as graphics, utilities, games, and screen demonstration programs. If you are not familiar with Business Basic, then you may need some assistance in rearranging your program locations. Most Business Basic programs use internal prefixes that tell the program where to look for certain files. To change the program prefixes, you LOAD the program using Business Basic and LIST the program on the screen, looking for the common "Prefix" or ".D1" comments and then editing them to match the new file locations.

This is not as hard as it sounds, I managed to perform it successfully without prior knowledge of Business Basic. Apple /// Business Basic has provisions for printing a program file as a text file which allows you to edit the program in your word processor. This is handy for long programs and you can use the word processor's search function to speed things along. After the program has been edited and saved as a text file, you can "exec" it from Business Basic then save it as a program file once again.

Now came the time to arrange all the programs and files under the correct sub-directories. On the first directory level with Menu

Maker was placed the sub-directories for the graphics, utility, and game programs. The programs were sorted and copied into their correct directory and another copy of Menu Maker was added to each directory using the name "Menu".

Having a copy of Menu Maker in each Basic directory may seem like a waste of hard drive space, but it works out for the better when somebody gets lost in basic. If your program crashes or you terminate the program and get left at the basic prompt, just type "run menu" and you are back in familiar territory.

Another item that you will want to keep in your sub-directories is a copy of any invokeable module that may be needed to run a certain program. An example of an invokeable module is the "BGRAF.INV" module used by graphics programs. These invokeable modules are actually assembly language programs that can be accessed by the Apple /// Business Basic language. Again, you can load and list the program to check if there are invokeable modules that are needed for your program.

How Menu Maker Operates
When Menu Maker is run, it scans the directory and creates a menu listing the Basic files, text files, sub-directories, font files, and foto files in that order. When all the files are listed on the screen, you just highlight the file you want and press RETURN.

What happens from here depends on what kind of file is chosen. Basic files are run and text files are allowed to scroll on the screen and printed. If a subdirectory is selected, the screen will clear and a new menu will be created from the files in that subdirectory (neat huh?).

If a font file is selected under Menu Maker 5.0, the screen display is changed to the new font and the menu remains on the screen. This feature is good for finding out what

a handful of different fonts look like on your display.

Graphic (or Foto) files get more involved. The image will appear on screen with the title in the upper left hand corner. To get back to the menu, just press any key twice except escape (PLEASE don't ask where the "any" key is). Before you are returned to the menu after viewing your selected foto file, you will be asked if you want a printed copy.

The foto file printing process consists of choosing a few options like centering or rotation before the image is printed. You should note that your image will be printed in the inverse mode because most people tend to draw with the background set to black and the pen color set to white.

The Benefits
The first freedom allowed by this new layout of Basic was the elimination of several program titles from my main menus. Although the BOS menu selector and Selector /// take the large menus in stride, it was refreshing to have my menus un-cluttered by the dozens of basic programs on my hard drive. There are now more than 160 files in my basic subdirectory that are easily accessed through a single menu item, titled "Business Basic Gateway".

Another freedom is the knowledge that all my Basic programs are in the same place, and are available without 'menu hunting' (or icon hunting for that matter). If It's in Business Basic, access is a keystroke away.

Apple /// Business Basic is one of the more powerful Basic programming languages available, that is why it was selected as the foundation for GS Basic. With Menu Maker, it is also one of the friendlier versions around. The last benefit I'm going to mention here is one of the best; Using the Business Basic Gateway allowed by Menu Maker lets me have peace of mind no matter *who* sits down at my computer!

Apple // History

Programmer's Aid #1 ROM), but none made enough of an inroad to be preserved in the INTBASIC file that would later be included on the DOS 3.3 System Master disk. In fact, the $D800-$DFFF space in the INTBASIC file on that disk contains an image of that same space taken directly from the Applesoft ROM! It is completely useless to Integer BASIC, of course, but disk files being what they are, Apple had to fill that space with SOMETHING! The Integer BASIC interpreter lived in the ROM space between $E000 and $F7FF. However, BASIC only used the space up to $F424. Between $F425-$F4FB and $F63D-$F65D could be found a floating-point math package that was not used by Integer BASIC, but was available for BASIC programmers who were astute enough to figure out how it worked. (An early Apple user group, the Apple Pugetsound Program Library Exchange, or A.P.P.L.E., sold a tape and notes by Steve Wozniak they called "Wozpak", that documented some of the secrets of the Integer BASIC ROM). Between $F500-$F63C there was code that was known as the "miniassembler", which was executed starting at the ominous address $F666. The miniassembler allowed you to enter short machine language programs using the standard 6502 mnemonics (the three letter codes that referred to a specific type of operation; for example, "LDA #" represented the 6502 opcode $A9) instead of entering the program byte by byte in the monitor. The $F689-$F7FC space contained Woz's SWEET 16 interpreter.

On The Trail Of The Apple ///

by David Ottalini
Apple /// SIG Co-Chairman

The Garage Sale

... was GREAT! Especially since it was the official roll-out of BOS3, "Bob's Operating System", for our SARA. On Three's Bob Consorti (who actually did the programming) took the long drive down to Washington to be part of the festivities. Paul and Anieta Campbell and their kids also made the trek from Detroit.

OK, so we didn't pop any champagne. But it was with a feeling of victory that we all watched over Dave Jernigan as he had the honor of being the first SIG member to "officially" load BOS into his ///. It was duly recorded for posterity on video tape! We sold six copies of BOS3 during the day, while preparing the other 24 copies for sale. Thanks to WAP Office Manager Beth Medlin for all her assistance with this project! Afterwards SIG members got Bob so filled with pizza he didn't eat again until lunch the next day!

Yup—it was heaven for us SARAsaurs—the culmination of more than a year's worth of work. But I'd like to look on this as the beginning and not the end. We still have a lot of things to do, projects to accomplish. Many of you, through your continued interest and financial support, will make that possible (and yes, we're still taking donations to the SDF!)

As previously mentioned, once all 30 copies of BOS3 are sold, we'll move on to develop a new version of Communications Manager. I had a long talk with Bob about that and he's already started to think about it. We need your input on what you'd like to see. Right now, though, we're talking about a complete re-write that will provide Zmodem capabilities, page scrolling, off-line text editing, VT 100 emulation (& possibly others), the ability to use higher speed modems and a much more friendly user interface. Some macro capability would also be nice.

Now is the time to make your feelings known, as we'll discuss this at the SIG meeting next month (March 12th at 10am). Hopefully, by that time, we'll have all the BOS3 disks sold and can make a commitment to go forward with the new project.

Paul's Turn

It didn't take Co-Chair Paul Campbell long after returning to Detroit to make his own comments about the Garage Sale, as he related on the TCS:

Well it was an interesting trip this time. I bring stuff to the garage sale and end up leaving with two MORE computers. Had lots of fun anyway, it was great seeing everyone and meeting Bob face to face for the first time. One disappointment was the lack of a scheduled or organized demonstration time for BOS, we need to think of some way to get the word spread that does not cost big $$$$.

The BOS installation of serial number WAP02 went smoothly and it's operation has been flawless. I never did find out why my copy of Access /// did not load under BOS, it may have been a bad Access /// interp file. I got around it by using the invokable Interp module which is several times faster anyway and it runs fine, which means that those who use their Apple ///s to access IBM Mainframe applications which require DEC VT-100 emulation with IBM function keys, are all set to fly under BOS.

Bob 'DARs' to Do It Again

Bob Consorti is one driven man. Not only did he continue to work on improvements to BOS3 right up to the point of leaving for DC from Massachusetts, he also had time to write an entirely new program! Called "DAR" for Disk Archival and Retrieval, it essentially creates a "disk mirror" binary II single-file image of a 5.25" disk side. The purpose— to make it very much easier to upload and download numbers of files on the TCS, CompuServe, even computer to computer.

DAR is a first for Bob— shareware. He's asking for a $20.00 fee in return for using the program. We've already placed it into the WAP /// SIG PD and also on the ///s Company, WAP BBS as well as CompuServe. Dr. Al Bloom has also uploaded it to the Apple /// Internet address. Our PD version comes complete with a manual-on-disk (put together by yours truly) and the self-booting program. Be sure to see the DAR review from Dr. Al Bloom in the Journal. In the meantime, I couldn't resist giving you a taste:

"I am properly impressed with DAR as is. It is dead solid perfect for distributing my old freeware that invariably came on a Pascal boot disk (mostly two-stage, even) with all kinds of files. Without DAR, there'd be no way to put my toys on a

BBS or an ftp site. With it, and with a hexification scheme, the job can be done easily. Thanks for DAR, Bob."

It's great to have Dr. Bloom back in print: his reviews, articles and other Apple /// offerings (they are all in our PD) provide users with a wealth of information unmatched elsewhere.

The Apple /// and Internet

It had to happen—and now it has! The Apple /// is part of Internet —courtesy of long-time /// user Jeff Fritz at West Virginia University (now we just need to get him to become a member of WAP). Thanks to Dave Jernigan, Bob Consorti, Paul Campbell and I have been officially added to the "Apple /// Discussion Group." His Internet address is: JFRITZ@WVNVM.BITNET, while the group is located at: LISTSERV@WVNVM.WVNET.EDU

The latest problem? What type of cable do you need to hook up a /// and a Mac to transfer files. One respondent put it this way:

A standard cable is fine, but you'll want to use a modem eliminator (or get a cable that does that for you)—they're pretty easy to find, and some kind soul might just let you borrow one if you're just going to do a one-time-only hookup. Be sure to up your baud rate in Access /// and your Mac telcom program— no sense in doing this at 2400 baud!

We are thrilled to be able to have another source to spread the news about the Apple /// and WAP. Watch for more news about the /// SIG and Internet in the months to come.

///s Company—WAP

By the time you read this, we hope to have had our 20 MB hard disk up and running for more than a month! As you may remember, Ed Gooding donated the drive for use with ///s Company when he transferred it to WAP. But software problems prevented us from getting it to operate properly.

Sooooo.. we ran the BBS off a 5 MB Profile for a few months until we could find a solution.

It came, once again, in the form of Bob Consorti. He took the drive home with him to Harvard along with the offending software. Two days later, he had it all figured out and had rewritten the software to take care of the problem.

With that figured out, we now have the ability to offer you *all* of the original ///s Company files along with a number of WAP files too. Thanks to the donation of another 20 MB drive by Frank Freeman at Sleepy Hollow Corporation, we look forward to bringing another 20 MBs on line for use with the BBS (actually, Sara can only see disks up to 16 MBs in size, so this one will also have to be partitioned). A little reworking of the software will also be required to make this happen.

Next month, I hope to offer you a separate article on ///s Company— what it offers and how to use it. It really is a great resource that you should try to take advantage of if you have a modem (and shame on you if you don't!). The number again is 301-593-0024, and it's free access save for your phoneline costs. One advantage Company users have— they get access to my Trail articles more than a month ahead of publication in the Journal!

West Coast Repairs

Sarasaur Frank Thompson reports a good place on the West Coast to get Apple ///s, parts and service is:

The ACC (Apple Resource Center):
1014 Central Ave.
Tracy, CA. 95376
(209)-832-4300 : Info/Support
(209)-832-3270 : Fax
(800)-753-0114 : Order Line

Frank says they are "friendly and helpful as well as being reason-

able with their prices. They have a good stock of older Apple parts and supplies along with books and manuals."

Apple /// Resources

Apple Technical Support
1-800-767-2775

Bob Consorti
179-B Kent St.
Brookline, MA 02148
(617)-731-0662

On Three c/o Joe Consorti
1174 Hickory Ave.
Tehachapi, CA 93561
(805)-822-8580]

Sun Remarketing
1-800-821-3221

The Lisa Shop
916-668-5637
PO Box 969 Woodland, CA 95695

Tom Linders
1-408-741-1001
12604 Wardell Ct. Saratoga, CA 95070

Allan M Bloom, PhD CDP
2303 San Marcos Street
Blacksburg VA 24060
Internet:
IRBLOOM@VTVM1.CC.VT.EDU

Apple /// To Mac, The Hard Way

by Mike Lee, University of Oregon
(MIKELEE@OREGON.UOREGON.EDU)

My mother has used an Apple /// for address lists and correspondence for about ten years. When I sold her my Mac LC, part of the deal included transfering her old files to the new computer. It's not impossible, but it requires a bit of patience.

Although good A/// file-transfer programs exist, I was not in a position to use them. (If you have Internet access, you can get more information from the Listserv discussion group A P P L E 3 - L@WVNVM.WVNET.EDU, or FTP to NAMES.WVU.EDU.) What follows is the bare-bones method.

You'll need a $15 Mac-to-Hayes cable (25-pin D-connector, software handshake), a $5 null modem plug (also called a "modem eliminator," available at Radio Shack), a Mac modem program (I used Z-term shareware), and two A/// system disks: "System Utilities" and "System Utilities Data." You may want to buy a few blank 5-1/4 inch double-density disks as backups.

The concept is simple: Make the A/// "print" text to the Mac instead of a printer. You'll have to strip out the paragraph marks at the end of each line, but at least you won't have to retype everything from scratch.

What you'll be doing is modifying the A///'s serial-port driver (called "RS232") to feed information to the Mac. These instructions presume a single-drive system; if you're working with two drives, type ".D2" where appropriate.

To begin, slip the System Utilities disk into the A/// and turn on the machine. (If at any time you need to reboot, press CONTROL+RESET simultaneously.) After booting, you'll see the Main Menu. Select "S" (System Configuration Program, or SCP). Select "R" (Read a Driver File). The driver file is like a Mac extensions folder. When you boot the A///, the computer searches the "SOS.DRIVER" file for configuration information, including disk drives and the monitor.

The screen will likely read ".D1/ SOS.DRIVER". The A/// uses command-line naming conventions. Anything with a period designates a volume or peripheral (.D1 and .D2 for disk drives), followed by a backslash and file name. If you want to work with your boot-disk driver file, press RETURN. Otherwise, type in another file name.

The program will now load the drivers into memory. You'll likely see ".PRINTER", ".CONSOLE", and so on. You also should see ".RS232". If not, you'll need to add it from the System Utilities Data disk. Insert the disk, type ".D1/RS232.DRIVER" and press RETURN. The serial driver will be added to the list. Reinsert the boot disk and press ESCAPE to return to the SCP menu.

Select "E" to edit a driver, then select the number of the .RS232 driver on the list and press RETURN. The driver parameters will be displayed. Item 2 (Device Type) should have a value of $63 (Char, Read, Write). If not, press 2, type "63", press RETURN, then ESCAPE to the parameters list.

Item 4 (Driver Status) should read ACTIVE. If not, press 4, type "A", then ESCAPE to the parameters list.

Item 6 (Configuration Block data) is where the action is. Press 6. The screen will display a series of 12 hexadecimal numbers. For complete information on what it all means, see pp. 118-122 in the A/// Standard Device Drivers Manual. Here's how I set mine up: 0: 0A (2400 baud) 1: 22 (7 bits, one stop bit, odd parity) 2: 00 (no carriage-return delay) 3: 00 (no line-feed delay) 4: 00 (no form-feed delay) 5: 80 (XON/XOFF protocol) 6: 13 (XOFF character) 7: 11 (XON character) 8: DF (maximum buffer) 9: 84 (minimum buffer) A: 00 (not applicable) B: 00 (software handshake)

Press ESCAPE to return to the parameter list, ESCAPE to return to the driver list, then ESCAPE again to return to the SCP menu.

Select "G" (Generate New System) to compile the results. The program will ask for a new driver file name. You can update the boot disk you're working on, or another. (I saved the new driver file to a separate program disk, for example.) Press RETURN to save the file, ESCAPE to return to the SCP menu, then Q to quit to the main menu.

You are now ready to transfer text files to the Mac. Attach the cable to the Mac's modem port (the phone symbol) and to the A///'s Port C, using the null-modem plug. Set the Mac modem software for 2400 baud, 7 data bits, one stop bit, odd parity, XON/XOFF protocol. (The A/// can transmit at 9600 baud, but I found 2400 sufficient for my needs.) Make sure it's ready to receive.

From the A/// Main Menu, select "F" (File handling commands). For a directory of a given disk, select L (List files). To transfer text, select "C" (Copy files). Type the name of your file, then press RETURN. Next, type ".RS232" as the destination and press RETURN. (To see it on the A/// screen first, type ".CONSOLE".) Your text should appear on the Mac screen. If not, double-check your driver settings and Mac settings. Have patience — it only took me a dozen tries to get it right.
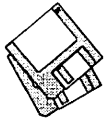
Macintosh Disketeria

by Dave Weikert

New Disks

There are sixteen new disks this month; fifteen Miscellaneous Utilities series disks and one Apple System Software disk. Descriptions of the files on the new and revised disks are included below.

Disketeria Mailing Kudos

We had an excellent response from the November Disketeria mailing and orders are still coming in. Jon Hardis initiated the idea, developed the flyer and coordinated the printing and mailing. Members of the TCS Committee and other volunteers stuffed and sealed the envelopes on a Saturday the week prior to the Garage Sale. Helpers included Lorin Evans, Paul Schlosser, Jon Thomason, Dale Smith, Dave Harvey and Bill Wydro. There was even one person who showed up at the office for other reasons but stayed to help—he left before I got his name. Thanks to all of those who volunteered.

Typeface Reference Book

Nancy Seferian has created a Typeface Reference Book (Type Book) for all of our Mac PostScript fonts. Since many of the PostScript fonts are also available as TrueType fonts, the Type Book also covers some of the TrueType fonts. The Type Book will be maintained in the office and a copy will be available for your viewing at meetings.

A Type Book helps you select typefaces by demonstrating the attributes of each face on a printed page. The sample page shows all of the upper and lower case letters in various sizes. It also displays the face set as body text so you may determine its suitability and color at normal body sizes.

Nancy used the program *the TypeBook* to create each page. She had to install each font in her computer's System, then run the TypeBook and then print the font. Unless you have done this before, you cannot imagine how much work this is for the over 250 PostScript fonts in our library. Thanks Nancy, our members appreciate your efforts.

Errata

Last month I neglected to credit Rick Zeman for adding On-line Bible version 2.04 to our Disketeria collection. Rick responded to a problem we had with corrupted documentation in On-line Bible version 1. When he was unable to obtain a valid older version, he located and uploaded the 24 disk version we added to the Disketeria last month.

The System Utilities Disk series identified as revision D (16.XXD) should be revision E (16.XXE). The disk order form did not get updated from the prior month; it should have reflected the revision of the System Utilities (15 disks; 3 Value Paks) and the On-line Bible (24 disks, 4 sets).

Value Paks

We are continuing to develop special sets of disks that we call Disketeria Value Paks. We got the idea for this from the Best of the Pi disk series which have been popular with our members. The files on the Value Pak disks are all compressed so that each disk has more value. Value Paks are available for the LaserWriter Fonts, TrueType Fonts, Miscellaneous Utilities, System Utilities and Fun and Games series. We expect to issue most future Value Paks in five or ten disk sets.

Miscellaneous Utilities

I revised the Miscellaneous Utilities this month; the new collection now extends through Disk #15.15C. The disks are divided into three groups which are also available as Value Paks.

The first five disks—Mac Disks #15.01C through 15.05C—include a collection of clocks and timers, calculators including loan amortization and interest calculators and label programs including disk cataloging and labeling. Mac Disks #15.06C through 15.10C include programs for personal management including address and phone books, calendars, job scheduling, tracking and reminding utilities, area and ZIP code lookup and programs to encrypt, decrypt and destroy files. The last five—Mac Disks #15.11C through 15.15C—include an eclectic collection of applications as you will see in the descriptions following.

All of the files in the Miscellaneous Utilities series are compressed with Stuffit so you receive more value per disk. These disks are available for purchase individually at the normal Disketeria price or as Value Paks of five disks in each Pak for $15 per set.

Apple System Software

I updated Apple's System Enablers Collection disk this month. The original disk was issued this past summer and Apple added a number of new Macs requiring new or revised System Enablers since then. The disk includes an installer which will install the System Enablers on the original disk. The new and revised Enablers must be manually installed; I have included instructions on how
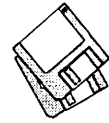
to do this.

You need all of the System Enablers if you want to create a 'universal' boot (startup) disk—that is, a hard disk that you can use to start up any Macintosh (except 128K and 512K Macs) with System 7.1. This disk is expected to be of use to anybody who needs to have a hard disk that can be used with any Mac.

System Enablers are used with newer Macs (LC III and later) so that Apple does not have to revise the operating system each time a new Mac is released. The model specific changes to the operating system are included in each System Enabler.

DISK #15.01C — MU 1
MISCELLANEOUS UTILITIES

Unstuffit.sea: By Raymond Lau and Aladdin Systems, Inc. Decompress (unstuff) archive files (including those on this disk) created with Stuffit Classic, Stuffit Lite and Stuffit Deluxe programs.

AJ's Clock 1.2 *f*.sit: By A. J. Mas. A simple clock that runs in a window in color or black and white. Works in the background if you are running MultiFinder or System 7. **READ ME, please** is in text format.

Amortization 4.0 *f*.sit: By David B. Reynics. Enter the loan amount, interest percent and number of payments and the program calculates loan payment and prints a depreciation schedule to printer or screen. **Amortization.Dox** is in text format. *Shareware – $15.*

Ascii Changer 2.1 *f*.sit: By Cortex Software. Gives you the ASCII value of a character, the octal value of that character, and the Hexadecimal value of that character. **ReadMe for Ascii Changer** is in text format. *Shareware – $3.*

attoClock *f*.sit: By Fred Condo. A very small application (4,931 bytes) that displays a digital clock in a small window. **all about attoClock™** is in Word format; **all about attoClock™ (TEXT)** is in text format. For System 7.0 and later.

AxoCalculator 1.1 *f*.sit: By John Clements. A general purpose programmable calculator, fully integrated within a text editor. The list of built in functions may be extended by writing programs and functions in Pascal, FORTRAN, Basic or C (only a subset of features are implemented for each language). Files in AxoCalculator Documentation are in text format.

Bitwise 1.3.0 *f*.sit: By Eric Curtis. A versatile and easy to use calculator specifically for programmers. Features Reverse Polish Notation (RPN); integer arithmetic in Hexadecimal, Decimal, Octal and Binary; number base conversions, word sizes of 8, 16 and 32-bits; carry and overflow flags and other useful features. **Bitwise Manual** is in TeachText format. *Shareware – $10.*

Burbank v.1.1.1.sit: By Kelly Burgess. Displays the time for up to four time zones on either analog or digital clocks. If you name one of the time zones Burbank, that clock will not display the correct time—just as the Burbank clock on the TV show 'Laugh In.' **Burbank Read Me** is in TeachText format; **GettingMoreClocks.txt** is in text format.

Calculator II 1.23 *f*.sit: By Joe Cicinelli. A color multi-function calculator that includes trigonometric functions, functions for base 10 and natural logarithms and their inverses, a memory function for temporarily storing values. All of these functions can be invoked from the Apple Extended keyboard (F5 - F15). **Calculator II 1.23 ReadMe** is in TeachText format.

Calculator XLS 2.1.sit: By Michael Ross McKee. A black and white or color calculator that is System 7 awars, calculators and includes basic trigonometric functions. **Calculator XLS Info** is in TeachText format.

Clox! *f*.sit: By Graham Cox. Three clocks by the author include **Digital Clock II** with alarm, date and sound functions; **MicroClock** with an attractive analog display with sweep second hand and **YAcK** (Yet another clock) with stopwatch and lap functions.

Dali 1.0b1 *f*.sit: By Ron Gut. A surrealist clock in the Dali mode. You can change the shape from circular to oval and change the numbers that display for each hour. It is resizable and may be placed anywhere on the desktop. **About Dali** is in text format.

Dater 1.1 *f*.sit: By Cortex Software. Allows you to look up any date from 1600 a.d. -2200 a.d. **Dater READ ME** is in text format. *Shareware – $5.*

EyeClock 1.1 *f*.sit: Eiji Nitasaka. A functional clock with colored eyeballs that follow the cursor. **EyeClock 1.1 Read Me** is in text format.

Icon Clock 1.3 *f*.sit: By Richard Michaud. A clock application that shows you the time and the date in an LCD/LED appearance. **ReadMe - Icon Clock** is in text format. *Shareware – $5.*

invisotime 1.2 *f*.sit: By Gregory Babior. Switches files you select from visible to invisible and back at times that you may specify. **about invisotime 1.2** is in text format. *Shareware – $5.*

DISK #15.02C — MU 2
MISCELLANEOUS UTILITIES

Unstuffit.sea: See description on Disk #15.01C.

FastLabel 3.1.3sw *f*.sit: By Henry Carstens. Permits you to print a variety of labels quickly and easily. Includes standard templates for mailing, disks, VCR, and other label formats for LaserWriter, ImageWriter and DeskWriter printers. You may also create your own templates and save them for later use. This program is worth at least five times the shareware price. **QuickStart!** is in text format. *Shareware – $10.*

How Many Days...? 1.2 *f*.sit: By Robert Howe. Calculate the number of days between any two dates or calculate the date given a date and a number of days. Good from the year 1 up to and including the year 4000 for Julian and Gregorian calendars. Documentation (MacWrite format) and Documentation (MS Word format) include an interesting write-up on calendar history. *Shareware – $7.75.*

HP calc! (15C).sit: By Mike Wessler. A calculator based on the Hewlett Packard 15-C. Just like the HP, this one uses RPN (post-fix) notation. *Shareware – $10.*

Invisible Clock 1.0.1-Male *f*.sit: By Chris Holmes. A small application that announces the time between hours as you specify—every hour, half-hour or quarter-hour. **Invisible Clock Read Me** is in TeachText format. For System 7.0 and later.
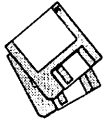
Invisible Clock 2.0-Female *f*.sit: By Chris Holmes. Two small applications that announce the time between hours as you specify—every hour, half-hour or quarter-hour. **About Invisible Clock 2.0** and other documentation are in TeachText format. For System 7.0 and later; does not run on Mac Plus, SE or Classic.

DISK #15.03C — MU 3
MISCELLANEOUS UTILITIES

Unstuffit.sea: See description on Disk #15.01C.

It's Just a Clock 1.0a20 *f*.sit: By Pete Helme. Another of those ubiquitous clocks; this one permits you to choose analog or digital format and to select font, size and style. **"..A Clock" Read Me...** is in TeachText format.

Lat/Long Calc 1.0c *f*.sit: By Brian Williamson. A utility for plotting and calculating latitude / longitude coordinates using map edge measurements and the data contained on every USGS 7.5 minute topographic map. **Doc. Lat/Long ShareWare** is in text format. Requires System 6.0 or later. *Shareware – $20 for full featured version.*

Loan 1.0 *f*.sit: By L. Feng. A flexible program that permits you to calculate amortization schedules for a variety of loan input data for conventional and ARM type loans. **Loan Instruction.txt** and **Loan Reg Form.txt** are in text format. *Shareware – $15.*

Loodle™ 5.3 *f*.sit: By Josh and Nick Franco. Create labels for 3.5 inch Mac disks in any of a variety of formats of commercial label stock. Just pop the disk into the drive and Loodle creates a label with disk name and files. **LoodleList** is a HyperCard stack for searching the lists produced by Loodle. **LOODLE 5.3 Doc** is in double clickable DOCMaker format. *Shareware – $10.*

Mac a £oan 3.2 *f*.sit: By Coconut Info. Calculates details of a loan from input information such as loan amount and interest rate. Doesn't provide for printing until registered. **READ ME-Mac a £oan 3.2** is in TeachText format. *Shareware – $20.*

MacAClock 2.0 *f*.sit: **MacAClock** and **BWMacAClock.** By Zikif Hamdy. Color and B&W versions of an analog clock with an alarm feature. You may change the font, size and style as well as modify a number of other characteristics.

MacAmortize 1.2 *f*.sit: By Charlie Moylan. Create amortization schedules from data you enter and print them or save them to disk. Unique features include an ability to show tax deductible interest and the effect of inflation. **READ ME** is in text format. *Shareware – $15.*

MacLoan II 1.3s.sit: By Robert K. Valentine, Jr. A loan calculator for simple loans; it calculates a schedule of payments based on principal, interest and term and loan origination and first payment dates. *Shareware–$20.*

Master Scan 1.1.2+ *f*.sit: By Joseph Laffey. A calculator that determines scanning resolution based on input size and output size or percent enlargement and line screen and quality factor (halftones) or output resolution (film recorder). **Read Me! 1.1.2+** is in TeachText format. For 68020 and higher CPUs. *Shareware – $12.50.*

MathPad 2.1.5 *f*.sit: By Mark Widholm. A general purpose scientific calculator that uses text input rather than a graphic simulation of a hand held calculator. This allows you to see and edit your entire calculation. **MathPad.doc** and others are in text format.

DISK #15.04C — MU 4
MISCELLANEOUS UTILITIES

Unstuffit.sea: See description on Disk #15.01C.

MacClock 1.0 *f*.sit: By Ernst Mulder. A Macintosh equivalent for the UN*X xclock. It is resizable, and remembers its position. **MacClock 1.0 read-me** is in text format.

MacInterest 2.0.sit: By Dan Cripe. An easy to use calculator for Loans, One time investments and Periodic investments.

MacLibrarian 1.5.5 *f*.sit: By Epsilon Systems. A disk management and disk labeling program. Find files across multiple disks. Create labels for your library of disks by drawing a template and then letting MacLibrarian fill in the areas such as disk name, file name and more. **MacLibrarian Doc 1.5.4** is in Word format. Other documentation

is in text format. *Shareware – $30.*

Meeting Clock 1.0b *f*.sit: By Stephen W. Chapel. A clock to keep track of meeting costs; you enter the number of people and their average salary. **MeetingClock 1.0b.txt** is in text format. *Shareware – $10.*

MIGHTYcalc 1.0 *f*.sit: By André Ouimet. A calculator designed to perform computations on very, very large integers (thousands, hundreds of thousands of digits). It is programmable and offers features not found on most calculators: Fibonacci numbers, factoring (to find prime numbers), Greatest Common Divisor (GCD), and many more. Documentation is in Word and TeachText formats.

MXMClock 1.0.1.sit: By Matthew Xavier Mora. A menu clock that requires QuickDraw.

NoName Clock v1.2a *f*.sit: By Trygve Inda. Displays eight clocks in a small window each with a selectable time zone. **Read Me v1.2a** is in TeachText format. *Shareware – $20.*

Ouch! *f*.sit: By James H. Moore. An income tax calculator based on your estimates of Adjusted Gross Income, Itemized Deductions, Net Long Term Gain, Number of Exemptions and Filing Status.

PCalc 1.0.2 *f*.sit: By James Thomson. A programmable scientific calculator with all the expected functions. It also includes many weights and measures conversion functions as well as decimal, hexadecimal and binary mode conversions. **PCalc - Read Me First** is in TeachText format.

Post Calc 1.0 *f*.sit: By Brian D. Barnhart. A simple four function post-fix calculator; post-fix is sometimes called Reverse Polish Notation (RPN) and is the scheme used in the popular HP calculators. **Post Calc 1.0 Read Me** is in WordPerfect format; **Post Calc 1.0 Read Me** text is in text format.

SciCalc 1.2 *f*.sit: By Steven R. Costenoble. An algebraic entry scientific calculator with standard scientific functions as well as one-variable statistics functions. **SciCalc 1.2 doc** is in TeachText format. *Shareware – $10.*

DISK #15.05C — MU 5
MISCELLANEOUS UTILITIES

Unstuffit.sea: See description on Disk #15.01C.
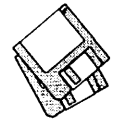
Star Trek Clock 1.0 ƒ.sit: By Roger Caplan. A digital clock in a resizable window; it includes alarm and shutdown functions. **Read me** is in double clickable DOCMaker format. Requires 256 color or gray scale. Tested with System 7.0 and later only.

StopWatch 1.2 ƒ.sit: By Nicholas Buchhahl. A timer to time and compare applications, procedures and programs; it can also be used as an event-logger. StopWatch **ReadMe** is in text format.

TalkingClock 1.0 ƒ.sit: By David Peck. Move the mouse to the lower-right hand corner of the screen and the Mac will tell you the time. **Read Me!** is in text format.

Tape Labeler 4.0b3 ƒ.sit: By Johnathon Z. Simon. A real winner for tape cassette fans. Prints professional looking cassette labels on the ImageWriter or LaserWriter. There is space to type two artists, two album titles and 30 songs, plus noise reduction mode and recording dates (for each side of the tape). Specify the tape length, bias/equalization, tape brand and tape type, a catalog number and a distinctive Identification pattern. Even prints in color. **Tape Labeler 4.0beta Doc** is in text format. *Source code (with comments) in ZBasic, $15 and a blank disk.*

Timer 4.2a ƒ.sit: By Brian Trammell. Create up to four count-down timers which you may configure with time, timer name, text color and background color. **Read Me (Text)** is in text format. **Bragging Rights** returns some information about your Mac; **GraphMan 2.1** does nothing useful. For System 7.0 and later. Requires color capable Mac. *Shareware – $5.*

Timer ƒ.sit: By David Van Brink. A small stopwatch timer application for the Macintosh that either counts upwards from 0:00 or downwards from a selected time. **Timer-Read Me** is in text format. Requires QuickTime.

WatchWork 1.0.0 ƒ.sit: By Lawrence R. King. A digital clock with alarm, stopwatch, timer and screen saver functions. You may customize the font, colors and screen display. WatchWork documentation is in Word and MacWrite formats. Recommended for System 6.0.x or later. *Shareware – $25.*

What Day? 1.1 ƒ.sit: By David T. Haberly. A simple calculator program which determines the day of the week for any date since 1700. **What Day?1.1 docs** is in text format. *Shareware – $5.*

DISK #15.06C — MU 6 MISCELLANEOUS UTILITIES

Unstuffit.sea: See description on Disk #15.01C.

Address Book 3.6.6 ƒ.sit: By Jim Leitch. This is a phone list and dialer in DA and application formats. Select name and double click to open record and choose one of three telephone numbers to dial automatically. Files can be exported. **Installation** is in text format. System 6 MultiFinder and System 7 compatible. *Shareware–$30.*

AlarmBook™ demo ƒ.sit: By Neptune Systems. Create custom alarms (in the commercially available version) that play audio and/or visual messages at periodic intervals. Transfer messages and files between other AlarmBook uses on a network. **Read-Me Demo Version** is in text format. Requires System 6.0.7 or later; for Mac Plus and later. *Shareware – $20 for full featured version.*

Any Calls 1.1 ƒ.sit: By Carl W. Haynes III. Keeps track of all incoming calls and give you the date and time of each. Does not interfere with answering machines and other phone gadgets. **Any Calls? 1.1 READ ME** is in text format.

AreaCodeFinder 3.0.sit: By John Calande III. Enter a city name, it sometimes finds the area code. *Shareware – $8.*

Auspice 3.1 ƒ.sit: By Wayne K. Meyers. Enter reminders which are date and time oriented; they are automatically checked and presented to you at the appropriate time. You need to have the application running in the background at all times so it should be one of your start up applications. **READ ME Auspice v3.1** is in TeachText format.

DISK #15.07C — MU 7 MISCELLANEOUS UTILITIES

Unstuffit.sea: See description on Disk #15.01C.

Alarmist 3.1 ƒ.sit: By Jonathan Gary. A very simple alarm clock application

which provides an Analog clock and 15 alarms with messages. ***** Read Me** is in text format.

Area Codes 1.0.sit: By Dave Rubinic. Enter the area code, press the return key and see the state.

AutoAddress 2.01 ƒ.sit: By J. Serdakowski. Multi-user contact management software with extensive reports, form letters and import/export features. Written in FoxBase+ Mac. **Read First** is in text format. *Shareware – $29.95.*

Burn-It 1.0 ƒ.sit: By Michael Watson. Destroys any file by first overwriting its contents with zeroes and then renaming and deleting it. Overwrites data and resource forks. **Burn-It 1.0 doc** is in Word format; **Burn-It 1.0 text** is in text format.

Calendar 2.5 ƒ.sit: By Jim Studt. A monthly calendar that can show either five or seven days of the week. You may create notes in any font, size and style and may save formats as stationery. *Shareware – $15.*

CodeMaker 2.0 ƒ.sit: By Raymond Marasa. Allows anyone to create confidential messages, and to actually see the code. CodeMaker contains 13 of the most popular ciphers throughout history and can be used as a teaching tool. **Read Me 2.0** is in text format. *Shareware – $10.*

DISK #15.08C — MU 8 MISCELLANEOUS UTILITIES

Unstuffit.sea: See description on Disk #15.01C.

ButtonPad 2.01 ƒ.sit: By Jeffrey L. Ehrlich. A substantially improved version of the NotePad desk accessory. It permits you to categorize your notes into up to 16 separate Quick Access notepads. Includes find and replace, sorting and phone dialing capabilities and special text transformation functions. **ButtonPad Doc** is in TeachText format. *Shareware – $10 for application; $15 for DA version also.*

ContactNotes 1.0.2 ƒ.sit: By Jerry Du. Maintain contact lists and notes for three different information categories: Friends and Family, Businesses and Information. **Read Me** is in text format. Requires System 6.0.4 or later. *Shareware – $2.29.*

Cryptogrammar 1.5 ƒ.sit: By Gary Kowalski. This application helps you
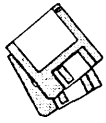
to create or solve cryptograms, sayings that are encrypted by letter substitution code. The application has three windows, a text input, text output and cipherbox window, and the interface is pretty intuitive. **CryptoDoc.macwr** is in MacWrite format. <u>Cryptograms Volume 2</u> includes a number of samples. *Shareware - $12.*

CryptWriter 1.0.sit: By Matthew Christensen. A simple application to save what you type as encrypted text; someone can decrypt it only if they have the password (or if they have the time and CPU power). The password is case-sensitive.

DeltaTime 1.1.0 *f*.sit: By Bryan C. Harding. A combination desk top calendar and a date differential calculator. **DeltaTime README** and **New to DeltaTime 1.1.0** are in text format. *Shareware - $10.*

DeskMates 1.0.7 *f*.sit: By David Darby . A multi-function program that includes an analog clock, notebook, stopwatch, calculator, calendar, alarm clock and date pad. It includes on-line help. **About DeskMates v1.0.7** is in text format. Requires System 6.0.5 or later. For Mac Plus and later. *Shareware - what it's worth, $15 suggested.*

Do It All! 3.02 *f*.sit: By J. Christopher Bell. A job and schedule organizer where you enter jobs, appointments and schedules and their priorities. You may print out a number of reports and including, daily schedules and completed and postponed jobs. **About Do It All! v.3.02** is in TeachText format. *Shareware - What you feel it's worth; $15 to $35 recommended.*

Disk #15.09C — MU 9 MISCELLANEOUS UTILITIES

Unstuffit.sea: See description on Disk #15.01C.

Enigma 1.2 *f*.sit: By Mike Watson. Named after the famous German encryption system of World War II, Enigma implements a limited version of the NSA developed Data Encryption Standard which is the standard for commercial, unclassified, data protection. Full version available in the US or Canada for $10. **enigma 1.2 doc** is in Word format; **enigma 1.2 text** is in text format. For Mac 512KE and later.

FoneMate 1.7.0 *f*.sit: By John J. Calande III. An application for keeping up to 1000 phone numbers and e-mail addresses handy. Displays a scrollable list of the names you have entered, and with a single click on the name, displays the phone number and e-mail address associated with the selected name. FoneMate Docs/Description is in text format. *Shareware - $8.*

GMS Calendar 1.5 *f*.sit: By Green Mountain Software. A calendar and note taker in a small but handy format. When not in use, the calendar compresses to a small icon that floats on the desktop or on top of any open window. **GMS Calendar Shareware** is in double clickable DOCMaker format. *Shareware - $25.*

Introspective™ 1.02 *f*.sit: By Michael D. Pester. Permits you to record daily notes as in an electronic diary. Expires after 30 days from first execution; to try it, set your clock to the Last Modified date if the program has already been run. Introspective Docs is in double clickable DOCMaker format. *Shareware - $20.*

It's Time 1.1.1.sit: By Joseph Tarsha. Create reminder notes for a specific time and date (either relative or absolute time/date). Notifications may include sound, icon and/or message.

Jewish Calendar.sit: By Frank Yellin. A Jewish calendar that covers a month at a time from 1900 to 2099. Includes holidays and special shabbats.

Julia Timer 2.0 *f*.sit: By Allen Simon. A small application which keeps track of the time spent on multiple projects. **Julia Timer docs** is in text format. Requires System 6.0 or later. *Charityware - $10 as specified in documentation.*

LogOut 2.1 *f*.sit: By Jeff Miles. Allows you to track and accumulate the computer time spent on jobs for specific clients for billing. **LogOut 2.1 Docs** is in text format. For System 7.0 and later. *Shareware - $10.*

MacEncrypt II 1.0.1 *f*.sit: By J. Clarke Stevens. Paranoid about somebody reading your private files? Use the Data Encryption Standard (DES) to scramble the bits of your files until they are totally unrecognizable. **MacEncrypt Doc** is in Word format; **MacEncrypt Doc (Text)** and **Read Me** are in text format. *Shareware -$10.*

MacPGP 2.2 *f*.sit: By Philip Zimmermann, Branko Lankester, Hal Finney, Peter Gutmann, et. al. An RSA public-key encryption application that lets you communicate securely with people you've never met, with no secure channels needed for prior exchange of keys. All documentation is in text format.

MacPostit 1.02 *f*.sit: By Michael Shapiro. Create electronic versions of the 3M Post-It Notes and scatter them all around your desktop. **Read Me First!** is in TeachText format.

MacVCR+ 1.0b1 *f*.sit: By Kent Anthony Behrends. Generate (encode) VCR+ codes given the show time and length. Also decodes the VCR+ codes to give you the channel, start time, and length. Nice pop up interface. **MacVCR+ ReadMe** is in text format as is the source code.

Disk #15.10C — MU 10 MISCELLANEOUS UTILITIES

Unstuffit.sea: See description on Disk #15.01C.

McZip 2.2 *f*.sit: By Coconut Info. When you register it, you can access over 42,120 cities and five digit ZIP codes for the US and its territories. **About McZip™ 2.2** is in TeachText format. *Shareware - $10.*

Network Calendar 1.2.2 *f*.sit: By Tad. You may use this calendar on a single machine or may use it as a network calendar until the expiration date of the network keys. The calendar has a notation capability. **NetCal - Read Me** is in text format. *Shareware - $10 per key for network capability.*

Paste It! 2 *f*.sit: By Craig Dunham. Another software implementation of 3M's Post-It Notes. **Read Me!** is in text format. *Shareware - $5.*

PasteIt Notes 1.0.1 *f*.sit: By Bruce Beare. A computer form of the 3M Corporation Post-It Notes. You may control the font, size and style as well as text alignment. **README - PasteIt Notes** is in Word format. *Shareware - $15.*

PhoneBook Plus 2.6.4 *f*.sit: By Tim Herzog. A program for handling long lists of names and addresses, extensive phone dialing features, envelope printing, and a robust phone call timer. It also can open multiple files, import and export text files,
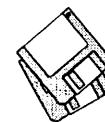
print reports and display the phone log. **PhoneBook 2.6.4 Notes/ReadMe** is in text format. *Shareware – $25.*

Phonebook Plus STF 1.0 *f*.sit: By Ken Hancock. Extends the functionality of FaxSTF's phone book by adding settings for your current phone environment. **Phonebook Plus Release Notes** is in text format.

Right On Time 2.5.1 demo *f*.sit: By John Covele. A monthly calendar, reminder and 'To-do' list system. Create alarms for specific events that you want to track. **ROT Docs, Word** is in Word format and other documentation is in text format. Demo version is limited to 5 events. *Shareware – $15.*

SmartCal 2.4 *f*.sit: By Lee Ann Rucker. A calendar program that allows you to save messages and reminds you of them when you start up your Macintosh or when the date changes. **Read Me... SmartCal** is in text format. *Shareware – $10.*

Tell-Me 1.0 *f*.sit: By Jochen Meyer. An application replacement for the Apple Notepad DA. Supports the microphone supplied with some Macs. **About Tell-Me** is in TeachText format. *Shareware – $5.*

Tiny Elephant 1.0 *f*.sit: By Christopher Eliot. A very small application to create reminders of future events; it will then notify you of them on the specified date and time. **ReadMe** is in text format.

VCR+ Control 1.1 *f*.sit: By Daniel T. Farmer. Encode and decode the VCR Plus selections used for recording TV programs on your VCR. Nice pop up interface. **Read Me** is in TeachText format.

Disk #15.11C — MU 11
MISCELLANEOUS UTILITIES

Unstuffit.sea: See description on Disk #15.01C.

Ah!Schedule 2.1s *f*.sit: By Ah! Hilltop Management Software. An application for creating and modifying the highest quality Gantt (Milestone) charts in a short time. It uses DOD symbols and interfaces with MacProject, MS Project, Excel, Word, MacDraw, Canvas, etc. **ReadMe** and other documentation are in text format. Not 32-bit clean; disable 32-bit processing prior to running. *Shareware – $149; $89 each for multiple copies.*

AutoTrade 1.0 *f*.sit: By Adam Stein. An investment program that can manage an entire portfolio. It issues specific buy and sell orders with precise dollar amounts based on your individual portfolio. Blurbs *f* and Ordering *f* include information on other software packages and ordering information. **AutoTrade Read Me** is in MacWrite format. *Shareware – $39.95.*

Biorhythm 2 v7.0.s *f*.sit: By David A Bailey. Chart your emotional, mental, and physical well being. You can chart two persons' birth dates and compare patterns for a given 30 days. Other statistics like number of days since birth date and day of the week for the birthday are provided. This version is date and access limited. *Shareware – $20.*

Biplane Shareware 2.0.3 *f*.sit: By Alan G. Porter, Night Diamonds Software. This is a full-featured spreadsheet program. BiPlane worksheets are compatible with worksheets developed using other spreadsheet programs and saved in SYLK or text format. Includes 102 of the most used functions and eight types of charts. Spreadsheet size is 16,384 rows by 512 columns. Individual cells can be formatted by size, font, color and style . **BiPlane™ Help** is accessible from within the application. **Read Me** is in text format. For Systems 6.0.3 and higher. *Shareware – $59 gets you 200 page manual plus.*

Blackjack Trainer Demo 2.0s *f*.sit: By ConJelCo. A demonstration version of the full featured program designed to teach both basic strategy and professional card counting. It corrects playing errors as you play, improves counting skills through drilling, and performs high speed simulations. **Read Me** is in text format.

CD Coyote 1.0.1 *f*.sit: By Esa Ristilä. A program that extracts written disc information from audio CD's and creates a TEXT file of that information. **CD Coyote 1.0.1 Readme** is in text format.

ChemAssist 1.6 *f*.sit: By Greg Scherrer. A periodic table of the elements. **•ReadMe!•** is in TeachText format.

Cloak it 1.0 *f*.sit: By Lorvad. A simple application that places a large black window on your screen, effectively masking out any distraction from any

other open applications or from the desktop below. **Cloak It! 1.0 README.txt** is in text format. For System 7.0 and later. *Shareware – $5.*

ColourCheshire 1.0 *f*.sit: Creates a small window with a smiling Cheshire cat that disappears into only a smile that then also disappears as does the application program. Don't worry, your Mac's desktop, applications and data do not disappear. You need to make duplicates from the copy as the original really does disappear after it is run.

Disk #15.12C — MU 12
MISCELLANEOUS UTILITIES

Unstuffit.sea: See description on Disk #15.01C.

ChessWriter 4.1sh *f*.sit: By Bill Orton. Create standard chess move text by moving the pieces on a board. Includes PostScript and TrueType chess piece fonts. **How To Install Fonts** is in text format. This version expires on 12/31/93; set your clock to a date earlier than this prior to running it if you want to see how it works. *Shareware – $40.*

DAbase 3.0.1: By Vic Rubenfeld. Read and edit FoxBase .dbf files. It also has a capability to create up to a 12 field .dbf file. *Shareware – $15.*

DataMac 1.0.7 *f*.sit: By Kenneth H. Wieschhoff, Jr. Created to manage data transfer between WristMac and the Macintosh. **••Read Me First!** is in text format. *Shareware – $9.95.*

EZ DB 1.0.sit: By Michael C. Daconta. A database with a character based interface (non Graphical User Interface).

GEnieRefmt 3.1 *f*.sit: By SK Hushing III. Quickly reformats a GEnie file listing, from two lines of text per file, into one line of text per file. This enables you to load the file listing into your database program of choice. **GenieRefmt 3.1 TEXT** is in text format. *Shareware – $5.*

Guitar Tuner 1.1 *f*.sit: By Rustle Laidman. Helps you tune your guitar. You need a Mac with a built-in or external microphone. **Perfect Pitch •Intro•** is in double clickable Museum format. *Shareware – $5.*

Disk #15.13C — MU 13
MISCELLANEOUS UTILITIES

Unstuffit.sea: See description on Disk #15.01C.
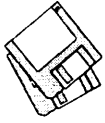
Family Events 1.3.1 *f*.sit: By (M)agreeable software, inc. A lineage-linked genealogy program that lets you keep track of your family relationships. This one is also event-oriented so that you can transcribe information into the file from documents such as birth certificates, marriage licenses, and death certificates. All program documentation is in text format. *Shareware – $35*.

GolfMaster! 1.1.1p *f*.sit: By Stephen MacLean. Helps you keep track of your scores, handicap, courses and course notes. It will also dial phone numbers, analyze your score and even print out blank score cards with the names of the players and their handicaps on it. **READ ME FIRST!!** is in text format. Requires System 6.0.5 or later. *Shareware – $20*.

Living Will *f*.sit: By James V. Borzilleri. The Legal Assistant includes a template for a living will; you print the file and fill in the blanks. **Read Me!** is in TeachText format.

Disk #15.14C — MU 14 MISCELLANEOUS UTILITIES

Unstuffit.sea: See description on Disk #15.01C.

INFOMaker v2.6 *f*.sit: By Mark S. Wall. Format data from other computer systems (PCs, mainframes, etc.) or from other Macintosh applications. Places all fields of a record in order on one line, separates them with tabs, strips control characters and leading and trailing spaces, inserts information for missing data, removes any unwanted data, and sets the file CREATOR so that data can be loaded directly into an application. Can also be used to split files on record boundaries and recombine or append files. **INFOMaker Shareware Doc** is in double clickable application format. Examples includes sample data and script. Requires System 4.2 or greater. *Shareware – $25*.

LottoLyzer33 4.5 *f*.sit: By J. R. Lando. An application designed to highlight trends or tendencies in numbers drawn for the common 'Pick 6' type lotteries. **Lott33Docs.Text** is in text format; **Lott33Docs.Word** is in Word format. *Shareware – $39.95*.

MacChemtab 2.1b *f*.sit: By Jim King.

A database of the periodic table of the elements. **MacChemtab Manual 2.0 (Word 5)** is the documentation. **README** is in text format. Requires System 6.0.X or later.

McHurricane™ 2.0.5bSW *f*.sit: By William I. Chenault. A hurricane tracking utility for the mid-Atlantic Ocean, Atlantic coast, Gulf of Mexico, Antilles and North American Pacific coast areas. **McHurricane™ 2.0.5 Doc** are in double clickable DOCMaker format; others are in text format. Storms *f* includes plot data from prior hurricanes. Requires a Mac Plus and System 6.0.5 or later. *Shareware – $25*.

QuickNav! 1.0.sit: By James H. Moore. A map of the continental US and a list of VOR stations. Select your home base and another VOR station to get a read out of frequency, latitude and longitude, variation and course and distance.

Search Files 1.3 *f*.sit: By Robert Morris. Search for text strings that you specify in any files on your hard disk. **Search Files Document** is in text format. *Shareware – $12*.

Disk #15.15C — MU 15 MISCELLANEOUS UTILITIES

Unstuffit.sea: See description on Disk #15.01C.

Membership Minder 1.1 *f*.sit: By Andrew Kirby. Maintains membership lists. Provides fast data entry and prints membership lists. **Read Me first/Minimal Docs** is in text format.

Mom & Dad's 1.5.1 *f*.sit: Envelope printing software that allows multiple mailing lists, includes return address and permits sorting by Name, address, city, state or ZIP. **Mom & Dad's Docs (Text)** is in text format. Requires System 6.0.4 or later. *Shareware – $5*.

MorseTrainer US-1.0.2 *f*.sit: By Lars Sundström. A program for learning and training Morse code. **Read Me!** is in text format.

Revisionist 1.4 *f*.sit: By Christoph Reichenberger. A application that permits you to archive different revisions of a document in files that occupy little disk space per revision. Two versions are provided; one for 68000 CPUs and the other for 68020

and higher CPUs. **Read Me** is in double clickable PostCard format. *Shareware – $30*.

SpeakerPro 1.02 *f*.sit: By POD Software. Manipulate speaker design parameters, calculate the sealed enclosure volume and graph the resulting frequency response curves. For Mac 512K and later, System 6.0 and later. *Shareware – $15*.

Stand 1.0 *f*.sit: By Ralph Gonzalez. Illustrate the axial (front-back, side-side, ceiling-floor) standing wave patterns caused by a loudspeaker in a listening room to determine loudspeaker and listening locations which minimize room-induced coloration. **Stand Help-text** is in text format. *Shareware – $15*.

Test Pattern Generator 1.0.6 *f*.sit: By Larry Pina. Run this program after installing screen and memory upgrades to test screen alignment. **TPatGen1.08.Help** is a help file. *Shareware – $20*.

UPSMon *f*.sit: By Yair Elharrar. A small application, used to determine the status of a serial-connected Uninterruptible Power Supply (UPS). **UPS Monitor Readme** is in text format. *Shareware – $5*.

Disk # System Software — SS.SE System Enablers Collection

Read Me First.text: By Dave Weikert. Describes the content and installation of the System Enabler files on this disk.

New Enablers *f*: Includes **PowerBook Duo Enabler, System Enabler 065, System Enabler 088, System Enabler 131, System Enabler 403, System Enabler 404** and **System Enablers.txt**.

From the original Apple Disk: **Installer**, Apple Menu Items Folder, Control Panels Folder, Extensions Folder, **Install FDHD, System Enabler 003, System Enabler 040, System Enabler 001, System Enabler 111, System Enabler 121, System Enabler 401, System Enabler 201, 32-Bit System Enabler** and **Enablers Collection Read Me**.

Macintosh Library Order Form

Pi Library
- ___ 0.01 - C 01 Catalog
- ___ 0.02 - C 02 Sampler
- ___ 0.03 - C 03 MemDir

Anti-Virus Utilities
- ___ 1.01G - AV 1
- ___ 1.02K - AV 2
- ___ 1.03K - AV 3

Desk Accessories
- ___ 14 disk set; $42
- ___ 2.01D - DAs 1
- ___ 2.02D - DAs 2
- ___ 2.03D - DAs 3
- ___ 2.04D - DAs 4
- ___ 2.05D - DAs 5
- ___ 2.06D - DAs 6
- ___ 2.07D - DAs 7
- ___ 2.08D - DAs 8
- ___ 2.09D - DAs 9
- ___ 2.10D - DAs 10
- ___ 2.11D - DAs 11
- ___ 2.12D - DAs 12
- ___ 2.13D - DAs 13
- ___ 2.14D - DAs 14

F Keys (Function Keys)
- ___ 4.01A - FKs 1
- ___ 4.02A - FKs 2

ImageWriter Fonts
- ___ 5.01A - IW 1
- ___ 5.02A - IW 2
- ___ 5.03A - IW 3
- ___ 5.04A - IW 4

PostScript Fonts
- ___ 6.01B - PS 1
- ___ 6.02B - PS 2
- ___ 6.03B - PS 3
- ___ 6.04B - PS 4
- ___ 6.05B - PS 5
- ___ 6.06B - PS 6
- ___ 6.07B - PS 7
- ___ 6.08B - PS 8
- ___ 6.09B - PS 9
- ___ 6.10B - PS 10
- ___ 6.11B - PS 11
- ___ 6.12B - PS 12
- ___ 6.13B - PS 13
- ___ 6.14B - PS 14
- ___ 6.15B - PS 15
- ___ 6.16B - PS 16
- ___ 6.17B - PS 17
- ___ 6.18B - PS 18
- ___ 6.19B - PS 19

TrueType Fonts
- ___ 7.01A -TT 1
- ___ 7.02A -TT 2
- ___ 7.03A -TT 3
- ___ 7.04A -TT 4
- ___ 7.05A -TT 5
- ___ 7.06A -TT 6
- ___ 7.07A -TT 7
- ___ 7.08A -TT 8
- ___ 7.09A -TT 9
- ___ 7.10A -TT 10
- ___ 7.11A -TT 11
- ___ 7.12A -TT 12
- ___ 7.13A -TT 13

Graphics
- ___ 6 disk set; $18
- ___ 8.01 - G 1
- ___ 8.02 - G 2
- ___ 8.03 - G 3
- ___ 8.04 - G 4
- ___ 8.05 - G 5
- ___ 8.06 - G 6

INITs & cdevs
- ___ 27 disk set; $81
- ___ 9.01B - I/C 1
- ___ 9.02B - I/C 2
- ___ 9.03B - I/C 3
- ___ 9.04B - I/C 4
- ___ 9.05B - I/C 5
- ___ 9.06B - I/C 6
- ___ 9.07B - I/C 7
- ___ 9.08B - I/C 8
- ___ 9.09B - I/C 9
- ___ 9.10B - I/C 10
- ___ 9.11B - I/C 11
- ___ 9.12B - I/C 12
- ___ 9.13B - I/C 13
- ___ 9.14B - I/C 14
- ___ 9.15B - I/C 15
- ___ 9.16B - I/C 16
- ___ 9.17B - I/C 17
- ___ 9.18B - I/C 18
- ___ 9.19B - I/C 19
- ___ 9.20B - I/C 20
- ___ 9.21B - I/C 21
- ___ 9.22B - I/C 22
- ___ 9.23B - I/C 23
- ___ 9.24B - I/C 24
- ___ 9.25B - I/C 25
- ___ 9.26B - I/C 26
- ___ 9.27B - I/C 27

Miscellaneous
- ___ 10.01A - M 1
- ___ 10.02A - M 2

Paintings (MacPnt)
- ___ 5 disk set; $15
- ___ 11.01 - P 1
- ___ 11.02 - P 2
- ___ 11.03 - P 3
- ___ 11.04 - P 4
- ___ 11.05 - P 5

Digitized Sounds
- ___ 9 disk set; $27
- ___ 12.01B - S 1
- ___ 12.02B - S 2
- ___ 12.03B - S 3
- ___ 12.04B - S 4
- ___ 12.05B - S 5
- ___ 12.06B - S 6
- ___ 12.07B - S 7
- ___ 12.08B - S 8
- ___ 12.09B - S 9

Telecommunications
- ___ 13.01B - T 1
- ___ 13.02B - T 2
- ___ 13.03B - T 3

Programmer/Hacker
- ___ 14.01A - PH 1
- ___ 14.02A - PH 2

Miscellaneous Utils
- ___ 15.01C - MU 1
- ___ 15.02C - MU 2
- ___ 15.03C - MU 3
- ___ 15.04C - MU 4
- ___ 15.05C - MU 5
- ___ 15.06C - MU 6
- ___ 15.07C - MU 7
- ___ 15.08C - MU 8
- ___ 15.09C - MU 9
- ___ 15.10C - MU 10
- ___ 15.11C - MU 11
- ___ 15.12C - MU 12
- ___ 15.13C - MU 13
- ___ 15.14C - MU 14
- ___ 15.15C - MU 15

System Utilities
- ___ 16.01E - SU 1
- ___ 16.02E - SU 2
- ___ 16.03E - SU 3
- ___ 16.04E - SU 4
- ___ 16.05E - SU 5
- ___ 16.06E - SU 6
- ___ 16.07E - SU 7
- ___ 16.08E - SU 8
- ___ 16.09E - SU 9
- ___ 16.10E - SU 10
- ___ 16.11E - SU 11
- ___ 16.12E - SU 12
- ___ 16.13E - SU 13
- ___ 16.14E - SU 14
- ___ 16.15E - SU 15

Word Processing Utils
- ___ 5 disk set; $15
- ___ 17.01B - WP 1
- ___ 17.02B - WP 2
- ___ 17.03B - WP 3
- ___ 17.04B - WP 4
- ___ 17.05B - WP 5

Adobe Screen Fonts
- ___ 18.01A - AF 1
- ___ 18.02A - AF 2

Fun & Games Series
- ___ 22.01 - F/G 1
- ___ 22.02 - F/G 2
- ___ 22.03 - F/G 3
- ___ 22.04 - F/G 4
- ___ 22.05 - F/G 5
- ___ 22.06 - F/G 6
- ___ 22.07 - F/G 7
- ___ 22.08 - F/G 8
- ___ 22.09 - F/G 9
- ___ 22.10 - F/G 10

Online Bible
- ___ 24 disk set; $50
- ___ Set 1, 6 disks; $15
- ___ Set 2, 7 disks; $15
- ___ Set 3, 6 disks; $15
- ___ Set 4, 5 disks; $15

Disketeria ValuPaks (†)
- ___ Best of Pi, 15 disks; $30
- ___ PS Fonts 1, 14 disks; $30
- ___ PS Fonts 2, 5 disks; $10
- ___ TT Fonts 1, 9 disks; $20
- ___ TT Fonts 2, 4 disks; $10
- ___ Calc/Clk Utils 1, 5 disks; $15
- ___ Pers Mgt Utils 2, 5 disks; $15
- ___ Misc Utils 3, 5 disks; $15
- ___ Sys Utils 1, 5 disks; $15
- ___ Sys Utils 2, 5 disks; $15
- ___ Sys Utils 3, 5 disks; $15
- ___ Fun/Games 1, 10 disks; $25
- ___ LW 8.1.1 & PPDs - 4 disks; $10

System Software
- ___ 6.0.3 - 4 disks; $12
- ___ 6.0.5 - 4 disks; $12
- ___ 6.0.7 - 4 disks; $12
- ___ 6.0.8 - 4 disks; $12
- ___ 7.0 - 8 disks; $20
- ___ 7.0.1 - 6 disks; $20 (‡)
- ___ 7/7.0.1 Tune-Up $3
- ___ 7.1 Sys Update 2.0.1 $3 (‡)
- ___ Sys Util Update 1.0.1 $3 (‡)
- ___ QuickTime 1.0; $6
- ___ QuickTime 1.6.1; $3
- ___ LaserWrtr 8.1.1 - $3 (‡)
- ___ LaserWrtr 8.0; $6
- ___ Network Installer $3
- ___ TrueType; $6
- ___ Basic Con Set 1.1.1; $3
- ___ Express Modem; $3 (‡)
- ___ CD ROM Setup; $3
- ___ Comm 1 (CTB); $3
- ___ LW PPDs - 3 disks; $9

HyperCard Update
- ___ 1.2.5 - 3 disk set; $9
- ___ 2.0 - 5 disk set; $15

(†) all files compressed (except LW 8.1.1 & PPDs)
(‡) on 1.44 Meg diskette

HyperCard Upgrade requires HyperCard proof of purchase; any of original disk, first page of manual, receipt or previous HyperCard Upgrade disk.

Mail this form with your check to : Disk Library Washington Apple Pi 7910 Woodmont Avenue, Suite 910 Bethesda, Maryland 20814	Are you a member of Washington Apple Pi, Ltd.? Y/N __ If Yes, Member Number _____. All payments must be in U.S. funds drawn against U.S. banking institutions. Non-members add $3.00 per disk to listed prices.

Number of Disks	Member Price @	Extended	Name
Singles ___ 4 or less @	$4.00=	_____	Box Number, Apartment, Suite, etc.
___ 5 or more @	$3.50=	_____	
___ Sets (marked above) + postage $1.00/disk, maximum $5.00.	$ (above)	_____	Street Address
___ Disk Catalogs + $1.50 postage	$4.50	_____	City / State / Zip Code
TOTAL AMOUNT DUE		$ _____	Day Telephone / Evening Telephone

Apple Disk Library

by John B. Ruffatto

Welcome to the Apple Disk Library section of the Journal, as you can see there is always room for improvement. In this issue there are now Disk Order Forms for the Apple II, Apple IIGS, and the Apple III. The librarians would like to receive comments pro and con to the new set-up versus the old listing format. Direct your comments to me via the Washington Apple Pi office and I will try to respond them.

I would also desire your comments in regard to Public Domain software you would like to see included in our Disk Libraries. Since we no longer publish the titles of the disks in the library, it is advisable to order the Disk Library Catalog Disks for the machine you are using.

Each month we will endeavor to provide information on new additions to the libraries or feature disks currently in the libraries. Some of the disks in the Apple Disk libraries contain SHAREWARE. If you use any Shareware program, please send the shareware fee to the author. By submitting the fee we encourage the author(s) to develop more software.

Special Note: All Apple II, Apple III, and Apple IIgs Catalog Disks may be exchanged for most current edition of the Disk Catalog series— free of charge - if exchanged at the office. For exchanges by mail, please be certain to include your old disks and $1.00 per disk to cover shipping and handling.   Thank you.

Best of Games - Disk 5
The software on this disk have been compressed with the program "GSHK". This allowed me to place more software on this disk than would normally fit on a 800k floppy disk. To use the software on this disk, you must first un-compress the software with GSHK. The application GSHK can be found on the "Best of Telecommunications" Disk.

In the /Games.05/Games/ folder:
DbSolitaire.SHK:
 Solitaire v1.0 by Bill Hamshire. This is the classic version of Solitaire called Klondike. Includes Vegas Style Play/Scoring and Double Solitaire options. Shareware, $10 fee.

DuelTris.SHK:
 DuelTris v1.0s by DreamWorld is a two player head-to-head tetris-like game, which features incredible graphics and sound. It is not DuoTris, which was part of the GS<>IRC demo. DuelTris features 2 player simultaneous play, the DuelLINK (tm), and six different special pieces. When DuelLINK is turned on, whenever one player makes 2-4 lines, they are automatically passed to the other player, and vice versa. The six special pieces have a variety of functions, gun, fill gun, bomb, anvil, inverse other person's controls, etc.

 DuelTris has some of the best 16 and 256 color art I've seen, drawn by David Seah and has great music composed by James Brookes. DuelTris is shareware, $15/$20 fee. This version of DuelTris is fully functional, except you cannot save preferences or high scores. The registered version will allow you to save both. DuelTris requires an Apple IIGS w/ 1 meg of ram, System 5.04 or above, and 1 3.5" disk drive. Speakers and a stereo card are optional, but a nice addition.

Explorer.GS.SHK:
 Explorer, by Jason Smart, is a desktop graphic adventure game. The Explorer program runs scenarios created with the GameMakerGS program. Although Explorer scenarios can be as different as your imagination, they all have one thing in common: to 'win' the scenario, a specific object must be found. The overall layout of the scenario is divided up into 'rooms'. Each room has exits to other rooms. The auto-mapping feature shows the rooms location in the overall layout. As a character moves through the maze, fighting monsters and disarming traps, he will build experience points. These increase the character's stats and give

him new spells.
 The goal is to get a winning item, but there are many obstacles in the character's path (Eg: traps, locked doors, monsters, riddles, hidden entranceways, even solid walls.) that will hinder his progress. Success, then, depends on a good deal of strategy and thought, not just pure fighting. Just as in the real world, creatures in Explorer can be both good and evil. Before attacking anything, be sure it wants to attack you. Otherwise, your alignment will change to evil and all good creatures in the room will attack. Also, the person/ creture might have had something important to say, but if he dies that information will be forever lost. This program is Shareware, $10 fee.

 The GameMakerGS program creates characters (from the 28 races) and scenarios for the Explorer adventure game. It is a full graphics program using the desktop/ point-and-click interface. Make sure any newly-created scenario can be played all the way through before making it public. GameMaker was written by Jason Smart and is Shareware, $10 fee.

ExpScenario.SHK:
 Includes a large collection of new Explorer GS scenarios. Several of these scenarios uses unique background and character icons and they require you to replace your original EXPLORER.DATA and EXPLORER.PIC files with the included replacement files.

Invaders.SHK:
 Invaders From Space by David & April Taylor. The aliens have invaded, and it's your job to eliminate them! This is a "Space Invaders" clone. You control your ship with the mouse, and fire with the mouse button. The concept is simple — you kill or be killed! Shareware, $5.00 fee.

Best of Graphics - Disk 1

 The software on this disk have been compressed with the program "GSHK". This allowed me to place more software on this disk than would normally fit on a 800k floppy disk. To use the software on this disk, you must first un-compress the software with GSHK. The application GSHK can be found on the "Best of Telecommunications" Disk.

SHR.View3.5.SHK:

SHR View v3.5 by Ronald E. Mercer. SHR View [SV] is a slide show program for the Apple IIgs. Since this program is a ProDOS 8 system file, you can run it from either ProDOS 8, or GSOS. SV will display ALL major types of Apple IIgs images (and then some), and a few Apple IIe images. Install the program in a folder full of graphics (SHR, 3200, GIF, others) and it will display individual pics or run a slideshow. SHR View is ShareWare, which means if you use the program you should send in a small ($10-$20) ShareWare fee.

This disk contains a large collection of compressed 3200 color IIgs pictures. After you have un-compressed these pictures, you can use SHR View to view these these pictures.

The following 3200 color pictures can be found in the /Pics.3200/ folder:

Alysa.1.3200	A woman's face
Amber.3200	Another woman's face
AmdekCar.3200	A fast car for a race track
Astro.3200	A space walking shuttle astronaut
Balloons.3200	Hot air balloons
Balls.3200	Mirrored spheres floating over Apple logos
BDragon.3200	Dragon attacking a warrior
Capitol.3200	The nation's capitol
Carson.3200	J. Carson from late night TV
Clown.3200	Close-up of a clown's face
Columbus.3200	Photo of the skyline of Columbus, Ohio
Elvira.3200	Horror show TV host Elvira
Fashion.3200	Model wearing colorful scarf
Flag.3200	The US flag
House.3200	Photo of a mansion
Liftoff.3200	A space shuttle launch
NewTut.3200	Variation of the common King Tut picture
Parrot.3200	Photograph of a parrot
Plane.3200	Nose of a prop aircraft
Portland.3200	Cityscape of Portland
Rockies.3200	The Rocky Mountains
Skywalker.3200	Luke Skywalker of Star Wars
StarWars.3200	Picture from Star Wars
Vador1.3200	Darth Vador of Stars Wars
Vardor2.3200	Another picture of Darth Vador from Stars Wars
Zoe.3200	Yet another woman's face

Best of Graphics - Disk 2

The software on this disk have been compressed with the program "GSHK". This allowed me to place more software on this disk than would normally fit on a 800k floppy disk. To use the software on this disk, you must first un-compress the software with GSHK. The application GSHK can be found on the "Best of Telecommunications" Disk.

In the /Graphics.02/Graphic.Utils/ folder:
Anim.View.SHK:

Another Jason Harper creation. Displays PaintWorks Plus and PaintWorks Gold animation files. A PaintWorks animation file, Saturn.SHOW, is included for your viewing pleasure.

Display.SHK:

This folder contains a set of picture display programs for viewing SHR graphics. DISPLAY.PICTURE asks for the name of a $C1-type file, then displays the picture on the IIGS in 320x200 super hi-res graphics. DISPLAY.ALL displays all $C1-type files on the current directory, one after another. DISPLAY.FOREVER displays all $C1-type files on the current directory, then goes back to the beginning and shows them again. DISPLAY.SAVER asks for a file name, then saves the contents of the IIGS super hi-res screen as a $C1-type file. Run display.doc for instructions.

DisplayEXE.SHK:

This IIgs shell program allows you to display Super HiRes pictures and animations independently of any graphics program. It must be run from a IIgs na-tive-mode shell, such as APW, Orca/M-GS, or Don Elton's shareware ECP-16.

The DISPLAY shell program will display the following picture types: Uncompressed SHR pictures (type BIN or $C1); 816/Paint pictures with color cycling (type BIN); PaintWorks Plus compressed pictures (type $C0 subtype 0); PaintWorks Plus animations (type $C2). Includes documentation. This program is public domain. By Jason Harper.

DreamVoir.SHK:

DreamVoir v1.31 from DreamWorld. DreamVoir is a combination slide show and SoundSmith music player. It is great for showing off the Graphics & Sound of you Apple IIGS. It handles all gs specific graphic formats in 16/256/3200 colors. This version supports 3200 color fades. DreamVoir is shareware $10 fee. Bugfixes etc. with this version. See the docs for details.

EyePro.EXE:

EyePro is a GS/OS shell application and requires a shell, such as ORCA. EyePro converts Computer Eyes GS raw data files into a 3200 color picture.

FillMaze.SHK:

This SHR graphics simulation demonstrates the little-used "fill mode" of the Apple IIgs SHR screen. Presented on the screen is a three-dimensional maze, similiar to the old game "Wayout." This is not so much a game as an incredible graphics simulation. Includes programming notes, and an icon. Neat stuff to show off! From Jason Harper.

Finder.View.SHK:

Finder-View v2.0 is a Finder Invoked Picture Viewer Program by Brian Clark. After installation, you may do away with running a paint program to view a picture, since, now you'll be able to simply and quickly double-click on the picture's icon in the Finder to view it. Supports most formats, from Print Shop to 3200 color pictures. This demo won't display 3200 color pictures, but the real program does. $10 ShareWare.

Fractals1.1.SHK:

This is V1.1 of FractalGS. A program for generating Fractals on the SHR screen. Several changes have been implemented in this version. Still takes forever (and a day) to generate a complete image. The Magnify option is pretty neat. This is best run over night.

GIF.To.IFF.SHK:

This folder contains applications which will allow you to convert GIF graphics 3200 color pictures.

GIF3200v0.2.SHK:

This is GIF -> 3200 picture converter version 0.2. This lets you convert GIFs (of ALL sizes now) into 320, 640, or 3200 color pictures. Still unfinished, so it has some bugs, but converts

much faster then SHRConvert. Also has some new algorithums, and is ShareWare, $5 fee. Written by Bad Luck Software.

GIFview1.01.SHK:

GIFview v1.01 is a GIF viewing program. Fairly simple actually. It currently supports only two modes: Full color and grey scale. The grey scale conversion is the simplest of its kind. The full color option loads in all three planes of the GIF image and displays the file on a 106x66 resolution screen that can display all 4096 colors (scanline dithering). If you've seen the VIEW APPROXIMATION option on Super Convert by Jason Harper, then you've already got an idea of what this thing does.

One of the nice features of this thing is speed. It's the fastest thing out for the][gs. It's not shareware, but the author hasn't been known to refuse money thrown his way. this version has a much better greyscale conversion routine. This program is FAR from complete. Right now it only supports simple noninterlaced GIF87a files with only a global color map defined and only one image per file. Luckily, that's what most gifs are, but if you get some error message, then that's why.

IFFconvert.SHK:

IFF Converter version 0.5 by Ken Grey. The IFF converter is a program that allows you to read in pictures saved in the IFF format used by just about all Amiga paint and graphics programs and a few on the IBM such as DeluxePaint II. Pictures are converted to Apple Perferred Format.

II.GIF.SHK:

][GIF Version 1.0 by Jason Harper allows you to convert and display GIF- and RLE-format graphics files on Apple II series computers, and to save the converted pictures in standard Apple graphics formats for use with other programs.

Life.SHK:

Life v1.0 is a biological simulation based on the life and death of cells over many generations. By Joe Jaworski.

Liphe.SHK:

Liphe-816 v1.2 An Apple IIgs Implementation of the most fascinating game in history! Written in 65816 Assembly for fast animation. Includes Load and Save options which lets you load or save a Liphe screen. The file is saved as a binary (BIN, $06) file. Press 'ESC' to stop the Liphe-processes. Includes source code. Freeware. By Jawaid Bazyar. Included in this little "package" is a special bonus. The only commands it supports are: Arrows to move cursor, RETURN to toggle the state of a cell, A (must be Capital A) to start Life, ESC to stop it, and Q (must be Capital Q) to exit. TEXTLIFE must be run from a shell as it cannot return to the finder.

Moire.SHK:

Moire and Moirec by Joseph A. Bouchard. These two programs are perfectly good-for-nothing-except-staring-at graphics demos. Both of them rely on aliasing and/or misperception by your eyes to make pretty pictures. They are by no means desktop applications, but they do use QuickDrawII for the plotting and the Event Manager to detect the mouse click that makes them quit. Freeware.

Mosaic.GS.SHK:

Mosaic GS version 1.0 by Jay Dunnell. This program displays a Kaleidoscope like pattern on the screen. Includes a Change Palette option which allows the user to randomly change the current colors on the screen. This program is Freeware.

Mountain.SHK:

MountainMaker Version 1.0 is a fractal landscape program for the Apple //GS by Ryan Olson. MountainMaker is a program designed to simulate a fractal landscape on your computer. The basic concept of a fractal landscape is that it is an imaginary mathematical image which can be viewed by a device such as a computer.

MyGIF.SHK:

"MyGIF" is a shell file (exe) that can be run from APW/Orca or Prosel 16's command line to display GIF files. It only displays one GIF file at a time and that's all. Users of Prosel 16 should place this in their prefix 6 directory as an added shell command. Syntax is :mygif {filename}. By Dave Leffler.

PlasmaLab2.SHK:

PlasmaLab is a program for exploring cellular automa. There are 5 scenarios of computer-generated life, represented by colonies or collections of cells (dots). Better and faster than the previous version, "PlasmaLife". I really like "WireWorld" - in which you generate electronic circuits and at least one electon for PlasmaLab to trace. Version 2.0 includes several new features.

PntWksPatch.SHK:

This Applesoft BASIC program will modify Paintworks Gold for GS/OS 5.0 and above. Allows Paintworks Gold to work if you have at least 1.5Meg.

PolySpirals.SHK:

This is a PolySpiral generator with documentation. PolySpiral Generator v1.0 by Craig N. Caroon. There are five parameters that can be adjusted. After each parameter suits your fancy, press the spacebar to generate that PolySpiral. When you get bored, press control-Q to quit!

rsRayTracer.SHK:

Really Simple Ray Tracer version 7.85 by Alex Kourakos the only ray-tracer that will run with any success on an Apple IIgs. With rsrt, you can create ray-traced images that you've seen done on other, more powerful computers. rsrt is a shell utility (w/ ORCA shell or something like that) that reads a scene description file and generates a 24-bit image file corresponding to that description using the standard method of raytracing method.

This version fixes a few bugs and quirks from the previous version. There are a couple new objects, namely boxes and rings/discs. Also, transparent objects are supported. A few more files are included this time. Since rsrt is being written entirely from scratch as an educational experience, changes are happening slowly.

Sepia.Izer.SHK:

Sepia-Izer by Karl Bunker is a method of converting grey scale graphics to sepia tone. Sepia-Izer will take any PIC or Apple Preferred Format PNT file, and convert the palette of the graphic to sepia tone.

Lots of IIgs graphics, especially scanned-in images, are grey scale. With 16 shades of grey, a reasonable degree of photographic clarity can be achieved on the GS. However, grey scale is kind of — well — grey. Sepia tone is often a much more aesthetically pleasant palette, while retaining all the clarity of grey scale. For those who may not know, sepia tone refers to a range of brownish tones, from almost black to almost white. Many early photographs were sepia tone, rather than black and white.

SHKalid2.SHK:

This program displays a Kaleidoscope like pattern on the screen. Press the ESC key to quit. By John Stephen III.

Show.Pics.SHK:

ShowDir.GS is a slide show that works with Rom version 1.0. All $C1 SHR screens on the current prefix are show

once. ShowOff.GS is the same as above except the show recycles. Read documentation for setup information. Included for use with the slide show programs are the following digitized SHR screens: Astronaut; MoonLighting (Maddie and David); Santa.

ShowScreen.SHK:
This program can be used to display Super Hi-Res screens, type $C1 graphics.

SHR.BASIC.SHK:
Adds a set of ampersand commands to Applesoft Basic which allows plotting on the Apple IIGS 320x200 super hi-res graphics screen. Thess are contained in the BINary file SHR. To load it into bank $01, simply run the BASIC program LOADER.SHR. There are 6 functions in this version of SHR: turn on SHR graphics and clear screen; turn on SHR graphics without clearing screen; return to text mode; set plotting color; plot on SHR screen; change a color. Includes Documentation.

SHR.Convert.SHK:
SHRConvert v2.1 by Jason Harper is a program that converts computer graphics to/from GIF, Mactintosh, Atari etc., and most Apple][Graphics formats. Shareware, $15 fee.

Slide.Show.SHK:
This is an update of START.SHOW, the Automatic Slide Show for $C1 pictures. It will look at the sub-directory and show all 65 block pictures starting with the one you designate. It will then repeat by itself. There is a text file with directions.

St.2.Gs.SHK:
This folder contains two programs that can be used to convert an Atari ST picture file of type .PI1 (Atari ST lo-res mod, created with Degas) into an Apple IIgs ($C1) Super Hi-Res screen graphic file. ST.TO.GS is slow and requires about an hour to convert a picture. By Antic Publishing. STGS is much faster and will convert a picture in about 4 seconds. By Ron Waltner.

SuperMagic.SHK:
Super Magic 3.1.1 by Lim Thye Chean. Super Magic is a macro programming tools for ORCA/M programmers. It allows programmers to draw graphics, create fast animation, load picture file, play SoundSmith music, on the Apple IIGS, using simple macros. Super Magic 3.1.1 includes better documentation, delay loop now works for all GS users (3.1 only works correctly under non-Transwarp machine), more macros.

ToSD.SHK:
The Orca Screen Dumper (TOSD) is a screen dump utility that works in the Orca shell environment. This folder contains both C source and a runtime version for the Orca programming environment. By Gregg Brekke & Mark de Jong. Freeware.

VOC3200View.SHK:
VOC3200 - 3200 color picture viewer that supports the Video Overlay Card. This program will view Brooks format 3200 color pictures and will work both with or without a VOC installed. To use a VOC, you need TOOL 33 installed and your VOC in slot 3; otherwise the motherboard will be used and the VOC's display will be what it is when you run other people's 3200 color viewers. Also if you are not actually using the VOC but it is plugged in and TOOL 33 says it is there then your motherboard display will be wrong because the colors will be synchronized to the VOC!

This is a prototype release, which will be cleaned up and given a real desktop interface, and made FreeWare. This is definitely alpha quality only; be careful when you start using it. VOC3200 is an EXE that can be run as a shell command (if you dare!) from ORCA/APW or PROSEL or whichever shell you like to use. By Todd Whitesel.

Best of Finder Icons
The software on this disk have been compressed with the program "GSHK". This allowed me to place more software on this disk than would normally fit on a 800k floppy disk. To use the software on this disk, you must first un-compress the software with GSHK. The application GSHK can be found on the "Best of Telecommunications" Disk.

Included are 3 SHAREWARE programs (DIcEd v1.21, IconEd v1.3 and IconEd v2.0) which will allow you to create new Finder icons or to edit existing icon files. Some of the icon files included on this disk are quite large and may not fit on a disk with limited free space. If this happens, use the cut/copy and paste features of these programs to create a new and smaller icon file with fewer entries.

This disk contains a variety of icon files for use with the Finder. To make use of these icons, copy the desired files to the /ICONS/ folder. The / ICONS/ folder must be at the root level:

EX. / Your Disk / ICONS / Your Icon Files

In the /Finder.Icons/Icon.Editors/ folder:
DIcEd1.21.SHK:
Desktop Icon Editor v1.21, by David A. Lyons. DIcEd lets you create and modify icons stored in icon files. DIcEd is Shareware. Requires System Disk 3.2 or later.

IconEd1.3.SHK:
This is the new version of IconEd. Major improvements in speed, changes in keyboard equivalents, and the ability to save custom icons in APW source code are some of the improvements over 1.2. This program is Shareware.

IconEd.2.0.SHK:
IconEd 2.0 by Paul Elseth is a shareware program for creating and editing Apple IIGS Finder(tm) icons. With IconEd, you can change the appearance of icons, the names of their files, and tell the Finder where to find the application that created a particular document. You can add icons to and remove icons from existing icon files, as well as copy icons between files. It seems like some people are having problems with v2.0. Shareware.

Icon.Tips.SHK:
This folder contains a file written by Rob Moore and Jim Merrit of Apple to help users of IIgs icons with editing and other things. Includes a variety of hints and tips on creating and editing finder icons. A very well written, clear document that anyone can understand. This is a text file.

In the /Finder.Icons/Icons.BestOf/ folder:
ColorMasked.SHK:
This .SHK file contains the following color-masked Finder Icons that were created by Chris Hutmire of WAP:

AlertSound.Icon,	AllExceptFrntIcn,
Ani.Watch.Icons,	AppleBowl.Icon,
Archiver.Icons,	AudioZap.Icons,
AutoMenus.Icons,	Babar.Init.Icon,
BG.Sound.Icons,	BinsclII.Icons, BlankInit.Icons,
Booz.Icons, BounceIt.Icons,	
BRAM.Check.Icon,	CDA.Mouse.Icons,
CDev.Color.Icon,	CDev.Icons,
CDev.TWGS.Icons,	ClipLib.Icons,

CM2100.Icons,
CoolCursor.Icon, CtrlNowl.Icons,
DeskTrackerIcon, Display.Icons,
DreamVoir.Icons, DrmGfx.Icons, DrmGfx.Icons2,
DTU.Icons, ExplorerGS.Icon, FinderView.Icon,
FinderView.Icon2, FixBoot.Icons,
FixFindFileIcon, FndrBlnkr.Icons,
FndrSndr.Icons, Folder.Icons, FolderJump.Icon,
FontSel.Icons, FTypeEd.Icons, GIFview.Icons,
GS.Spy.2.Icons,
GSXEdit.Icons, gTerm.Icons, HFS.Link.Icons,
HotKeys.Icons, HyperCard.Icons,
HyperStudioIcon, IcnAppCheckIcon,
IconoGrag.Icons, Idol.Icons, IFFconvertIcons,
II.GIF.Icons, Init.Master.Icon, IR.Icons,
LaunchPad.Icons, LHext.Icons,
Lithium.Icons, LongPlay.Icons, LotsaTools.Icon,
MahJong.Icon, Mailman.Icons, Mean18.Icons,
MegaTerm.Icons, MenuFonts.Icons,
ModemBuffr.Icon, MODZap.Icons,
MoreInfo.Icons, Music.Mod.Icons,
My.Finder.Icons, Nicon.Icons,
NT.Icons, PieceOStringIcn, PMPUnZip.Icons,
ProBOOT.Icons, QuickLaunchIcon, ResLin.Icons,
rSounder.Icons, Scarab.Icons, ScrollIcons.Icn,
SD.ReminderIcon, SF.Fix.Icons, Show.Pics.Icons,
ShowScreen.Icon, SHR.Loader.Icon,
ShrinkIt.Icons, Sleep.Icons, SndSmith.Icons,
SoundOff.Icons, ST.To.GS.Icons, SynthInit.Icons,
synthLAB.Icons,
SysFail.Icons, System.Icons, Teach.Icons,
TeachReaderIcon, TelCom.Icons,
Tlite2Demo.Icon, Trash.Nuke.DC1,
Trash.Nuke.DC2, TWGS.CDev.Icons,
TwiComp.Icons, Twilight.Icons, UltBlnk.Icons,
and YankIt.Icons

Oscar.Trash.SHK:

Another Trash can from Lunatic complete with appropriate sound. Don't be a grouch! Let Oscar do it for you! Place either Oscar.Trash or Oscar.Trash.2 in the Icons folder on your STARTUP disk. Place the sound files in the Sounds folder in your System folder. All files converted and edited by Lunatic E'Sex.

TrashNukeNY.SHK:

ICON and Sound for a Trash can Icon NUKE New York By Bruce Lunatic. A new version of my popular "nuclear trash" icons. This version has been shrunk slightly so that Finder 6.0 won't have to move the fourth volume online up to the next row of disks. NOTE: Finder 6.0 doesn't need these icons to be in any special file! Simply throw this icon file into the Icons folder on your boot disk and it'll show up!

Includes a Sound Resource file for use with the trashcan Icon. To use this sound, simply copy the file into your System Sounds folder on your system disk! Then it will show up in the Sound CDev

(without a reboot!) and you can use it for whatever system sounds you want. This is a GREAT sound for use with my updated Nuclear Trash icons! You'll be able to HEAR the explosion as well as SEE the explosion.

Ultra.Icons.SHK:

A large collection of new Finder Icons. Included are Icons for: AppleWorks, communication programs and files, desktop publishing, games, graphics, hyper media, Programming, sounds, system files, Icon files, and even more related material.

Best of Music - Disk 1

The software on this disk have been compressed with the program "GSHK". This allowed me to place more software on this disk than would normally fit on a 800k floppy disk. To use the software on this disk, you must first un-compress the software with GSHK. The application GSHK can be found on the "Best of Telecommunications" Disk.

In the /Music.01/Music.Apps/ folder:
Emp.Beta1.SHK:

This small program allows you to load standard ASIF instrument files (most common with Soundsmith) and then play them on your GS keyboard by typing on the different rows of keys. Nice for those who -don't- own MIDI keyboards since you can play as you would a piano, unlike other programs which force you to click notes with a mouse.

It should be noted that this program is not at all complete, so many functions will not operate. The basic functions that work are "Load ASIF", "Erase ASIF (from DOC ram)", and "Play ASIF (brings up keyboard)". Also note commands are written in French and this version runs under ProDOS 8. A future version of this program with soon be available called "TrackIt" which will support playback of modules (ie. ROL, MOD, MED), SHR graphic interface, and an editor which will allow notes to be entered by hitting keys on the GS keyboard for creating modules!

MIDImonitor.SHK:

This IIGS desk accessory monitors incoming MIDI data in the GS modem port and will graphically display the key on and key off MIDI commands. In order

to use this NDA, you must have tool 32 installed in *:system:tools and your particular midi driver installed in *:system:drivers. ShareWare, $10 from Derrick Taubert. Payment buys advanced version.

MODZap0.81.SHK:

This disk includes Ian Schmidt's MOD song player application ModZap v0.81a. It does all of the NoiseTracker effects, including pitchbend (which NTGS doesn't do.) It also plays a lot of the MODs that NTGS doesn't, such as Red Sector and Echo. Note that this program will only play the MOD files on NoiseTracker and will hang if you select one of the other song file types on the NoiseTracker disk.

MODZap is the ultimate in MOD players for the Apple IIgs and offers full support for 15 and 31 instrument MOD files used by the Amiga programs NoiseTracker, ProTracker, and StarTrekker. It plays these files on any speed Apple IIgs using pitchbend and other special effects programs like NoiseTracker IIgs just don't give you. It REQUIRES Apple IIgs System 6.0 or later. Read the docs, have fun, and CRANK IT UP!

This version has a jukebox feature like Tim Meekins' NoiseTraker, but offers more variations for playing MOD files, though it doesn't play all the kinds of music files NoiseTracker can. MODZap v0.81a allows playing with the various instruments via an instrument list and a simulated keyboard. soniqTRACKER v0.63 has better stereo effects and (in my opinion) better graphics but provides no information about a MOD file's instruments.

Music.Mod.SHK:

Music Modifier is a utility that allows converting between various Music file formats. MIDI to Diversitune, MIDI to SynthLab, etc. Read the accompanying documentation. This version (2.6 P.D.) is placed in the public domain. By Mark Jackson.

MusiX.SHK:

MusiX Help by Jean Pierre Charpentier. Freeware.

synthLAB:

- Tempo display doesn't reflect tempo variations coded in sequence!
- Tempo display is limited to 99. MF2SL takes care of that.

Apple II Disk Library Order Form

5-1/4" DISKS:

System Software
___ APSD-01 #1
___ APSD-02 #2

Apple Disk Catalog (DOS 3.3)
___ 3 disk set #3

Apple Disk Catalog (PRODOS)
___ 4 disk set #4

Appleworks
___ APWK-01
___ APWK-02

Communications
___ 10 disk set = $15.00
___ COMM-01
___ COMM-02
___ COMM-03
___ COMM-04
___ COMM-05
___ COMM-06
___ COMM-07A
___ COMM-08
___ COMM-09
___ COMM-10A

CP/M
___ 11 disk set = $16.50
___ CP/M-01
___ CP/M-02
___ CP/M-03
___ CP/M-04
___ CP/M-05
___ CP/M-06
___ CP/M-07
___ CP/M-08
___ CP/M-09
___ CP/M-10
___ CP/M-11

Eamon Adventures
___ 24 disk set = $36.00
___ EAMN-01
___ EAMN-02 #5
___ EAMN-03 Eamon Master
___ EAMN-04 #5
___ EAMN-05 #5
___ EAMN-06 #5
___ EAMN-07 #5
___ EAMN-08 #5
___ EAMN-09 #5
___ EAMN-10 #5
___ EAMN-11 #5
___ EAMN-12 #5
___ EAMN-13 #5
___ EAMN-14 #5
___ EAMN-15 #5
___ EAMN-16 #5
___ EAMN-17 #5
___ EAMN-18 #5
___ EAMN-19 #5
___ EAMN-20 #5
___ EAMN-21 #5
___ EAMN-22 #5
___ EAMN-23 #5
___ EAMN-24 #5

Education
___ 20 disk set = $30.00
___ EDUC-01
___ EDUC-02
___ EDUC-03
___ EDUC-04
___ EDUC-05
___ EDUC-06
___ EDUC-07
___ EDUC-08
___ EDUC-09
___ EDUC-10
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___ EDUC-13
___ EDUC-14
___ EDUC-15
___ EDUC-16
___ EDUC-17
___ EDUC-18
___ EDUC-19
___ EDUC-20

Forth
___ FRTH-01
___ FRTH-02
___ FRTH-03

Games
___ 13 disk set = $ 19.50
___ GAME-01
___ GAME-02
___ GAME-03
___ GAME-04
___ GAME-05
___ GAME-06
___ GAME-07
___ GAME-08
___ GAME-09
___ GAME-10
___ GAME-11
___ GAME-12
___ GAME-13

Logo
___ LOGO-01
___ LOGO-02

Membership Directory
___ MEMD-01

Miscellaneous
___ 25 disk set = $37.50
___ MISC-01
___ MISC-02
___ MISC-03
___ MISC-04
___ MISC-05
___ MISC-06
___ MISC-07
___ MISC-08
___ MISC-09
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___ MISC-21
___ MISC-22
___ MISC-23
___ MISC-24
___ MISC-25

New Print Shop
___ 31 disk set = $46.50
___ NWPS-01 Graphics
___ NWPS-02 Graphics
___ NWPS-03 Graphics
___ NWPS-04 Graphics
___ NWPS-05 Graphics
___ NWPS-06 Graphics
___ NWPS-07 Graphics
___ NWPS-08 Graphics
___ NWPS-09 Graphics
___ NWPS-10 Graphics
___ NWPS-11 Graphics
___ NWPS-12 Graphics
___ NWPS-13 Graphics
___ NWPS-14 Graphics
___ NWPS-15 Graphics
___ NWPS-16 Graphics
___ NWPS-17 Graphics
___ NWPS-18 Graphics
___ NWPS-19 Graphics
___ NWPS-20 Graphics
___ NWPS-21 Graphics
___ NWPS-22 Graphics
___ NWPS-23 Graphics
___ NWPS-24 Graphics
___ NWPS-25 Graphics
___ NWPS-26 Graphics
___ NWPS-27 Graphics
___ NWPS-28 Graphics
___ NWPS-29 Borders
___ NWPS-30 Borders
___ NWPS-31 Fonts

Pascal
___ 8 disk set $12.00
___ PASC-01
___ PASC-02
___ PASC-03
___ PASC-04
___ PASC-05
___ PASC-06
___ PASC-07
___ PASC-08

Pilot
___ PILT-01

Utilities
___ 24 disk set = $36.00
___ UTIL-01
___ UTIL-02
___ UTIL-03
___ UTIL-04
___ UTIL-05
___ UTIL-06
___ UTIL-07
___ UTIL-08
___ UTIL-09
___ UTIL-10
___ UTIL-11
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___ UTIL-16
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___ UTIL-18
___ UTIL-19
___ UTIL-20
___ UTIL-21
___ UTIL-22
___ UTIL-23
___ UTIL-24

(#1) System Disk V. 4.0.2 - $1.50
(#2) DOS 3.3 System Master - $1.50
(#3) Apple Disk Catalog (A) (DOS 3.3) - 3 disk set - $3.00
(#4) Apple Disk Catalog (A) (ProDos) - 4 disk set - $4.00
(#5) Requires EAMN-03

3-1/2" DISKS:

System Disk
___ 2APS-01 #6

Apple Disk Catalog
___ 2ADC-01A #7
___ 2ADC-02A #7

Appleworks
___ 2AWK-01

Communications
___ 2COM-01
___ 2COM-02
___ 2COM-03

Education
___ 2EDU-01

Membership Directory
___ 2MRD-01

Utilities
___ 2UTL-01
___ 2UTL-02A

(#6) - System Disk - V. 4.0.2 - $3.00
(#7) - Apple Disk Catalog - 2 Disk set - $4.00

Note: Some disks may contain Shareware. Please send a remittance to the author of the program if you use it.

- Bar display is always calculated to half-note so you must arrange midi score to half-note before convert to synthLAB.

midi:
- MusiX is based on 0.06 version of Midi file (March 1, 1988).
- If you find a more recent version please send me a disk or paper list!
- MusiX does not manage MasterTracksPro or MusicWriter files because these applications can Import/Export midi files directly (MTP 1.04 & MW 2.03).
- MusiX follows MasterTracksPro midi conventions: Track zero contains all conductor events and track names are notated as generic text event but track name events. If you know why write me...
- Midi Analyzer manages only format one midi files because there is none track number reference in format zero midi files and format two is never used. If Midi Analyzer returns back immediately without analyse, your file is: Not a midi file or a format zero midi file or a format two midi file.
- Midi Analyzer asks "mucho" free memory (192k minimum).

Take care of that. (I did a deal between Memory & Speed. Speed won ;).
- Today Midi Analyzer accepts up to 32000 events. There is none direct relation between midi file size and number of events herein (hum... sounds not like plain vanilla English ;). Do not try to load a >100k size midi file.
- Today Midi Analyzer is limited up to 16 tracks.

NoiseTrkr10.SHK:
This is version 1.0 of Oliver Goguel's (of the FTA and Second Sight Software) Noisetracker music program. NoiseTracker allows you to play SoundSmith songs, Noisetracker songs, and the MOD music file format popular on the IBM and Amiga. Version 1.0 features some enhanced options and has a title screen and title music. Noisetracker is freeware.
This package includes sample code for using the music player routines in your own programs. Also contains icons (courtesy of Michael Guitton) and a much-improved Scrolly Player correcting the color scheme and allowing selectable

3-1/2 DISKS:

System Software
- ___ GSAS-01 (*1)
- ___ GSAS-02 (*2)
- ___ GSAS-03 (*3)
- ___ GSAS-04 (*4)

Communications
- ___ 7 disk set = $21
- ___ GSCM-01E
- ___ GSCM-02C
- ___ GSCM-03B
- ___ GSCM-04C
- ___ GSCM-05B
- ___ GSCM-06
- ___ GSCM-07

DAs, CDevs, FExts, Dvrs, and Inits
- ___ 16 disk set = $48
- ___ GSDA-01C
- ___ GSDA-02D
- ___ GSDA-03E
- ___ GSDA-04C
- ___ GSDA-05C
- ___ GSDA-06B
- ___ GSDA-07C
- ___ GSDA-08B
- ___ GSDA-09A
- ___ GSDA-10A
- ___ GSDA-11A
- ___ GSDA-12A
- ___ GSDA-13A
- ___ GSDA-14A
- ___ GSDA-15B
- ___ GSDA-16B

Demos
- ___ 35 disk set = $35 or $1 per disk
- ___ GSDM-01
- ___ GSDM-02
- ___ GSDM-03
- ___ GSDM-04
- ___ GSDM-05
- ___ GSDM-06
- ___ GSDM-07
- ___ GSDM-08
- ___ GSDM-09
- ___ GSDM-10
- ___ GSDM-11
- ___ GSDM-12
- ___ GSDM-13A
- ___ GSDM-14
- ___ GSDM-15
- ___ GSDM-16
- ___ GSDM-17A
- ___ GSDM-18
- ___ GSDM-19
- ___ GSDM-20A
- ___ GSDM-21A
- ___ GSDM-22
- ___ GSDM-23
- ___ GSDM-24
- ___ GSDM-25
- ___ GSDM-26
- ___ GSDM-27
- ___ GSDM-28
- ___ GSDM-29
- ___ GSDM-30
- ___ GSDM-31
- ___ GSDM-32
- ___ GSDM-33
- ___ GSDM-34
- ___ GSDM-35

Developer
- ___ 20 disk set = $60
- ___ GSDV-01
- ___ GSDV-02
- ___ GSDV-03
- ___ GSDV-04
- ___ GSDV-05A
- ___ GSDV-06A
- ___ GSDV-07
- ___ GSDV-08A
- ___ GSDV-09
- ___ GSDV-10A
- ___ GSDV-11A
- ___ GSDV-12A
- ___ GSDV-13
- ___ GSDV-14A
- ___ GSDV-15A
- ___ GSDV-16
- ___ GSDV-17A
- ___ GSDV-18
- ___ GSDV-19
- ___ GSDV-20

Disk Catalog
- ___ 3 disk set = $6
- ___ GSDC-01J
- ___ GSDC-02J
- ___ GSDC-03J

Education
- ___ 10 disk set = $30
- ___ 7 disk set = $21 (*5)
- ___ GSED-01A (*5)
- ___ GSED-02A (*5)
- ___ GSED-03A (*5)
- ___ GSED-04A (*5)
- ___ GSED-05A (*5)
- ___ GSED-06A (*5)
- ___ GSED-07A (*5)
- ___ GSED-08A
- ___ GSED-09
- ___ GSED-10

Fonts - BitMapped
- ___ 27 disk set = $81
- ___ GSFT-01
- ___ GSFT-02
- ___ GSFT-03
- ___ GSFT-04
- ___ GSFT-05
- ___ GSFT-06
- ___ GSFT-07
- ___ GSFT-08
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- ___ GSFT-21
- ___ GSFT-22
- ___ GSFT-23
- ___ GSFT-24
- ___ GSFT-25
- ___ GSFT-26
- ___ GSFT-27

Fonts - TrueType
- ___ 30 disk set = $90
- ___ GSTT-01
- ___ GSTT-02
- ___ GSTT-03
- ___ GSTT-04
- ___ GSTT-05
- ___ GSTT-06
- ___ GSTT-07
- ___ GSTT-08
- ___ GSTT-09
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- ___ GSTT-26
- ___ GSTT-27
- ___ GSTT-28
- ___ GSTT-29
- ___ GSTT-30

Games
- ___ 63 disk set = $189
- ___ GSGM-01B
- ___ GSGM-02B
- ___ GSGM-03
- ___ GSGM-04
- ___ GSGM-05
- ___ GSGM-06A
- ___ GSGM-07A
- ___ GSGM-08
- ___ GSGM-09A
- ___ GSGM-10
- ___ GSGM-11
- ___ GSGM-12A
- ___ GSGM-13
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- ___ GSGM-16
- ___ GSGM-17A
- ___ GSGM-18A
- ___ GSGM-19A
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- ___ GSGM-21
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- ___ GSGM-23A
- ___ GSGM-24B
- ___ GSGM-25B
- ___ GSGM-26A
- ___ GSGM-27
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- ___ GSGM-31
- ___ GSGM-32
- ___ GSGM-33
- ___ GSGM-34
- ___ GSGM-35A
- ___ GSGM-36
- ___ GSGM-37A
- ___ GSGM-38
- ___ GSGM-39
- ___ GSGM-40
- ___ GSGM-41
- ___ GSGM-42A
- ___ GSGM-43
- ___ GSGM-44
- ___ GSGM-45
- ___ GSGM-46
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- ___ GSGM-58
- ___ GSGM-59A
- ___ GSGM-60
- ___ GSGM-61
- ___ GSGM-62
- ___ GSGM-63

Graphics
- ___ 68 disk set = $204
- ___ GSGX-01
- ___ GSGX-02
- ___ GSGX-03
- ___ GSGX-04
- ___ GSGX-05
- ___ GSGX-06
- ___ GSGX-07A
- ___ GSGX-08A
- ___ GSGX-09B
- ___ GSGX-10A
- ___ GSGX-11
- ___ GSGX-12
- ___ GSGX-13A
- ___ GSGX-14
- ___ GSGX-15
- ___ GSGX-16
- ___ GSGX-17
- ___ GSGX-18
- ___ GSGX-19
- ___ GSGX-20
- ___ GSGX-21C
- ___ GSGX-22B
- ___ GSGX-23
- ___ GSGX-24
- ___ GSGX-25
- ___ GSGX-26
- ___ GSGX-27
- ___ GSGX-28A
- ___ GSGX-29
- ___ GSGX-30
- ___ GSGX-31A
- ___ GSGX-32A
- ___ GSGX-33
- ___ GSGX-34
- ___ GSGX-35
- ___ GSGX-36
- ___ GSGX-37
- ___ GSGX-38
- ___ GSGX-39
- ___ GSGX-40
- ___ GSGX-41
- ___ GSGX-42
- ___ GSGX-43
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- ___ GSGX-58
- ___ GSGX-59
- ___ GSGX-60
- ___ GSGX-61
- ___ GSGX-62
- ___ GSGX-63
- ___ GSGX-64
- ___ GSGX-65
- ___ GSGX-66
- ___ GSGX-67
- ___ GSGX-68

HyperCard
- ___ 6 disk set = $18
- ___ GSHC-01
- ___ GSHC-02
- ___ GSHC-03
- ___ GSHC-04
- ___ GSHC-05
- ___ GSHC-06

---

tracks. Instruments can be saved in multiple sound formats, and a startup screen and song can be installed.

NoiseTracker allows up to 64 instruments and you're no more limited by the size of the Ensoniq Ram (64k). NoiseTracker uses two kinds of instrument. Those always in the EnsoniqRam, and those which are in the GS-Ram, and which are moved to the Ensoniq when needed. But, luckily, when playing a music, you can hardly notice the difference between these two kinds !!!

Play.Song.SHK:
This program will let you play all those Music Studio songs even if you don't own Music Studio. Computers that are accelerated (TWGS, ZipChipGS) should have the computer's speed set to "FAST". Check the speed of your computer if songs sound like they are being played to fast or to slow.

HyperStudio
___ Demo Ver. (1-10) =
$10
___ GSHS-01
___ GSHS-02
___ GSHS-03
___ GSHS-04
___ GSHS-05
___ GSHS-06
___ GSHS-07
___ GSHS-08
___ GSHS-09
___ GSHS-10

___ 66 disk set (11-76)
= $198
___ GSHS-11
___ GSHS-12
___ GSHS-13
___ GSHS-14
___ GSHS-15
___ GSHS-16
___ GSHS-17
___ GSHS-18
___ GSHS-19
___ GSHS-20
___ GSHS-21A
___ GSHS-22
___ GSHS-23
___ GSHS-24
___ GSHS-25
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___ GSHS-70
___ GSHS-71
___ GSHS-72
___ GSHS-73
___ GSHS-74
___ GSHS-75
___ GSHS-76

Icons
___ 12 disk set = $36
___ GSIC-01B
___ GSIC-02B
___ GSIC-03B
___ GSIC-04B
___ GSIC-05B
___ GSIC-06B
___ GSIC-07B
___ GSIC-08A
___ GSIC-09A
___ GSIC-10A
___ GSIC-11A
___ GSIC-12A

Membership Directory
___ GSMD-01

Miscellaneous
___ GSMS-01A

Music
___ 83 disk set = $249
___ GSMU-01C
___ GSMU-02
___ GSMU-03
___ GSMU-04
___ GSMU-05
___ GSMU-06
___ GSMU-07
___ GSMU-08
___ GSMU-09
___ GSMU-10
___ GSMU-11
___ GSMU-12
___ GSMU-13C
___ GSMU-14
___ GSMU-15
___ GSMU-16A
___ GSMU-17
___ GSMU-18A
___ GSMU-19A
___ GSMU-20A
___ GSMU-21A
___ GSMU-22
___ GSMU-23A
___ GSMU-24A
___ GSMU-25A

___ GSMU-26A
___ GSMU-27A
___ GSMU-28A
___ GSMU-29A
___ GSMU-30A
___ GSMU-31A
___ GSMU-32A
___ GSMU-33A
___ GSMU-34A
___ GSMU-35A
___ GSMU-36A
___ GSMU-37A
___ GSMU-38A
___ GSMU-39A
___ GSMU-40A
___ GSMU-41A
___ GSMU-42
___ GSMU-43A
___ GSMU-44A
___ GSMU-45
___ GSMU-46
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___ GSMU-52A
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___ GSMU-56A
___ GSMU-57A
___ GSMU-58A
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___ GSMU-62
___ GSMU-63A
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___ GSMU-70
___ GSMU-71
___ GSMU-72
___ GSMU-73
___ GSMU-74
___ GSMU-75A
___ GSMU-76
___ GSMU-77
___ GSMU-78
___ GSMU-79
___ GSMU-80
___ GSMU-81
___ GSMU-82
___ GSMU-83

Sounds
___ 20 disk set = $60
___ GSSN-01A
___ GSSN-02A
___ GSSN-03
___ GSSN-04
___ GSSN-05

___ GSSN-06
___ GSSN-07
___ GSSN-08
___ GSSN-09
___ GSSN-10
___ GSSN-11
___ GSSN-12
___ GSSN-13
___ GSSN-14
___ GSSN-15
___ GSSN-16
___ GSSN-36
___ GSSN-37
___ GSSN-38
___ GSSN-39

Sounds - CDev rSounds
___ 20 Disk Set = $60
___ GSSN-17A
___ GSSN-18
___ GSSN-19
___ GSSN-20
___ GSSN-21
___ GSSN-22
___ GSSN-23
___ GSSN-24
___ GSSN-25
___ GSSN-26
___ GSSN-27
___ GSSN-28
___ GSSN-29
___ GSSN-30
___ GSSN-31
___ GSSN-32
___ GSSN-33
___ GSSN-34
___ GSSN-35
___ GSSN-40

Utilities
___ 18 disk set = $54
___ GSUT-01C
___ GSUT-02
___ GSUT-03C
___ GSUT-04B
___ GSUT-05C
___ GSUT-06A
___ GSUT-07B
___ GSUT-08D
___ GSUT-09B
___ GSUT-10B
___ GSUT-11B
___ GSUT-12
___ GSUT-13B
___ GSUT-14
___ GSUT-15B
___ GSUT-16
___ GSUT-17
___ GSUT-18

Best of The Apple IIGS
___ 25 disk set =
$56.25
   (save $6.25 -

normally $62.50)

Best of The Apple IIGS Disk Catalog
___ 1 disk set = $2.00

Best of Communications
___ 1 disk set = $2.50

Best of DA's, CDevs, FExts, Dvrs, & Inits
___ 1 disk set = $2.50

Best of Bit-Mapped Fonts
___ 2 disk set = $5.00

Best of Games
___ 5 disk set = $12.50

Best of Graphics
___ 2 disk set = $5.00

Best of Icons (Finder)
___ 1 disk set = 2.50

Best of Music
___ 4 disk set = $10.00

Best of Sounds
___ 2 disk set = $5.00

Best of True Type Fonts
___ 5 disk set = $12.50

Best of Utilities
___ 2 disk set = $5.00

The Best of the Apple IIGs may be purchased as a 25 disk set or as individual sets as listed above.

(*1) System 5.0.4 - 2 Disk Set = $6.00
(*2) Hyper Mover v1.1 - 2 Disk Set = $6.00
(*3) GS Bug & Debug Tools v1.6 = $3.00
(*4) System 6.0.1 - 6 Disk Set = $18.00
(*5) Astronomer - 7 disk set (GSED-01 to GSED-07) $21.00

Note: Some disks may contain Shareware. Please send the requested remittance to the author if you use the program. Most of the programs on these library disks may require a IIGS with a minimum of 1.25 megs of memory.

ShellPlay05.SHK:
Shellplay v0.5 by Brian Bening is an Amiga Module player that runs under the Orca Shell. It is most compatible with Protracker mods. Type "shellplay MOD.whatever" while in ORCA. A couple keyboard commands are available while the music is playing.

Best of Music—Disk 1 will be continued in the March Journal

Apple III Disk Library Order Form

5-1/4" DISKS:

Accounting
3 disk set =$4.50
___ 3ACT-01B
___ 3ACT-02B
___ 3ACT-03B

3 Easy Pieces Templates
___ 15 disk set = $22.50
___ 3AWZ-01
___ 3AWZ-02
___ 3AWZ-03
___ 3AWZ-04
___ 3AWZ-05
___ 3AWZ-06
___ 3AWZ-07
___ 3AWZ-08
___ 3AWZ-09
___ 3AWZ-10
___ 3AWZ-11
___ 3AWZ-12A
___ 3AWZ-13
___ 3AWZ-14
___ 3AWZ-15

Business Basic
___ 9 disk set = $13.50
___ 3BSB-01
___ 3BSB-02
___ 3BSB-03
___ 3BSB-04
___ 3BSB-05
___ 3BSB-06
___ 3BSB-07
___ 3BSB-08
___ 3BSB-09A

Disk Catalog (ASCII TEXT)
___ 3 disk set = $3 or $1 per disk
___ 3CAT-01B - Disk 1
___ 3CAT-02B - Disk 2
___ 3CAT-03B - Disk 3

Disk Catalog (3 EZPC's)
___ 2 disk set = $2 or $1 per disk
___ 3CAT-04B - Disk 1
___ 3CAT-05B - Disk 2

Games
___ 5 disk set = $7.50
___ 3GAM-01
___ 3GAM-02
___ 3GAM-03A
___ 3GAM-04
___ 3GAM-05

Graphics
___ 43 disk set = $64.50
___ 3GRX-01
___ 3GRX-02
___ 3GRX-03
___ 3GRX-04
___ 3GRX-05
___ 3GRX-06
___ 3GRX-07
___ 3GRX-08
___ 3GRX-09
___ 3GRX-10
___ 3GRX-11
___ 3GRX-12
___ 3GRX-13
___ 3GRX-14
___ 3GRX-15
___ 3GRX-16
___ 3GRX-17
___ 3GRX-18
___ 3GRX-19
___ 3GRX-20
___ 3GRX-21
___ 3GRX-22
___ 3GRX-23
___ 3GRX-24
___ 3GRX-25
___ 3GRX-26
___ 3GRX-27
___ 3GRX-28
___ 3GRX-29A
___ 3GRX-30
___ 3GRX-31
___ 3GRX-32
___ 3GRX-33
___ 3GRX-34
___ 3GRX-35
___ 3GRX-36
___ 3GRX-37
___ 3GRX-38
___ 3GRX-39
___ 3GRX-40
___ 3GRX-41
___ 3GRX-42
___ 3GRX-43

Information
___ 37 disk set = $55.50
___ 3INF-02D
___ 3INF-03
___ 3INF-04
___ 3INF-05
___ 3INF-06
___ 3INF-07
___ 3INF-08
___ 3INF-09
___ 3INF-10
___ 3INF-11
___ 3INF-12
___ 3INF-13
___ 3INF-14
___ 3INF-15
___ 3INF-16
___ 3INF-17
___ 3INF-18
___ 3INF-19
___ 3INF-20
___ 3INF-21
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___ 3INF-25
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___ 3INF-27
___ 3INF-28
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___ 3INF-31
___ 3INF-32
___ 3INF-33
___ 3INF-34
___ 3INF-35
___ 3INF-36
___ 3INF-37
___ 3INF-38
___ 3INF-39

Membership Directory
___ 3MRD-01
___ 3MRD-02

Miscellaneous
___ 20 disk set = $30
___ 3MSC-01
___ 3MSC-02
___ 3MSC-03
___ 3MSC-04
___ 3MSC-05
___ 3MSC-06
___ 3MSC-07
___ 3MSC-08
___ 3MSC-09
___ 3MSC-10
___ 3MSC-11
___ 3MSC-12
___ 3MSC-13
___ 3MSC-14
___ 3MSC-15
___ 3MSC-16
___ 3MSC-17
___ 3MSC-18
___ 3MSC-19A
___ 3MSC-20

Pascal
___ 20 disk set = $30
___ 3PCL-01
___ 3PCL-02
___ 3PCL-03
___ 3PCL-04
___ 3PCL-05
___ 3PCL-06
___ 3PCL-07
___ 3PCL-08
___ 3PCL-09
___ 3PCL-10
___ 3PCL-11
___ 3PCL-12
___ 3PCL-13
___ 3PCL-14
___ 3PCL-15
___ 3PCL-16
___ 3PCL-17
___ 3PCL-18
___ 3PCL-19
___ 3PCL-20

Repairs
___ 11 disk set = $16.50
___ 3REP-01
___ 3REP-02
___ 3REP-03
___ 3REP-04
___ 3REP-05
___ 3REP-06
___ 3REP-07
___ 3REP-08
___ 3REP-09
___ 3REP-10
___ 3REP-11

TeleCommunications
___ 13 disk set = $19.50
___ 3TEL-01
___ 3TEL-02
___ 3TEL-03
___ 3TEL-04
___ 3TEL-05
___ 3TEL-06
___ 3TEL-07
___ 3TEL-08
___ 3TEL-09
___ 3TEL-10
___ 3TEL-11
___ 3TEL-12
___ 3TEL-13

Utilities
___ 56 disk set = $84
___ 3UTL-01A
___ 3UTL-02
___ 3UTL-03
___ 3UTL-04B
___ 3UTL-05A
___ 3UTL-06
___ 3UTL-07
___ 3UTL-08
___ 3UTL-09
___ 3UTL-10
___ 3UTL-11
___ 3UTL-12
___ 3UTL-13
___ 3UTL-14
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___ 3UTL-19
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___ 3UTL-22
___ 3UTL-23
___ 3UTL-24
___ 3UTL-25A
___ 3UTL-26
___ 3UTL-27
___ 3UTL-28
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___ 3UTL-31
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___ 3UTL-38
___ 3UTL-39
___ 3UTL-40
___ 3UTL-41
___ 3UTL-42
___ 3UTL-43
___ 3UTL-44A
___ 3UTL-45
___ 3UTL-46
___ 3UTL-47
___ 3UTL-48
___ 3UTL-49
___ 3UTL-50
___ 3UTL-51
___ 3UTL-52A
___ 3UTL-53
___ 3UTL-54
___ 3UTL-55
___ 3UTL-56

Word Processing
___ 7 disk set = $10.50
___ 3WDP-01B
___ 3WDP-02
___ 3WDP-03
___ 3WDP-04
___ 3WDP-05
___ 3WDP-06
___ 3WDP-07

Note: Some disks may contain Shareware. Please remit to the author of the program the requested amount if you use that program.

Mail this form with your check to :
Disketeria
Washington Apple Pi
7910 Woodmont Avenue, Suite 910
Bethesda, Maryland 20814

Are you a member of Washington Apple Pi, Ltd? Y/N ___. If Yes, Member Number _____.
All payments must be in U.S. funds drawn against U.S. banking institutions.
Non-members add $3.00 per disk to listed prices for 3.5" and $1.50 per disk for 5.25" disks.

# Disks	Member Price	Extended
3.5" Singles		
___ 4 or less @	$4.00	$_____
___ 5 or more @	$3.50	$_____
___ Sets (as marked)	$(above)	$_____
5.25" Singles		
___ 4 or less @	$2.00	$_____
___ 5 or more @	$1.75	$_____
___ Sets (as marked)	$(above)	$_____
+ postage $1.00/disk, max. $5.00.		$_____
TOTAL AMOUNT DUE		$_____

Name

Box Number, Apartment, Suite, etc.

Street Address

City   State   Zip Code

Day Telephone   Evening Telephone

Please write disk numbers on a separate sheet of paper and include them with your order.

Classified Advertisements

Classified advertisements can be placed by mailing copy to the business office of Washington Apple Pi, Ltd., 7910 Woodmont Avenue, Suite 910, Bethesda, MD 20814. Be sure to include your WAP membership number and indicate area codes with your phone numbers. Ads must be received by the ad copy due date listed in the calendar page for that month in order to be included in the appropriate issue. Any ads postmarked after that time will be included at the discretion of the editor. Cost is $2.00 / line (40 characters per line), maximum 12 lines. Members of Washington Apple Pi, Ltd., may place ads up to three lines at no charge. The editor reserves the right to refuse any ads deemed inappropriate.

For Sale

—**EthernetCard** with RJ 45 Port or Mac IIci. Call Don Franklin 703-978-2671

—**Mac Plus, 30 MB HD,** Imagewriter II, Mouse, Manuals, software $400. Call 703-971-7305

—**Spectra Star 430—Thermal Wax Postscript Color Printer,** 300 DPI, price $3,500.00; Wacom Tablet, $350.00; Aldus Freehand 3.1 $200.00; Ray Designer $200.00; MacDraw Pro $200.00 (latest upgrades) Call 410-437-4325

—**Apple CD Plus Scanner** $250.00 like new, have user's guide and box. Call Bob 703-450-0712

Wanted

—**Phonet-like connectors** MAC 14in or 16in color display, 840AV system; Supra Modem. Call Fred 202-483-4237

—**Macintosh Tutor** wanted by new computer user in Bethesda area. Prefer a teenager and/or student. I can be reached via Maryland Relay 1-800-735-2258, then 301-229-6028.

Help Wanted

—**Consultant/Programmer—** Rapidly expanding DC based consulting firm near Georgetown specializing in custom information systems seeks database application programmers to join our team of consultants. Should have 3+ years experience, with good client relations and communication skills. Knowledge of 4th Dimension, Sequelink and SQL databases preferred. PC programming experience a plus. We provide an excellent work environment and opportunity for professional growth. Respond to P.O. Box 57274, Washington DC 20037-0274 or via Applelink to EAG.COM. We are an Equal Opportunity Employer.

Services

—**File exchange service offered.** Apple II to Mac or IBM. Can handle AppleWorks, Bank Street Writer, MultiScribe, WordPerfect IIe. $15/hour. Phil Shapiro, (202) 686-5465.

Mac Care & Feeding
© 1993 Tom Witte

Tip 13
Question: What damages floppies?

Answer: The most common threat is magnetic fields.

Avoid placing them (the floppies) near the phone (its ringer becomes a large magnet when in use), those SAFE OPEN signs that stick to the large metal safes, speakers, printers, etc.

Also, when dry air allows static electricity to collect, take care to first touch something which does not conduct, such as your desk, or the case of your computer.

Don't touch the disk inside the floppy.

Washington Apple Pi, Ltd. 7910 Woodmont Avenue, Suite 910, Bethesda, MD 20814 (301) 654-8060

Membership Application
Please print or type:

Name_____ Phone # (H)_____ Phone # (W) _____

Company _____ Address _____

Occupation _____ Sponsor's Name _____

Please answer a few questions for us regarding your computer use. Check the computers/equipment that you use on a regular basis.

- ☐ Apple II
- ☐ Apple II+
- ☐ Apple IIe
- ☐ Apple IIc
- ☐ Apple IIc+
- ☐ Apple II GS
- ☐ Laser 128
- ☐ Franklin
- ☐ Apple III (SARA)
- ☐ Mac 128
- ☐ Mac 512/512e
- ☐ Mac Plus
- ☐ Mac SE
- ☐ Mac SE30
- ☐ Mac Portable
- ☐ Mac LC I, II, or III
- ☐ Mac Classic I, II, or C

- ☐ LISA
- ☐ Mac II
- ☐ Mac II x
- ☐ Mac II cx
- ☐ Mac IIc+
- ☐ Mac IIci
- ☐ Mac IIsi
- ☐ Mac IIfx
- ☐ Mac VX
- ☐ Mac PowerBook
- ☐ Mac Duo
- ☐ Quadra 700
- ☐ Quadra 900
- ☐ Quadra 950
- ☐ Newton
- ☐ Performa 200
- ☐ Performa 400

- ☐ Performa 600
- ☐ Centris 610
- ☐ Centris 650
- ☐ Mac II Other
- ☐ IBM or Compatible
- ☐ Non-Apple Laptop

WAP has many Special Interest Groups (SIGs) and Activities. Fill in letter next to area of interest. **J= Join Group, V= Volunteer**

AppleWorks SIG_____
Apple II GS SIG_____
Apple III SIG_____
Art SIG_____
CAD SIG_____
Database SIG_____
Disabled SIG_____
Desktop Publishing
   SIG_____
Disk Library_____
EdSIG (Education)_____
Excel SIG_____
Federal SIG_____
Game SIG_____

HOTLINE _____
HyperTalk SIG _____
Mac Programmers
   SIG _____
Music SIG_____
NOVA Educators
   Mac/Apple
   Users SIG_____
QuickTime SIG_____
Stock SIG_____
Telecommunications
SIG (TCS)
Women's SIG_____

Enclose check or money order payable to Washington Apple Pi, Ltd.

> ** *Access to the TCS is contingent on WAP having a current home telephone number for the member.*

Basic Membership—1 year $39
    2 years $67
    3 years $92
    Student rate* (for 1 year) $32
For other options please add correct amounts
    ☐ WAP Bulletin Board System (TCS)** **$9**
    ☐ 1st class mail (U.S.) **$17**
    ☐ Airmail to Canada, Mexico, West Indies
    or Central America **$20**
    ☐ Airmail to Europe & South America **$38**
    ☐ Airmail to Asia & elsewhere **$48**
    ☐ Surfact to Europe, Asia & Elsewhere **$18**
        Total Enclosed $_____

* Please enclose photocopy of current student ID

Indicate desired New Member kit (1 only)

- ☐ Apple II
- ☐ Apple II GS
- ☐ Apple III
- ☐ Mac 400k
- ☐ Mac 800 k

Please circle Yes or No for the 2 items listed below.
1. My name, address & phone number may be published in the membership directory Yes No
2. Please leave my name on the Pi mailing list. (The list never leaves the office and all mailings are supervised by the Pi staff.) Yes No

_____
Applicant signature and date

Photo CD will change the way you capture and store color images.

Forever.

Good

Our Kodak Photo CD scanner can scan about 100 images from 35mm slides or negatives onto a single Photo CD. Each image is stored at five resolutions. The highest resolution can produce a 7″ × 10″ color separation on a PostScript® image-setter at 150 lpi. The cost per image is about $1.75 plus the price of the disc (under $10).

Better

Our Kodak Pro Photo CD scanner can scan about 25 images from 35mm slides or negatives or 2″ × 2″ and 4″ × 5″ trans-parencies onto a single Pro Photo CD. The highest resolution can produce a 14″ × 20″ color separation on a Post-Script® imagesetter at 150 lpi. The cost per image is less than $15 plus the price of the disc (under $10).

The Publishers Service Bureau
4300 King Street, Alexandria, Virginia ✳ 703 824–8022

Washington Apple Pi, Ltd.
7910 Woodmont Ave., Suite 910
Bethesda, MD 20814
February 1994