March / April 1999

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The Journal of Washington Apple Pi, Ltd.

WASHINGTON APPLE PI

Volume 21, Number 2

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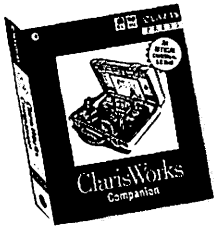
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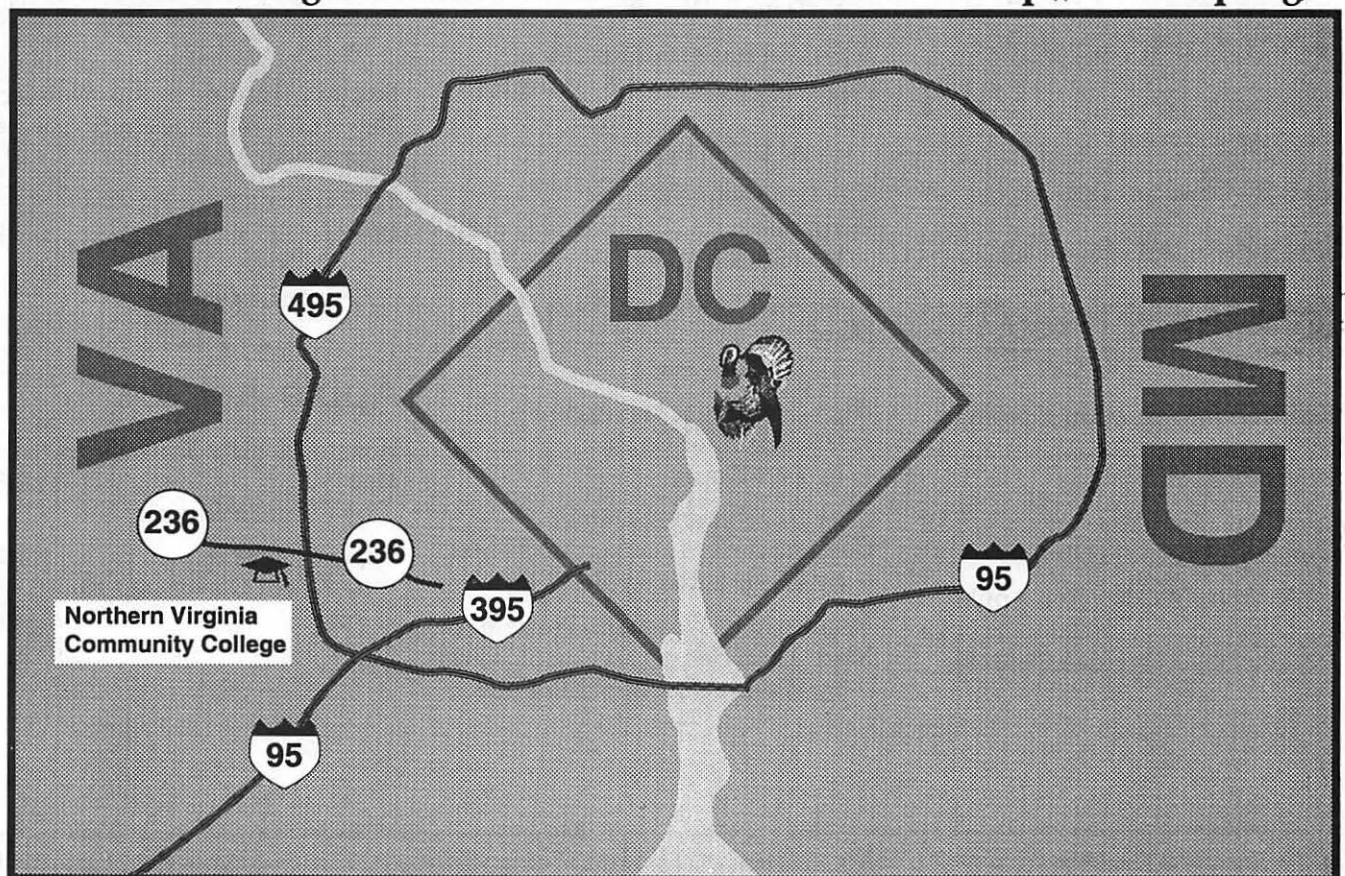Community & Cultural Center Aud.
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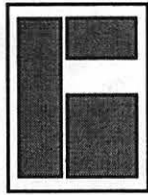
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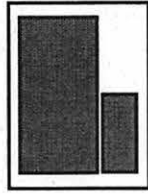
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May/June. .... Mar. 20

July/August .... May 20

Editors' submissions

May/June. .... Mar. 24

July/August .... May 24

Ad space reservations

May/June. .... Mar. 20

July/August .... May 20

Camera-ready ad copy

May/June. .... Mar. 24

July/August .... May 24

Washington Apple Pi

This issue of the Washington Apple Pi Journal was created on a PowerMac, with proofing and final output on an HP LaserJet 5000 N.

The page layout program used was PageMaker 6.5 the word processing program was Microsoft Word 5.1; the principal typeface is Palatino (10/12) for the articles; and Avant Garde Demi for headlines, subheads, and emphasis. Charlemagne Bold for drop caps.

Cover Design: The 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

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Apple Disk Libraries

Apple II, IIe, & IIGS

Macintosh Disketeria

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	Dave Ottalini	dave.ottalini@tcs.wap.org
	Dale Smith	dales@tcs.wap.org
	Tom Witte	tmw@his.com

Library Volunteers

Apple II Head Librarian		Volunteer Needed
Apple IIGS Librarian		Volunteer Needed
Apple II Librarian		Volunteer Needed
Apple III Librarian	David Ottalini	(301) 681-6136
Macintosh Librarian	David Weikert	(301) 963-0063
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	Tony Salerno	Joe Swick

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Washington Apple Pi, Ltd.

12022 Parklawn Drive, Rockville, MD 20852

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Web address: www.wap.org

e-mail address: office@wap.org

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Office Manager	Beth Medlin
Office Staff	John Ruffatto (Saturday)

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Vice President	Lloyd Olson	
Secretary	Ron Johnson	(410) 315-8764
Treasurer	Clarence Goldberg	(410) 263-5189
AAS Membership InfoLine		(410) 647-5605
Library	Lester Morcef	(410) 987-0685
Publicity	Kay Cave	(410) 266-9752
Nwslttr.	Lorraine & Jim Warner	(301) 262-3420
AOL SIG	John Barnes	(301) 652-0667
	JDBarnes@aol.com	
Apple IIGS	Lorin Evans	(202) 543-1248
Art SIG	Joe Morey	(703) 281-5385
Columbia Slice		
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Vice President	Tom Cook	(410) 995-0352
email:tom.cook@tcs.wap.org		
Secretary	Tim Childers	(410) 997-0066
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Publicity	Henry Yee	(410) 964-3706
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Disk Librarian, Mac	Tim Childers	(410) 997-9317
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DisabledSIG	Jay Thal	(202) 244-3649
Excel SIG	Dick Byrd	(703) 978-3440
Frederick Slice		
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	Alvestad@aol.com	
Sec./Treas./Nwsltr editor		
	J. Russell Robinson	(301) 797-0100
The Cracker Barrel BBS		(301) 662-3131
GameSIG	Mike Dickman	(703) 525-2410
Genealogy SIG	Ed Jordan	
	edwin.jordan@tcs.wap.org	
Graphic Arts SIG	Blake Lange	(301) 942-9180
	blake.lange@tcs.wap.org	
HyperTalk		volunteer needed
Mac Programmers		volunteer needed
Music SIG	Ed Moser	(301) 924-1573
Newton SIG		volunteer needed
NOVA Educators SIG	Pat Fauquet	(703) 550-7423
	email: fauquet @erols.com	
QuickTime SIG	Stuart Bonwit	(301) 598-2510
	email: sbonwit@tcs.wap.org	
Retired SIG	Chuck James	(301) 530-6471
StockSIG	Morris Pelham	contact on TCS
Three SIG	David Ottalini	(301) 681-6136
	Paul Campbell	(313) 255-6497
Women's SIG	Kathleen Charters	(410) 730-4658

A Learning Curve

THERE WAS A time that whenever I did "it" my mom would tell me that a new broom sweeps clean. I, being the right age to find any aphorism from an adult an affront to my superior knowledge, countered that an old one knows the contours of the floor much better. She would tell me to get on with my task and I did. By now, I don't remember why she said what she did, but our dialogue must have become hard-wired somewhere in the back of my mind. It resurfaced last Wednesday. Let me tell you why.

The Third Wednesday

On the third Wednesday of each month, the fifteen Pi members who constitute our Board of Directors meet. The life cycle of any one board is twelve months. Then a new one comes into being. It, too, has a life of twelve months, and so on. It takes some amount of time for the group to understand the breadth of our operations, gain some sense of where each would like to insert him or herself in our ongoing operations to affect change, and then make it happen. By that time, their term is almost up and the cycle begins anew. This board, unlike those from our recent past, has several new members, and, like past ones, found a wealth of tasks needing to be done just to keep this place in business, much less move it forward with new initiatives. None of that is as apparent from the outside as it becomes once you are a board member. The directors expressed a general frustration: is there not some way to make the membership aware of the skills needed to run the organization so that when elections come around individual skills and tasks can better be matched? This year, your board said yes, and made some changes in the positions on the Board of Directors.

Members, Members, Members

Without you, there is no Washing-

> "This board, unlike those from our recent past, has several new members, and, like past ones, found a wealth of tasks needing to be done just to keep this place in business, much less move it forward with new initiatives."

ton Apple Pi. Unfortunately, owning a Macintosh or Apple II does not assure one of extended longevity. Therefore we need more of you. Gaining and retaining members, like breathing, is the sin qua nom of existence. Fortunately for individuals, breathing is an auto reflex; unfortunately for an organization, gaining and retaining members is not. Someone has to make it happen. Try visiting us some Tuesday evening. You will discover that the benefits of membership that are so

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obvious to you are not to so many others. Why not, reasoned the board, convert a director-at-large position to one dedicated to the task of recruiting members? That way, you know what is expected of the individual running for that position, and will vote for someone who states up-front that he or she is willing to undertake the task on behalf of the Pi.

If Some Is Good, More Is Better

Geez, if that reasoning holds, why not look at some of the other more identifiable tasks around this place and convert them as well. So, the directors made two more changes. They converted two more director-at-large slots to task-specific positions. They created one for Publicity and one for Volunteer Services.

The Pi has been blessed to have a natural publicist in Dave Ottalini. He provides the public face to the work that we do. It is the falling tree in the forest story. Washington Apple Pi creates some of the most useful CDs, offers terrific new classes and gives away equipment and services. Who would know about them, or be able to avail themselves of our offerings, if it were not for the publicity created by our unheralded publicist? No more. The board believes that the role of publicity is vital to our continued public presence and deserves a dedicated position.

Whether it is hands to fold program flyers, tongues to lick envelopes, grunts to move tables and chairs, or members to download programs from the web, it takes a collection of individual skills to make an event happen. From a membership mailing to our semiannual flea markets, someone has to know the skills needed, know where those skills reside and, most importantly, ask you for a few minutes of your time. These are not tasks that we have done well in the past. All too often, we take the easy route by asking known volunteers to come forward one more time, instead of search-

ing for new assistants. There has to be a better way to broaden the base of support for our activities. We want a board member who will lighten the load on some of us and increase it slightly on more of us. We want you to know that the task of finding volunteers to help the Pi be the Pi, is important enough to make it a dedicated position.

We made one other change. We deleted the positions of vice-president for Macintosh and Apple II programs and combined them into one entitled v-p for programs. The other v-p slot was converted to a director-at-large

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"...this board highlighted for us three of the more important tasks that make the Pi what it is. I hope one of them, or any of the other positions available will entice you to expand your involvement with us."

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slot. It was done to address a couple of realities. The Apple II series continues to command a loyal following within the home, schools and the Pi. However, it is getting harder and harder to find active Apple II members who are willing to run for the position. The support we are asked to provide our Apple II members is not based on meetings. It is mostly hardware and technical support which the Pi provides worldwide, and will continue to do so. This change should not be read as a diminishing of our support for the cash cow that funded the Macintosh. Oh, and in case you are wondering, I still use my Apple IIGS.

Assorted Clean-ups

Our bylaws have some accumu-

lated anomalies that need repair. Since the board was so industrious in addressing some real institutional changes, they found repairing other odds and ends a treat. For example, our bylaws do not differentiate between elected positions and appointed positions. They were all called either "officer" or "vice president" positions. There is a difference between someone you elect to a position and someone the boards appoints. You will find textual changes to make the distinction clear. The overuses of capitalization got fixed. Now that the Washington Post has dropped a capital F from federal and uses a lower case p for president, surely it is time for us to get in step. Our grammarian heaved lots of capital letters and dropped several hyphens as he cleansed our english (oops, English).

So Why Now?

Well, if you are my mom, it took all those new brooms, new directors doing their civic duty on behalf of Washington Apple Pi, to make the obvious reality. If you are me, it took those new brooms a bit of time to understand the contour of the place to know how to reach into its crevices and root out those lingering dust balls. Whichever aphorism you choose to recite, this board highlighted for us three of the more important tasks that make the Pi what it is. I hope one of them, or any of the other positions available will entice you to expand your involvement with us.

We benefit only if each of us takes advantage of the board's work in expanding the opportunities to serve our club. Nominations for the next board will be upon us shortly. Can you clear some time from your calendar to help out —just a bit? Or do you have a skill that you are willing to share with other members? Keep this in mind when you nominate members (like yourself) for the next board and when you vote for members who will lead us next year.
—Lorin

WASHINGTON APPLE PI, LTD. BYLAWS

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[These Bylaws are current as of January 20, 1999. The Bylaws originally appeared in the WAP Journal in October, 1982. Issues of the Journal giving notice of amendment, adoption or repeal of particular sections are indicated in brackets.]

ARTICLE I - NAME

The name of the corporation is Washington Apple Pi, Ltd. (hereinafter referred to as "WAP" or the "Corporation").

ARTICLE II - PURPOSES

WAP is formed to function as a charitable and educational computer club organized exclusively for pleasure, recreation and other nonprofitable purposes within the meaning of section 501(c)(7) of the Internal Revenue Code of 1986, as amended (or the corresponding provision of any future United States internal revenue law). More specifically, such purposes include, but are not limited to, mutual learning and education of members of the public who share an interest in computers. Substantially all of the activities of the Corporation shall be for pleasure, recreation and other nonprofitable purposes. [Amended June 1994.]

ARTICLE III - PROHIBITED ACTIVITIES

No part of the net earnings of the Corporation shall inure to the benefit of its members, directors, officers, or other private persons, except that the Corporation shall be authorized and empowered to pay reasonable compensation for services rendered and to make payments and distributions in furtherance of the purposes set forth in Article II hereof. No substantial part of the activities of the Corporation shall be the carrying on of propaganda or otherwise attempting to influence legislation, and the Corporation shall not participate in, or intervene in (including the publication or distribution of statements), any political campaign on behalf of any candidate for public office. The Corporation shall not carry on any other activities not permitted to be carried on by a corporation exempt from federal income tax under Section 501(c)(7) of the Internal Revenue Code of 1986, as amended (or the corresponding provision of any future United States internal revenue law).

No member, director or officer of the Corporation shall be financially interested, directly or indirectly, in any agreement relating to the operations conducted by the Corporation, nor in any transaction for furnishing services, facilities or supplies to the Corporation for compensation, unless the fact of such interest be known to the Board of Directors and unless such agreement or transaction shall be authorized by the Directors who have no interest, direct or indirect, in such agreement or transaction. [Amended June 1994.]

ARTICLE IV - OFFICES

The address of the principal office of the Corporation is 12022 Parklawn Drive, Rockville, Maryland 20852. The Corporation may maintain additional offices at other places as the Board of Directors chooses to designate. [Amended May 1983, August 1989, March 1998.]

ARTICLE V - MEMBERSHIP

SECTION 1. CLASSES OF MEMBERSHIP. There shall be three types of membership: regular, associate and guest. There shall be three classes of regular membership: family, student and life. 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. Additionally, individuals seeking offices covered by Article IX must each have a membership card in their own name. 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. The Board of Directors may award life memberships. 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, February 1994, June 1994, March 1998.]

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 members shall be required to pay an initiation fee under the conditions prescribed by the Board of Directors. [Amended July 1986, February 1994 and June 1994.]

SECTION 3. DUES. The annual dues for each class of membership shall be determined by the Board of Directors. For a member to remain in good standing, renewal payment is due and must be received at the

Corporation's Office by the end of the month in which the membership expires. [Amended March 1993.]

SECTION 4. LIMITATION OF AUTHORITY. Except as otherwise specified in these Bylaws, no member shall act in the name of WAP or take any action that would bind WAP. [Amended July 1986.]

SECTION 5. RESIGNATION. Any member may resign from membership in the Corporation by submitting a written resignation to the Secretary of the Corporation, but members shall not be entitled to a refund of any portion of the annual dues paid prior to such resignation.

SECTION 6. EXPULSION. A member may be expelled from membership in WAP for (a) failure to pay the annual dues for more than seven (7) days after the due date thereof, or (b) engaging in activities prohibited by these Bylaws or any rule or practice adopted by the Board of Directors of which notice has been given to members. Damaging WAP property or disrupting WAP services shall be ground for expulsion. Before any member may be expelled for engaging in prohibited activities, written charges specifying the alleged cause shall be filed with the Secretary and a copy thereof shall be served on the member charged. The member charged shall be given notice of the meeting of the Board of Directors at which the member's expulsion is to be considered and the member charged shall be allowed a hearing before the Board. If the Board determines that the prohibited activities are correctable, the member charged may, at the discretion of the Board, be given an opportunity to correct such conduct. The member charged may be expelled by the affirmative vote of two-thirds of those Directors present and voting at the Board of Directors meeting of which the member charged received notice, a quorum of Directors being present. The member charged shall receive prompt written notice of the Board's action. A person expelled from membership by virtue of (b) above may be reinstated as a member by a majority vote of the Board. [Amended March 1986, July 1986, August 1989 and March 1993.]

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 and February 1994.]

ARTICLE VI - MEMBERSHIP MEETINGS

SECTION 1. REGULAR MEETINGS. Regular Membership Meetings shall be held on the fourth Saturday of each month, unless otherwise determined by the Board of Directors. Notice of these meetings, stating the date and hour of the meeting and the place where it is to be held, shall be by publication in the WAP Journal.

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. [Amended February 1994.]

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. [Amended February 1994.]

SECTION 4. PROXIES. No member may vote by proxy at a Regular or Special Membership Meeting.

ARTICLE VII - BOARD OF DIRECTORS

SECTION 1. POWERS. The business and affairs of WAP shall be managed by its Board of Directors, which may exercise all powers of the Corporation and perform all lawful acts and things which are not by law, the Articles of Incorporation, or these Bylaws directed or required to be exercised or performed by or are conferred upon or reserved to the members.

SECTION 2. COMPOSITION. The Board of Directors shall be comprised of Directors elected annually by the membership pursuant to Article IX hereof. Eight Directors shall be elected as Director-at-Large. Additional Directors are elected as President, Vice-President for Programs, Vice-President for Membership, Vice-President for Volunteer Services, Vice-President for Publicity, Secretary and Treasurer. An officer who is also a Director does not cease to be a Director if removed or replaced as an officer, and a person appointed by the Board to be an officer does not become a Director by virtue of this appointment. [Amended April 1984, February 1987, June 1988, August 1989, June 1990, March 1993, March 1999.]

SECTION 3. TERM. Directors shall serve until the next annual election and until their successors are elected and qualify. [Amended January 1992 and March 1993.]

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 and February 1994.]

SECTION 5. VACANCIES. Upon the resignation or removal of a Director, that Director position shall be declared vacant. If the number of Directors falls below 15 for any reason, the Board of Directors may, by majority vote, appoint an eligible member a Director. [Amended March 1993.]

SECTION 6. REGULAR MEETINGS. Regular meetings of the Board of Directors shall be held monthly, unless otherwise determined by the Board of Directors. Regular meetings shall be held, at such time and place as may be determined by the Board of Directors, without further notice.

SECTION 7. SPECIAL MEETINGS. Special meetings of the Board of Directors may be called by the President, a Vice-President or two or more Directors on seven (7) days notice to each Director, if such notice is delivered personally, by telegram or by telephone; or on fourteen (14) days notice if sent by mail or published in the WAP Journal. No business other than that stated in such notice shall be conducted. [Amended June 1988 and 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 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, August 1989 and February 1994.]

SECTION 9. ACTION BY CONSENT. Any action required or permitted to be taken at any meeting of the Board of Directors may be taken without a meeting if a written consent to such action is signed by all members of the Board of Directors and such written consent is filed with the minutes of the proceedings of the Board. [Amended July 1991.]

SECTION 10. PROXIES. Participation in a Board of Directors meeting requires personal attendance. No Director may vote by proxy at a meeting of the Board of Directors. [Amended July 1991.]

ARTICLE VIII - OFFICERS

SECTION 1. DESIGNATION AND TENURE. The elected officers of the Corporation shall be the President, four Vice-Presidents, the Secretary, and Treasurer. The appointed officers of the corporation shall be 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. An election shall be held annually, pursuant to Article IX of these bylaws, for the President, the four Vice-Presidents, 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, March 1993, February 1994 and March 1999.]

SECTION 2. PRESIDENT. The President shall, subject to the Bylaws and control of the Board of Directors, have general charge of the business, affairs and property of the Corporation with general supervision over its other officers and agents. Subject to the Bylaws and the control of the Board of Directors, the President shall oversee and coordinate such programs, activities and other duties as may be delegated to the President by the Board of Directors. The President shall submit an annual report to the Board describing the past year's activities of the Corporation. [Amended August 1989 and June 1990.]

SECTION 3. VICE-PRESIDENTS. There shall be four elected Vice-Presidents: Programs, Membership, Volunteer Services, and Publicity. In addition, the Board may appoint additional vice-presidents from among the directors to fulfill any other positions they deem necessary. The Vice-Presidents shall serve as assistants to the President and shall oversee and coordinate such programs, activities and other duties as may be delegated to them by

the Board of Directors or the President. From time to time, the President shall designate one of the Vice-Presidents elected by the membership who shall in the absence of the President or in the event of the President's disability perform the duties and exercise the powers of the President. [Amended June 1984, July 1988, June 1990 and March 1999.]

SECTION 4. SECRETARY. The Secretary shall give, or cause to be given, notice of Special Membership Meetings and of Special Board of Directors meetings. The Secretary shall keep the minutes of the meetings of the members and the Board of Directors. The Secretary shall send copies of the minutes of all meetings to the Board of Directors and shall also see that the books, reports, statements and all other documents required by law are properly kept and filed. The Secretary shall perform such other duties as may be delegated by the President or the Board of Directors. The Secretary may appoint one or more assistants. [Amended June 1990.]

SECTION 5. TREASURER. The Treasurer shall have custody of the corporate funds and other valuable effects, shall keep full and accurate accounts of receipts and disbursements in books belonging to the Corporation and shall deposit all monies and other valuable effects in the name and to the credit of the Corporation in such depositories as may be designated by the Board of Directors. The Treasurer shall have the authority to disburse checks as provided in Article XII hereof. The Treasurer shall maintain a system of internal fiscal control and shall report regularly to the Board of Directors on the expenses and financial condition of the Corporation. The Treasurer shall perform such other duties as may be delegated by the President or the Board of Directors. The Treasurer may appoint one or more assistants. [Amended June 1990.]

SECTION 6. EDITORS OF THE JOURNAL. The Editors of the WAP Journal, shall, subject to the general policy direction of the Board of Directors, be responsible for the Journal's editorial and advertising content and its publication on a regular basis. The Editors may appoint one or more assistants. [Amended August 1989 and June 1990.]

SECTION 7. LIBRARIANS. The Librarians shall organize the Corporation's collection of computer programs, computer media, books and periodicals, subject to the general policy direction of the Board of Directors. The Librarians may appoint one or more assistants. [Amended August 198 and June 1990.]

SECTION 8. DIRECTOR OF GROUP PURCHASES. [Repealed March 1993.]

SECTION 9. TELECOMMUNICATIONS SYSTEM OPERATOR. The Telecommunications System Operator shall chair the standing Telecommunications System Committee. [Amended June 1986 and June 1990.]

SECTION 10. TUTORIAL DIRECTORS. The Tutorial Directors shall, subject to the general policy direction of the Board of Directors, arrange for and coordinate tutorials for the purpose of providing education and instruction in computer-related subjects. The Tutorial Directors may appoint one or more assistants. [Amended June 1984, July 1988, August 1989 and June 1990.]

ARTICLE IX - ELECTIONS

SECTION 1. SCOPE. An election shall be held annually for eight Directors-at-Large, the President, the four Vice-Presidents, 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 February 1994 and March 1999.]

SECTION 2. DELEGATION. The Board of Directors (the Board) shall appoint an Election Committee composed of at least three members in good standing who are not candidates in the election. This committee shall be charged with conducting a fair, impartial and timely election. Within rules, policies and procedures established by these Bylaws and the Board, the Election Committee shall have discretion to conduct the election as it sees fit. The Board shall appoint an Election Review Committee composed of at least three members in good standing, none of whom is a candidate, an Election Committee member or a Board member, to hear and resolve protests that might arise during the course of an election. The Election Review Committee acts pursuant to Section 7 of this Article. Any dispute regarding the eligibility of a candidate or voter shall be resolved by the Board.

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 February 1994.]

SECTION 4. SUBMISSIONS.

As soon as possible after the conclusion of nominations, the Election Committee shall ascertain which nominees wish to stand for election as candidates. An individual may accept nomination and be a candidate for more than one position, except that no one person shall be a candidate for both President and another officer position. The Election Committee shall apprise the candidates of the rules and timetable for the election, and shall solicit from the candidates whatever declarations, certifications, statements, disclosures or other information as may be permitted or required by the Election Committee, the Board or these Bylaws. This information shall be held in confidence by the Committee until the deadline for its receipt or until all such information is received. A candidate for more than one position shall designate the one contest under which any candidate statement or background information concerning the candidate shall appear.

SECTION 5. BALLOTING.

The Election Committee shall supervise and have responsibility for the production, distribution, collection and accurate counting of election material. The Election Committee shall, subject to the instructions of the Board, set a time in the month of May by which ballots must be received to be valid and counted. The Election Committee is authorized to rule on the validity and intent of each returned ballot. Each ballot may contain one vote for each office, except that up to eight votes (noncumulative) may be cast for Director-at-Large. [Amended March 1999.]

SECTION 6. RESULTS.

For each officer position, if any one candidate receives both (a) more than one half of the votes cast for that position and (b) votes for that position on more than one tenth of all valid ballots returned, then that candidate shall be certified by the Election Committee as being elected to that position. Otherwise, the Election Committee shall certify no winner. A person elected to an office also becomes a Director by virtue of such election. In the event that any candidate for Director-at-Large is elected as an officer, such candidate shall not be eligible for election as a Director-at-Large. The eight or fewer (in the absence of eight) eligible candidates for Director-at-Large with the greatest number of votes and the votes of at least 3% of all eligible voters shall be elected Directors. The Election Committee shall certify the results of the election of Directors to the membership as quickly as possible but no later than ten days after the deadline for the receipt of ballots. The Election Committee shall present to the new Board at its first regular meeting of the term the results of the election

of officers. The Election Committee shall apprise the Board of anyone elected by the membership who declined to accept election or who appears not to be eligible to serve, so that the Board may declare their positions vacant. [Amended March 1999.]

SECTION 7. PROTESTS.

Any candidate for any position that believes that a specific fault in the election caused, or would cause, him or her to lose the election may petition for review. Petitions must be submitted immediately upon discovery of the fault so that timely corrective action, if warranted, may be taken. The Secretary and the Board shall promptly forward such petitions to an Election Review Committee (ERC) formed pursuant to Section 2. The ERC shall render an opinion as to whether or not such a fault exists, and, if so, what an appropriate remedy for the fault shall be, if any. Before votes are counted, the ERC may instruct the Election Committee to (a) extend any deadline by up to one month, with or without further notice, notwithstanding any other provision of the Bylaws, (b) report "no winner" in any officer race, or (c) certify fewer than eight Directors-at-Large, provided that at least 13 Directors total shall be elected from among the officer and Director-at-Large contests, combined. The ERC may not spend or cause to be spent more than $100 without concurrence of the Board of Directors. In the absence of protests, the ERC dissolves at the first regular meeting of the term of the new Board. [Amended March 1999.]

ARTICLE X - SPECIAL INTEREST GROUPS AND SLICES

SECTION 1. FORMATION.

The Board of Directors may establish special interest groups (SIGS) to provide a forum for exploring topics of special concern to a portion of the membership. Among the factors to be considered by the Board of Directors in recognizing a new special interest group are: whether the group conducts regularly scheduled meetings which it announces in the WAP Journal and whether it has at least five members.

SECTION 2. ORGANIZATION.

Each special interest group shall elect from among its members a Chairman and Journal Columnist. The election of special interest group officers shall be conducted annually during the month of October, under the supervision of the Board of Directors. Each special interest group shall publish an account of its activities in the WAP Journal. [Amended November 1983.]

SECTION 3. LIMITATION OF AUTHORITY.

No special interest group shall act in the name of or take any action which would bind the Corporation.

SECTION 4. DUES. No special interest group shall collect dues or contributions without the permission of the Board of Directors. [Amended December 1982.]

SECTION 5. SLICES. The Board of Directors may recognize groups of WAP members outside the Washington, D.C. area as "Slices" of WAP. Slice members shall be entitled to the full benefits and privileges of membership in WAP. In all other respects, the Board of Directors shall have the power to regulate by resolution the formation, activities and dissolution of Slices. The officers of a Slice shall be given notice whenever feasible of any action to be taken by the Board or the membership involving the activities of the Slice. No Slice shall act in the name of or take any action that would bind the Corporation. [Adopted July 1986.]

ARTICLE XI - COMMITTEES

SECTION 1. AUDIT COMMITTEE. The Audit Committee shall be appointed by the Board of Directors to select the Corporation's accounting firm and to review the financial records and reports of the Corporation. The President, Treasurer, or any other member receiving or disbursing funds of the Corporation may not serve as a member of the Audit Committee. [Amended March 1993.]

SECTION 2. TELECOMMUNICATIONS SYSTEM COMMITTEE. The Telecommunications System Committee shall be a standing committee established by the Board of Directors. The Telecommunications System Operator shall chair the Telecommunications System Committee and shall appoint such additional committee members as necessary to conduct the business of the Telecommunications System of WAP. The committee shall establish policy for and operate the Telecommunications System subject to the general policy directions of the Board of Directors. An operating budget shall be prepared by the committee and submitted annually to the Board of Directors for review and recommendation to the membership. [Adopted June 1986.]

SECTION 3. OTHER COMMITTEES. The Board of Directors may appoint other standing or special committees.

ARTICLE XII - FISCAL CONTROL

SECTION 1. DISBURSEMENTS. Disbursements over $25.00 shall be made only by check. Any disbursement over $5.00 shall be supported by voucher or receipt. All checks, drafts, notes and evidence of indebtedness of the Corporation shall be signed by the Treasurer and either the President or one of the elected Vice-Presidents. However, checks in an ámount not to exceed $6,000 may be signed by either the Treasurer or by both the President and one of the elected Vice-Presidents. Designated staff shall have the authority to sign checks in an amount not to exceed $6,000.00 from an imprest fund established by the Treasurer or from such other accounts as the Board of Directors may by resolution determine. [Amended April 1983, June 1983, January 1984, October 1986, February 1987, March 1993 and March 1999.]

SECTION 2. ANNUAL BUDGET. Prior to the commencement of each fiscal year, The Board of Directors shall prepare an estimated budget for the following fiscal year for the approval of a majority of those present and voting at a Membership Meeting.

SECTION 3. FISCAL YEAR. The fiscal year of WAP shall be from June 1 to May 31. [Amended March 1986.]

SECTION 4. CAPITAL EXPENDITURES. Capital expenditures in excess of $1,000.00 must be approved by a majority of those present and voting at a Membership Meeting. Approval of a line item in the annual budget shall constitute membership approval of a capital expenditure.

ARTICLE XIII - NOTICE

SECTION 1. FORM OF NOTICE. Whenever under the provision of law, the Articles of Incorporation or these Bylaws, notice is required to be given to any Director or member, such notice may be given by publication in the WAP Journal or in writing, by mail addressed to such Director, officer or member, at his post office address as it appears on the records of the Corporation. Such notice shall be deemed to be given at the time it is deposited in the United States mail. Notice may also be given personally or by telephone or telegram.

SECTION 2. WAIVER. Whenever notice is required under the provision of law, the Articles of Incorporation or these Bylaws, a written waiver of the notice, signed by the person entitled to the notice, whether before or after the fact, shall be deemed to be the equivalent of such notice. Any member or Director who attends a meeting, without protesting the commencement of the meeting or the lack of notice shall be conclusively deemed to have waived notice of such meeting.

ARTICLE XIV - INDEMNIFICATION

The Corporation shall, to the extent legally permissible, indemnify and hold harmless any person serving or who has served as a director, officer or duly authorized agent of the Corporation against all liabilities and expenses, including amounts paid in satisfaction of judgments, in compromise or as fines and penalties, and

counsel fees, reasonably incurred by him in connection with the defense or disposition of any claim, action, suit or other proceeding whether civil or criminal, in which he may be involved or with which he may be threatened, while serving or thereafter, by reason of his being or having been such a director, officer or agent, except with respect to any matter as to which he shall have been adjudicated in any proceeding not to have acted in good faith in the reasonable belief that his action was in the best interests of the Corporation.

Expenses, including counsel fees, reasonably incurred by any such director, officer or agent in connection with the defense or disposition of any such claim, action, suit or other proceeding may be paid from time to time by the Corporation in advance of the final disposition thereof upon receipt of an undertaking by such individual to repay the Corporation the amounts so paid if it ultimately determined that indemnification of such expenses is not authorized herein. The right of indemnification hereby provided shall not be exclusive of or affect any other rights to which any such director, officer, or agent may be entitled. As used in this Article, the terms "direc-

tor," "officer" and "agent" include their respective heirs, executors and administrators.

The Corporation may, at the election of the Board of Directors, purchase and maintain insurance on behalf of any person who is or was a director, officer, employee or agent of the Corporation or who is or was serving at the request of the Corporation as a director, officer or agent of another corporation, partnership, joint venture, trust or other enterprise against any liability asserted against him and incurred by him in or arising out of his position, whether or not the Corporation would be obligated or empowered to indemnify him against such liability under this Article XIV.

ARTICLE XV - AMENDMENT

The Board of Directors or the membership may amend these Bylaws at any Regular Meeting by an affirmative two-thirds majority of those present and voting. Notice of all Bylaw amendments shall be published in the WAP Journal.

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Happy Birthday, Macintosh

FOR THOSE OF you who missed it, January 24, 1999, was the fifteenth birthday of the Macintosh. The staff at Apple received an e-mail birthday message from their iCEO. As Steve was kind enough to take time from his schedule to share a greeting with us on our 20th, I thought I would share his to the thousands who toil each day to bring us insanely great machines.

Date: Sun, 24 Jan 1999 19:49:05 -0800 (PST)
From: Steve Jobs < @apple.com>
Subject: Macintosh Turns Fifteen
Sender: @apple.com
To: [snip, snip]
Reply-to: response@apple.com

Fifteen years ago today, on January 24, 1984, Apple launched the first Macintosh at Flint Center in Cupertino, California. Its revolutionary ease of use made computing accessible to "the rest of us", and its infusion of graphics and typography placed the Macintosh at the intersection of computer science and liberal arts. The Macintosh went on to become the second revolution in personal computing (the Apple II was the first), and its revolutionary ideas and benefits spread beyond Apple - they have changed the face of an entire industry and touched hundreds of millions of people around the globe. Apple has a lot to be proud of here.

While I am not normally one to look back, today is a good day to remember Apple's legacy, which is to bridge the gap between sophisticated technology and "the rest of us" who make up most of humanity. Its our job to make complex technology easy to use and fun to use. The need for this bridge is even greater today than it was in 1984 when the Macintosh debuted. Back then, users didn't have to deal with the complexities of connecting to networks and the Internet, setting up email, managing device drivers and init files, and all of the other things that drive today's computer users mad.

The computer world shows no signs of getting simpler as we enter the coming century. And no other company has yet taken Apple's place as the bridge builder. As we return to our roots and once again begin delivering simpler and better ways to use computers, Apple's future looks both bright and secure.

Its been an amazing journey so far, yet we have barely begun.

Steve

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Washington Apple Pi

Board of Directors Meeting
December 16, 1998

[Note: these are not the full minutes; those may be found on the Washington Apple Pi bulletin board, the TCS, in File Transfer Area 5.]

Directors Present: Dave Weikert, Mary Keene, David Harris, Blake Lange, Neil Laubenthal, Pat Fauquet, Lawrence Charters, Don Essick, Lou Dunham

Directors Absent: Tom Witte, Ellen Baniszewski, J. David Mudd, Dale Smith, Lorin Evans, Dave Ottalini

IN THE absence of the Chair, the meeting was called to order by the Vice Chair, Lawrence Charters, at 7:35 p.m. The minutes of the previous meeting were approved as corrected.

Old Business

The December Garage Sale gave every indication of being a resounding success. All tables at the Garage Sale were sold, and one was sold twice. All tickets were also sold (meaning we ran out of tickets). The concession stand outside the Garage Sale was very well received, and the computer checkup table did a booming business. As for the event itself, there were many door prizes, lots of Macs, Mac peripherals, Mac software, non-Mac electronics, and many things hard to explain offered for sale. Items were offered at excellent prices, though there were few Power Macs except Power Mac 6100s.

The board agreed to hold another Garage Sale in June 1999, as scheduled.

New Business

Most of the meeting was devoted to an extended discussion, in several phases, on the subject of volunteering. For example, the current membership form/brochure does not include a spot for volunteering. Pat Fauquet suggested that volunteers be handled by at least four different chairpersons, who would focus the volunteer activities and divide the workload: Membership Coordinator, Volunteer Services, Publicity Coordinator, and Communications.

Noting that many of the most important volunteers were not members of the Board of Directors, but that their activities have a direct bearing on the Pi, Blake Lange moved that the Directors board on the TCS be opened to volunteers nominated by the board and approved by exception. These volunteers would still be required to fill out the confidentiality agreement required by participants of that board. The motion was seconded by Pat Fauquet, and approved unanimously.

This discussion merged into a similar discussion on accountability and the composition of the Board of Directors. Pat Fauquet suggested that one way to provide accountability for "difficult" tasks is ensuring that candidates for election to the Board know exactly what it is they are getting into, through appropriate labeling of Board positions. Lawrence Charters noted that, practically speaking, any changes requiring amendment of the Pi's By-Laws needed to be done immediately, as the January 1999 Board meeting would be issuing rules for the May election.

Blake Lange moved that the position of Vice President-Apple be eliminated and the position of Vice President-Macintosh be renamed Vice President-Programs, effective with the next Board in June 1999. David Harris seconded the motion, which passed unanimously. This amends the By-Laws of Washington Apple Pi (Article VIII, Section 2; Article VIII, Section 1, Section 3; Article IX, Section 1).

Pat Fauquet moved that three new elected officer positions be added to the Board, Vice President-Publicity, Vice President-Membership, and Vice President-Volunteer Services, and three at-large Director positions be eliminated. This was seconded by Mary Keene, and the motion passed 5-1. Lawrence Charters asked that this motion be revisited in January, when more Board members are in attendance.

Don moved that the meeting be adjourned, with a second by Blake. The motion passed at 9:31 p.m. ■

Washington Apple Pi

Board of Directors Meeting
January 20, 1999

[Note: these are preliminary, as the Board had not approved the minutes as of this writing. Also, these are not the full minutes; those may be found on the Washington Apple Pi bulletin board, the TCS, in File Transfer Area 5.]

Directors Present: Dave Weikert, Mary Keene, David Harris, Blake Lange, Pat Fauquet, Lawrence Charters, Don Essick, Lou Dunham, J. David Mudd, Lorin Evans

> "The amendments
> centered on
> restructuring the
> Board of Directors
> to better meet the
> needs of the current
> organization. "

Directors Absent: Tom Witte, Ellen Baniszewski, Dale Smith, Dave Ottalini, Neil Laubenthal

THE MEETING was called to order at 7:42. The minutes of the previous meeting were approved as read.

Old Business

In December 1998, a motion was made to move the regularly scheduled Board of Directors meeting back to the second Wednesday of the month. The motion was tabled until January. After an entertaining, but off-topic, discussion concerning news coverage of the impeachment trial, the motion passed. The Board of Directors will return to meeting the second Wednesday of the month as of February 1999.

Two amendments to the Pi By-Laws were passed at the December 1998 meeting. The amendments centered on restructuring the Board of Directors to better meet the needs of the current organization. (Specifically, they reduced the number of Directors-at-Large from 10 to 7, and replaced the Vice President-Macintosh Programs and Vice President-Apple II Programs with four Vice Presidents: Programs, Publicity, Membership and Volunteer Services.)

While both amendments passed, the issue was revisited and discussed again. Lawrence Charters summarized the scattered changes required throughout the By-Laws to accommodate the amendments. Pat Fauquet and Mary Keene offered commentary on why they proposed the amendments. Several Board members commented on the fact that this would reduce the Board to 14 members, creating the possibility of tie votes.

Another concern was the issue of elected versus appointed vice presidents. The current By-Laws do not clearly differentiate between the two, creating some troublesome issues. Lorin Evans offered a draft version of the By-Laws that clearly differentiated between elected and appointed vice-presidents, as well as some minor changes in archaic grammar.

Blake Lange stated he would be more comfortable if the Board remained at 15 positions. A motion to amend Pat Fauquet's amendment to specify eight (rather than seven) Directors-at-Large passed by a vote of 6-3. Don Essick then moved, with the assent of Pat Fauquet, that the entire package of By-Laws revisions (changes to Vice Presidents, Directors-at-Large, and minor grammar) be accepted. The motion passed 9-0. The amended By-Laws will form the basis for the Pi's May 1999 election of the Board to be seated in June 1999. [A complete text of the Washington Apple Pi By-Laws can be found elsewhere in the *Journal*.]

New Business

The Board confirmed Lauri Zeman's nomination as TCSO (Telecommunications Sysop) without dissent. Lauri will now chair the Pi standing committee on telecommunications.

Lawrence Charters reviewed the proposed election rules governing the May 1999 election. As these are essentially the same rules as the past two elections, most of the discussion was spent on off-topic subjects. David Harris moved, with a second by Don Essick, to accept the proposed rules, amended to reflect the amended By-Laws.

Lorin Evans asked the Board if the Pi wish to attend MacWorld Boston as an exhibitor? He stated that the Pi Fillings CD-ROMs might be good offerings for the MacWorld crowd, and asked for suggestions on what direction the CD-ROMs should take in the near future. No action was taken aside from agreeing to investigate the issue.

Don Essick moved, with a second by Lou Dunham, that the meeting be adjourned. The motion passed at 9:03 p.m.

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Washington Apple Pi January General Meeting Report

by Don Essick, Vice President, Macintosh

AFTER A MONTH off for the Garage Sale, we were back for a New Year. In only a few short months, if you believe the doomsayers, the entire planet will be in shambles because of a few hundred million microchips. Sure, and I've got a really nice bridge and some Florida land you might be interested in purchasing. Lawrence Charter's article in last month's Journal was one of the best pieces I've read on the subject.

Anyway, where was I? Oh yes, General Meeting report. As usual, the meeting started off with Stump the Guru, starring the aforementioned Lawrence Charters who monthly gets up on stage and fields questions on things Macintosh. Rarely is he stumped but on those rare occasions, someone in the audience usually has some insight into the problem.

Following the Questions and Answers, we had a brief business meeting. The main topic was the changes to the Bylaws of Washington Apple Pi. As with any organization, the bylaws must sometimes be changed to reflect changes in the organization. The main point of the changes was to get rid of the old Vice President positions and replace them with some newly created positions. I currently hold two positions because in the past, the Vice President, Macintosh was also automatically VP of Programs. You can read about all of the changes and the revised by-laws elsewhere in the Journal.

Tom Witte gave us a preview of his MovieWorks creation using video he shot at the November meeting.

Due to some problems with hardware, the project has taken more time than Tom estimated (doesn't everything?) but should be finished by the time you read this.

We were pleased to welcome back Jean-David Mankovsky from Apple Computer. JD was just at MacWorld in San Francisco and brought back all the news from the left coast. And the news was all good! Another profitable quarter, a new G3 Macintosh and iMacs in 5 "flavors" and MacOSX Server.

Yes, Steve Jobs, Apple's iCEO had them on their feet again at MacWorld. The state of Apple is financially strong and market share is growing and new products are rolling out on schedule.
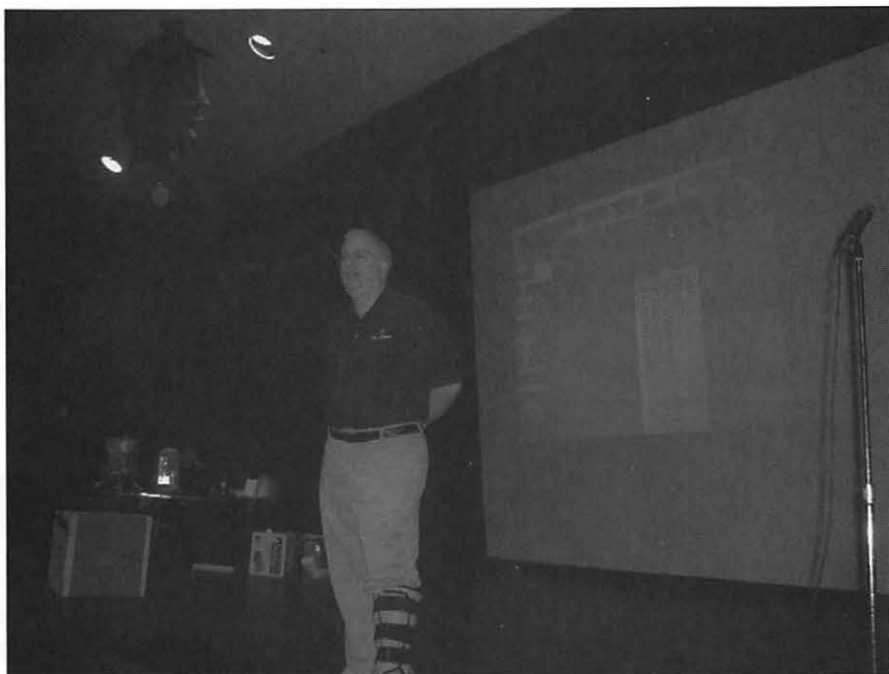
He opened his presentation with a special "Internet Only" commercial featuring the HAL9000 computer from Stanley Kubric's "2001: A Space Odyssey." HAL apologizes for the "Year 2000 'bug' " and says "you always liked your Macintosh better than me, didn't you Dave?"

The new G3 Macintosh takes on the sexy new beige-less look in polycarbonate. It is Ice and Bondi like the original iMac with an entirely new mini-tower case design. There is a foot/handle on each corner and a lockable latch that lowers the entire side of the machine. This panel contains the system's mother board. There are 4 PCI slots on the board and 3 drive bays in the bottom. There is a big, quiet, cooling fan, a decent size power supply and front bays for a CD/DVD and/or Zip drive. It comes in 300,350 and 400 MHz speeds with 1/2 speed backside cache and a 100MHz System Bus. There are 4 SDRAM slots allowing expansion to 1 Gigabyte of memory.

Also interesting is what is missing: SCSI is gone, replaced by FireWire, a new ultra-fast serial pro-

Apple's JD Mankovsky, the New G3 Macintosh Studio Display 17 and G3 Powerbook rolling

Pi Secretary and Macintosh guru Lawrence Charters leads Question and Answer Session.

Well, that is the highlights. I've got to get this out to meet the Journal deadline. Next month, Microsoft will be back to introduce Internet Explorer 4.5, Outlook Express 4.5 and to tell us about their new Mactopia Web site, http://www.microsoft.com/mac/. Microsoft has said they will give free CD-ROMS of Explorer 4.5 and Outlook Express to all attendees.
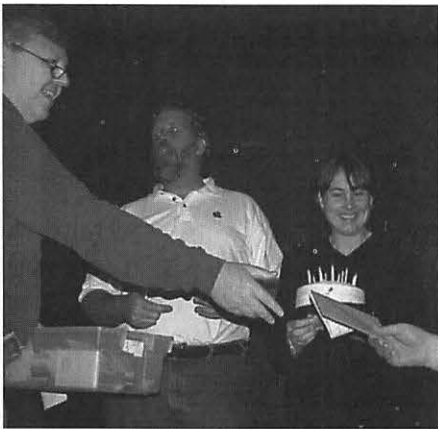
Almost forgot, the usual thanks to Beth Medlin, Lawrence Charters, Lorin Evans, Tom Witte and all of the other individuals who make these meetings happen. Thanks also to the Pi members who signed my birthday card. I can categorically state that it was the largest birthday party I ever had. Sorry there wasn't enough cake to go around. Last, but not least, thanks to the vendors who donated door prizes. A copy of MacOS 8.5 from Apple Computer to G.A. Rounsevell, Color iMac poster to Ann Lunn, GMAT study software to Paul Balcer, Go West game to Alex Avila, Apple Canvas Tote to Jack McCalman, Coffee mugs to Harold Deeley, Jr. and Charlie Stancil. Tom Witte delighted in throwing T-shirts from Apple, CodeWarrior and other vendors to: Bill Geiger, Patrick Garvey, Charlie Cooke, Stuart Bonwit, Rick Mason and H. Ronald Green. Hope you all had a good time. ∎

tocol which is hot-pluggable and supports up to 126 devices. Also history is LocalTalk. Like its little brother iMac, USB is the name of the game. There are two USB and two FireWire ports on the back panel. There is, however, an ADB port there, along with a 10/100 base-T internet port. Also inside is a new graphics technology. Apple is now shipping the G3 with the new ATI Rage 128 graphics accelerator. This video card takes up one of the 4 slots (in fact, the 4th slot is specially configured for the card.) Apple also announced the licensing of OpenGL from Silicon Graphics. This means that graphics and game software developers can use standard 3D APIs across platforms. Base prices for these new beauties start at $1599, (less than the original Macintosh) and go up to $2999.

To go along with the sleek new G3, Apple introduced three new Apple Studio Displays. They come in the same Ice and Bondi with curvaceous lines and include a 15 inch flat panel, and 17 inch CRT and 21-inch unit with built-in ColorSync technology and

USB hub.

The next surprise, and it was a pretty well-kept secret, was new colors for the iMac. Along with the added colors comes a faster 266MHz processor, 6 Gigabyte hard drive and a $100 price cut to $1199. The new colors are named strawberry, blueberry, grape, lime and tangerine. They were rolled out to a new commercial featuring the Rolling Stones "She's a Rainbow" with dancing iMacs. Jobs quipped that he hopes folks will "collect all five!"

Still another "surprise", was the formal introduction of MacOSX Server. Apple will sell the software alone, or a pre-configured server. JD brought along a video clip from MacWorld showing jobs running an iMac booting from the MacOSX Server and running streaming video. Then he rolled out an iMac wall of 50 machines connected to a MacOSX server and showed them all running streaming video from the server.


The new "Open-Minded" Macintosh G3 draws stares from meeting attendees.

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January's Main Meeting
Apple Reps Feature New G3 Macs,
VP Essick Honored

Photos by Dennis Dimick (Sony Mavica MVC-FD91 camera)

ESSICK BIRTHDAY: Tom Witte, left, received a birthday card for Vice President Don Essick at the January main meeting. Office manager Beth Medlin presented a cake to Essick, center, as the meeting neared a close.
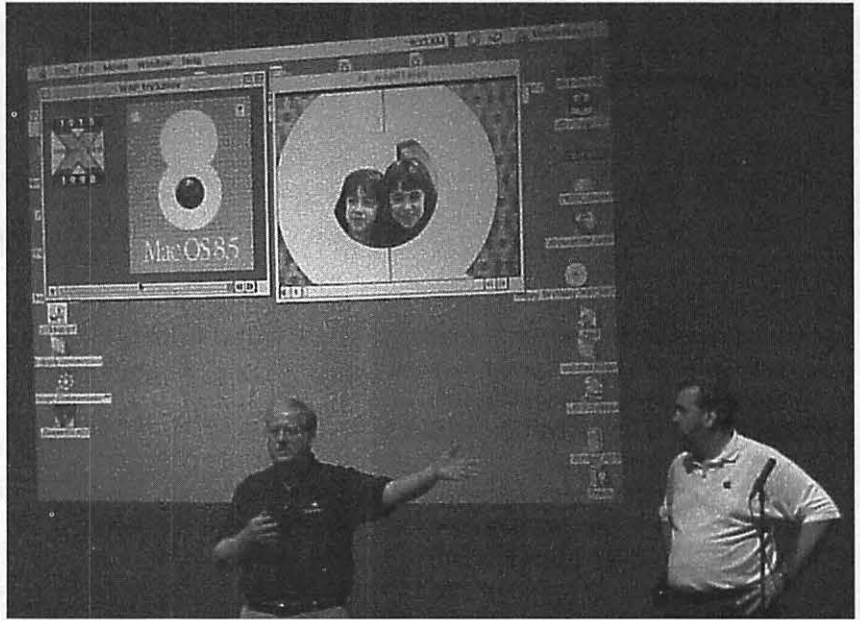

ON THE MAIN STAGE: Secretary Lawrence Charters, center, and Vice President Don Essick ministered to the technical needs of members during a "Question and Answer" session at the beginning of January's main meeting in Annandale. On screen were the sections of a QuickTime movie Tom Witte showed in honor of the Pi's 20th anniversary birthday party held last October.

NEXT GENERATION MACS: Apple Computer Engineer Colin Bonds, center, set up a brand new "Blue" Mac G3 and monitor in the lobby as Beth Medlin, left, and other Mac admirers watched closely. Enthusiastic members impressed by the G3's beauty and speed later mobbed the machine.

MOVIE PRODUCER WITTE: Tom Witte discussed his QuickTime movie of 20th birthday party tributes by Pi members. Witte videotaped members during the October meeting and party last October, and presented their remarks as a QuickTime movie at the January meeting. Witte said his movie will be placed on the next edition of the Pi's popular software CD-ROM, and some will be available on the Pi's website.
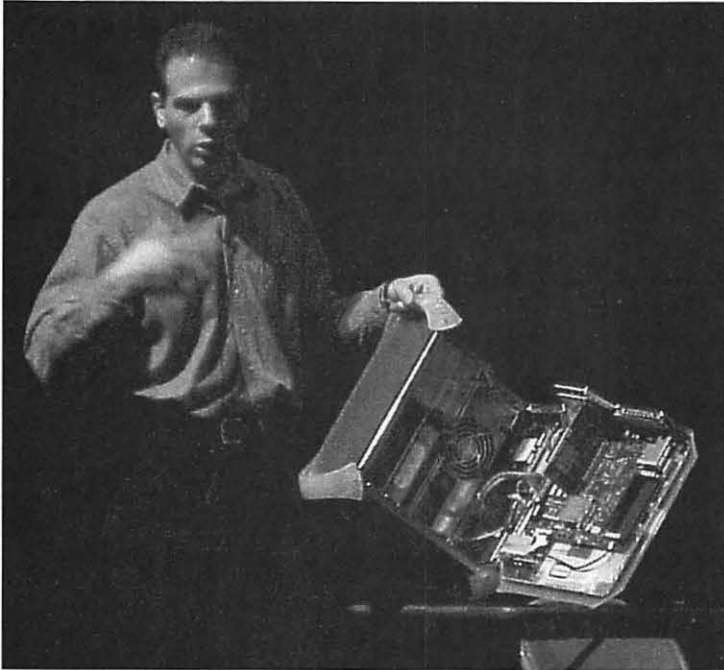
EASY OPEN G3: Apple Engineer JD Mankovsky demonstrated the ease of opening a new generation G3 tower Mac during his in-depth show of new Apple hardware at January's meeting. Mankovsky wowed members with demonstrations of new hardware, and reports from the recent San Francisco MacWorld Expo.

PLAYSTATION ON MAC: An avid WAP member tried the newly released Sony Playstation emulator on a new "Blue" G3 set up at the January meeting. The Playstation emulator comes from Connectix, maker of other popular Mac utilities such as RAM Doubler.

Apple Visits Washington Apple Pi
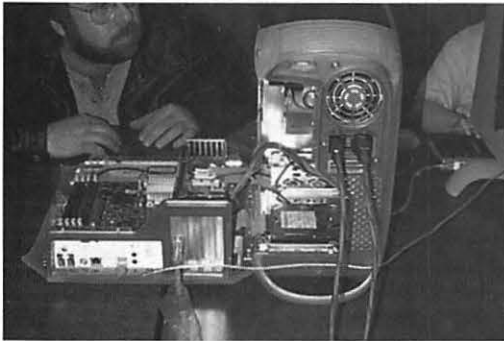
Apple doesn't call the new "Power Macintosh G3 blue and white" a mini-tower, but it is. Here the machine is shown from the rear, with the side door open. Amazingly enough, the computer was powered on and fully functional when the picture was taken. (Photo by Lawrence I. Charters)

The inside of the new "Power Macintosh G3 blue and white" reveals an incredibly clean, accessible design: the computer opens right up, with al-most no effort. The processor is under the cube-like heat sink at the bottom center, with the PCI video card standing behind it to the right. (Photo by Lawrence I. Charters)
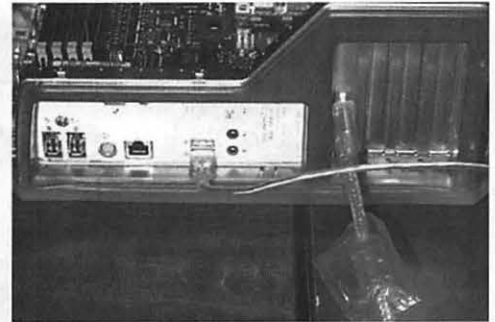
Apple has something old and something new in the back of the new "Power Macintosh G3 blue and white:" on the left are two FireWire ports, with a round ADB (Apple Desktop Port) to the right, then an Ethernet 10/100BASE-T port, followed by two USB (Universal Serial Bus) ports, one of them in use, and finally two ports for sound. In the first slot on the right is a video cable leading to the PCI-based 128-bit video card. (Photo by Lawrence I. Charters)

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Graphic Arts SIG Meeting

by Blake Lange

FOURTEEN GRAPHIC artists braved a snowstorm to attend the January Graphic Arts SIG meeting after taking December off to support the Computer Show and Sale. Harry St. Ours did not disappoint us. His presentation about online training available from the Corcoran and Montgomery College now has many of us thinking about attending his courses. Attending the meeting were Ann Aiken, Diana Buell, Linden Tucker, Attila Horvath, Valerie Burghardt, Carol Sky, Blake Lange, Etana Finkler, John W. Laughlin, Bob Russell, Bob Everett, Harry St. Ours, and Virginia Sheard.

Harry St. Ours has such great knowledge of graphic arts that Bob Everett commented after the meeting, "What seemed to be notable is that a lot of people wanted to talk to Harry about stuff that wasn't on the agenda."

Valerie Burghardt had this to say after the meeting, "Harry St. Ours certainly injected a load of excitement into the business of learning and improving our computer software skills. Not only did we brave the ice and snow to attend, we did it happily. He went well over the time allotment because the interest was so great. This is a tough area for graphic artists who came from the traditional discipline of working on the boards and want to jump start our computer comprehension. He's a walking wealth of knowledge with high velocity focus on how to improve our skills. Thank you Harry!"

Etana Finkler said, "Harry St.Ours' presentation familiarized me with what to expect when I register and attend an online course. I would highly reccommend the 'Introduction to Computer Graphics' course to both people with little or intermediate computer graphic skill levels, because I think it will fill in the gaps of your knowledge, covering Adobe Illustrator 8, Photoshop 5 and Pagemill, QuarkXpress, and a few other packages in a 15-week period seemed to be the perfect start for an art director looking to have an overview of computer graphics software, or a novice. His suggestion of ways to use demo versions of the software while learning them for the course seemed very practical in light of the expense of software (though if you are a registered student, you are eligible for software discounted prices, another plus of attending a course). Harry did mention that a student attending an online course needs to be confident about using Netscape and email; online courses are not suitable for complete computer newbies. Besides the Intro to Computer Graphics, he also teaches Photoshop every semester, and he alternates Web-building (this spring) with Bryce (in the fall). The class is online from 7pm - 8:40pm, with a real-time chat, and whatever you didn't understand is uploaded later to a website for your review."

For those who want to learn more about Harry's online training visit his site at http://www.st-ours.com.

Corcoran Online!

corcoran online

welcome!

The Corcoran School of Art is pleased to offer you this unique opportunity in live-online distance learning! Our popular computer graphics classes are now being offered on the World Wide Web.

Avoid the mess of parking, the horror of area traffic, the child care dilemma, the crowded open labs. Log on from the comfort of your own home or office.

Offering the same exciting content as our onsite (in-the-classroom) classes, you can participate for full credit, or non-credit; your choice! In fact, a complete Certificate in Computer Graphics will be available completely online!

Be sure to visit the

corcoran online alumni exhibition

Schedule

The schedule for the Graphic Arts SIG over the next several months is Saturdays March 13, April 10, and
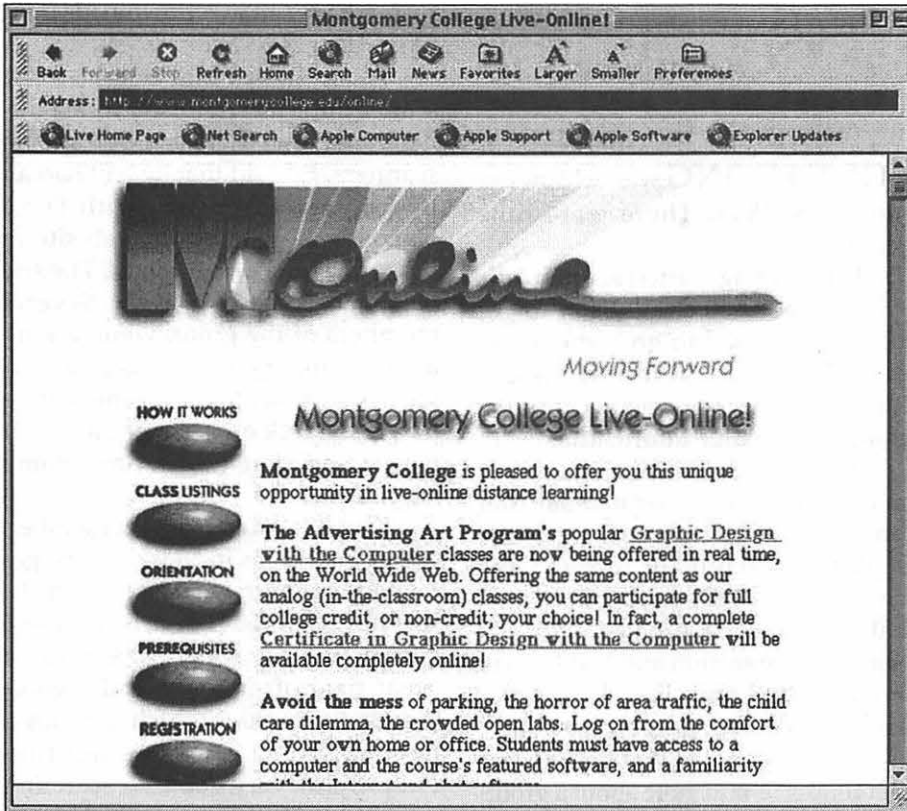
May 8. Each meeting will be from 10:00am to noon. The rule of thumb, in case you want to figure out when there will be a meeting, is that the meetings are scheduled the second Saturday of each month **except** when the Washington Apple Pi has a major activity scheduled for that day.

Directions

Mac Business Solutions is located at 9057 Gaither Road, Gaithersburg, Maryland 20877. The phone number is 301-330-4074. From Interstate 270 and Shady Grove Road go East two lights, make a left onto Gaither Road, then almost immediately turn into the second entrance on the right. From the Shady Grove Metro stop it is just a short taxi ride. ■

December StockSIG Meeting

by Morris Pelham
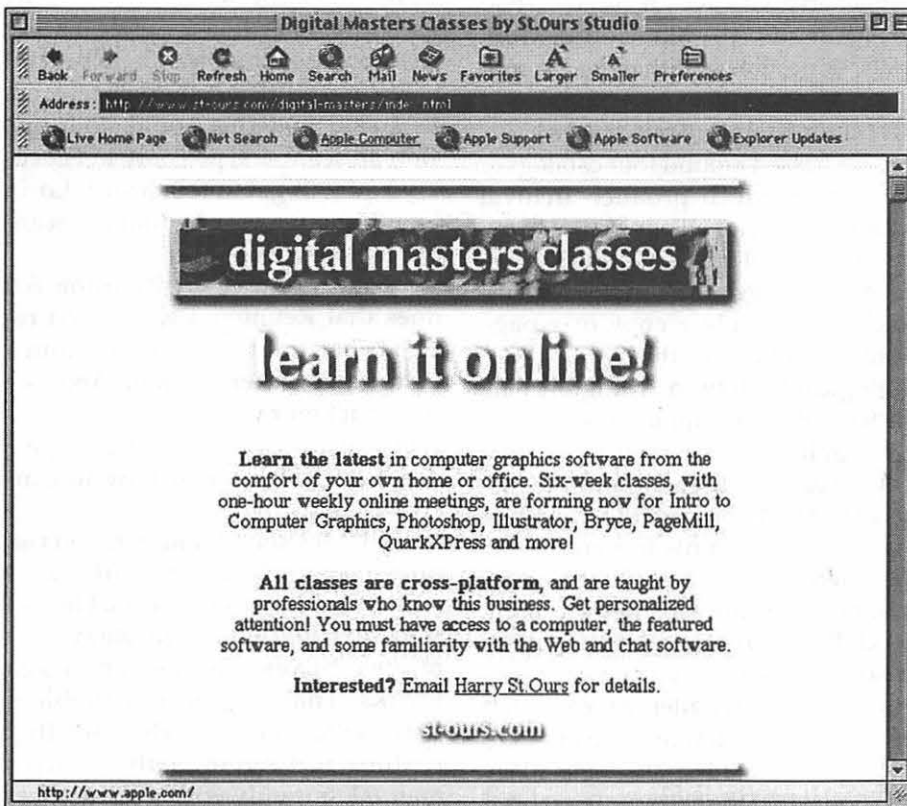
MARK PANKIN brought in his Beating the Dow Strategy for 1998 showing a portfolio gain of 11.5% so far for the "5 lo/10 hi yld."

That's not as good as the 14.6% gain of all 30 Dow stocks.

Even worse news was that both the S&P 500 and the NASDAQ are out-performing the Dow this year so far, up 19.9% and 24.1% respectively.

But the worst news was that a group called the NASDAQ 100 has a return so far of about 80% in 1998.

So, what does it mean? Why is that bad news? It means that the prices of some stocks are getting very high very fast, and that's dangerous.

If you have any questions or comments on this column or others of mine, they are welcome on our TCS, on the StockSIG Online board.

StockSIG meets the 2nd Thursday of each month at 7:30 PM in the WAP office. You are welcome to come and express your views. ■

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by Morris Pelham

I SHOWED up at StockSIG several years ago, when it was run by other people, because I wanted to use my beloved Mac Plus to find out if a book called *Beating the Dow* by Michael O'Higgins told the truth.

The O'Higgins book described how it was possible to follow only the 30 Dow stocks, not the thousands of others, and to invest in those 30, or 10 of them, or only 5 of them, and prosper.

Mark Pankin showed up a few meetings later, volunteered to help, and has ever since done most of the research. And yes, the research has shown over time that following just those 30 stocks and investing in them can be very profitable.

So when an ice storm cancelled our January meeting, I went out and bought the new book by Michael O'Higgins called *Beating the Dow with Bonds.*"

In the introduction to the new book O'Higgins says: "the stock market has declined an average of four out of every ten years in the 116 years since that data first became available in 1881" and "contrary to popular opinion, stocks are not always the best place to be".

And O'Higgins goes on to say that sometimes people should be temporarily out of the stock market, and he thinks 1999 is a year to be out.

He may be right, he may be wrong, but certainly there are some years when it is better not to have your savings at risk. What decision will you make?

If you have any questions or comments on this column or others of mine, they are welcome on our TCS, on the StockSIG Online board.

StockSIG meets the 2nd Thursday of each month at 7:30 PM in the WAP office. You are welcome to come and express your views. ∎

THE MEETING was held on December 8, 1998. There were nine people present.

The meeting started slightly late, at 10:10, because Ed and Mary forgot the keys and had to go home to get them. There was no formal agenda, but just a chance for members of the group to exchange information.

It was noted that Reunion 6 comes on a CD with no paper manual. You can use either Netscape Navigator or Explorer to navigate through the manual. Bill McDonald commented that he had had a problem with Explorer on one section and had been in contact with Frank Leister, the producer of Reunion, to get some help.

Ed Jordan noted that he had sent everyone an e-mail note about a group price for Reunion 6. He had asked Leister about it but by contract he had to refer us to MacConnection. MacConnection said that they would give 10% off for 10 or more people and 5% off for 5 or more purchasers.

Ed passed around four catalogs of companies which produce archival supplies since, for all our computer expertise, we still have papers which we wish to keep in good condition. Mary Jordan had made a copy of a page from the bulletin of the National Genealogical Society in Arlington. The Society sells small quantities of archival supplies.

There was discussion of the status of the film library at the Church of the Latter Day Saints in Kensington. Several members had been there and reported that the facilities are quite good. The church is undergoing renovation, so the library is now housed in a construction trailer in the parking lot. However, films are being ordered, and there are readers available. Mary also noted that the extra material from our LDS speaker was available in a folder; it is primarily downloads from Cyndi's List.

Alden Bestul said that he has a scanner but has not used it. He understands that there is a web site on scanners. Ed said that he had had an intermittent exchange with Dave Harris who gave him a web site in reply to a query on the TCS. The site is <www.scantips.com/>. Several members of the group were talking about scanners and suggested that we ask a Pi member to come to give us a short talk on scanner basics. It was noted that prices have come way down.

Esta Gladstone, a new member, noted that she is in charge of the genealogy for both sides of her family. She has Reunion 4 and is a professional photographer. She scans a great deal of material and recommends Photoshop which just has a new upgrade. She does not find PhotoDelux very good for scanning documents, but Omni Page 8 seems to be good for scanning text. She uses a scanner like a copier, letting it scan a document and then print it. Several other members concurred. Esta said that she would do a session on scanners, possibly in February and will get in touch with Lorin Evans about ensuring that the scanner is hooked up.

Esta asked what Reunion 6.0 does that Reunion 4 won't. Ed replied that the references are much better and easier to enter. You can construct more types of notes and can make personal decisions about how to construct them.

Bill McDonald said that you can now paste pictures on family cards and on family group sheets. He also said that Reunion 6 automatically moves boxes away from page breaks. That had been a problem with earlier versions. He noted that it does not come with a better manual, but only with one which is part of the program. He also com-

mented that you probably would be able to update your information and the program more easily.

Alden noted that he and his wife, Marie, had bought Reunion 6 just before seeing Ed's e-mail notice about a group price! He is hopeful that he can persuade Frank Leister to come down for a small-group talk, perhaps in March or April. Someone said that, if we had enough warning and could get the information into the Journal, we might have a larger crowd which would be nice.

Ed said again that he wants someone to take on the job of running the SIG. He also said that he has some Reunion 5 manuals which Frank Leister had sent him as well as some demo disks. These can be borrowed by any member of the SIG and would be helpful in getting started with Reunion.

In January Bill McDonald will discuss Reunion 6 and Ed discussing the demo of Reunion 5. The group does not meet if the schools are closed; if the schools open late, we will meet, but the group must use discretion about driving in bad weather.

The question of upgrades came up. What happens in the long run? We all worry about not being able to read our old versions of a document. The consensus was that you must be aware of the problem and keep your information current. Mary noted that rag paper and archival file folders and boxes were a good way to keep information for 100 years or so, old-fashioned as it seems. Bill McDonald said that, even more long-lasting, is a slab of stone and an engraving tool.

The meeting adjourned at 11:45.

Respectfully submitted, Mary K. Jordan, Acting Secretary

> "He is hopeful that he can persuade Frank Leister to come down for a small-group talk, perhaps in March or April. Someone said that, if we had enough warning and could get the information into the *Journal*, we might have a larger crowd which would be nice."

Genealogy SIG January meeting

THE MEETING began at 10:10 with 9 people present. Bill McDonald talked about Reunion, version 6.

Bill first demonstrated the manual which uses an on-line browser. You are given a choice of Explorer or Netscape Navigator as a navigation tool. Items in the Table of Contents are links to the extended discussion of a topic. When you have read an item, the color of the link in the Table of Contents changes color. "Overview" gives you just that: an overview of family cards, individual cards and others which are easily created. "Getting Started" leads you through setting up a family history. It is the place where newcomers should begin.

The Table of Contents has a tutorial section which begins with yourself: "Enter details about yourself." If you click on "dates," the program will show you exactly how a date looks.

Bill has found the on-line help much more useful than the Reunion manuals in the past. If you have a spe-

cific question, you can go directly to an item. There are more details and more pictures to help you than in past paper manuals. Also, Bill pointed out, you can go from the family card to the manual by moving from Reunion to Explorer or Netscape Navigator.

Reunion 6 can accommodate pictures on the family card which previous versions could not. Bill scanned his family's pictures into a folder on the desktop, changed coloring and size as necessary before pasting them onto their family cards. When the pictures were scanned, Bill used the full name of the individual as the title of the picture. Bill feels that the best way to store pictures is by burning them onto a CD, most of which hold 600 megabytes.

Bill uses both PICT and JPEG to store pictures. Both can be opened by Reunion, so it is the user's choice. JPEG loses some color and some detail. PICT doesn't lose anything, but it uses much more memory. Bill tends to store a picture as a PICT, but then he imports the picture into Reunion using JPEG since the details are not so important in the small size mandated by the Reunion program. He uses PhotoDeluxe to change the size and resolution of a picture before importing it into Reunion. He noted that a family group sheet will show all of the pictures which are available.

A question was asked about printing out a family group sheet. Bill answered that it was easy to do and did include any available pictures. If the pictures were in the computer as color prints, a color printer would produce colored pictures on the group sheet.

A question was asked about the manual and whether it had to be used on-line. Bill said that it is on your hard drive but you have to have Netscape Navigator or Explorer to access it.

There was a discussion about storing pictures. JPEG, Bill said, is important because it permits you to move pictures between a Macintosh and a PC with Windows. Bill made two further points: PICT stores large files and

thus is better for large format pictures with lots of details and a high resolution. The smaller format to print smaller pictures seems to do better with JPEG.

When talking about scanners necessary for inputting photographs, Ed noted that Dave Harris had posted the name of a web site about scanners on the TCS Genealogy Bulletin Board. The web site is: <www.scantips.com/>. Ed commented that it might be useful.

Bill asked about documenting sources in family history records. Ed noted that he had put Reunion, Version 5, on the computers in the classroom and could demonstrate how he configured his sources. If you looked at one of his ancestors and then clicked on #47, you would see the full reference as he had entered it. He noted that he adds "location" to most of his references since books and documents have come from various places. He

may have a call number of a book from the library of the New England Historic and Genealogical Society but, unless the location of that book is stated in the reference, the call number might be useless. This is particularly true of small libraries which do not use standard numbering systems like Cutter or the Library of Congress catalog numbers.

Ed also pointed out that he had redundancy in his sources; two sources which agree are better than just one. In Reunion 5 there is an "add source" function which allows you to have more than one source for a single piece of information. He commented that there are several ways to get to the list of sources. The program numbers sources automatically. Bill said that he has papers stored in numbered file folders, so he adds the file number to a source when a supporting document is in his possession. While you can construct your own source information, it is not necessarily in a format which you would use if you were writing a book and providing footnotes.

Ed said that "edit sources" is a part of Reunion. He also pointed out that there are templates in the "New Source" and "Add Source" windows. You can use these templates or create your own.

The "print preview" function shows footnotes instead of sources. Bill commented that you would be better off if you printed a family group sheet directly from Reunion rather than through Microsoft Word or ClarisWorks. He feels that Reunion produces a more elegant product.

Ed pointed out that in "Sources" there is a block called "details." If you put page numbers of an article or book in "details," those page numbers will print out in the footnotes. This is particularly useful if a single book contains information, in different places, about several of your ancestors.

Ed has not worked with the

"Memos" section enough to know if "Memo" prints out the way "details" does. However, he thinks that it does not print out so it is useful for notes like "Not sure of this" or "Questionable" or something else you want to remember but don't want printed. It is a good way to jog your memory.

For adopted children, you can go to the original record cards, then to "children," then to "edit" and, finally to "status." There are all kinds of choices there such as "adopted," "twin" and the like. Bill noted that, under "status" there is also a possibility of recording a family pet. We all liked that.

For European words, the standard Mac keyboard can be somewhat helpful. You can create an umlaut (option+u and then, releasing the option key, the letter which requires the umlaut). However, other symbols, such as those used in Norwegian or Czech, are not quite so easy to find, if they exist at all.

Ed also notes his problem with his English ancestors. For Edward Jordan there is no birth or death date. The only dates are baptism and burial. However, you can change the window using the menu, "view," to show only the entries for "baptism" and "burial." The problem then is that, when you change a window for one individual, you change it for everyone.

The meeting adjourned at 11:45. Karen Kyte offered to take the minutes for the next meeting.

Respectfully submitted, Mary K. Jordan, Acting Secretary

Once Upon A Time
History of a Shortcut: why do you drag a disk image to the trash?

by David K. Every

SOMEONE ASKED me via email, "Why do you drag a disk image to the trash? Where did that behavior come from?" When you understand the history, it makes the behavior more clear — and helps people understand why it isn't as inconsistent as people think.

In original Macs you only had a floppy drive and no hard drive. All disk images were removable. Floppy drives were expensive and most people only had one. The normal behavior or "Ejecting" a disk (1) was to eject the disk, but to not forget about the image — you didn't want to have the image of the disk go away, normally you wanted to keep a shadow image of it around on the desktop.

(1) This was the Menu Item "Eject", under the special menu. It had a shortcut behavior of Command-E for eject.

The reason that people normally wanted to have a "shadow image" of disks around was because that allowed users to work with more than one disk at a time. Even though you inserted a new disk you could still see the original (in ghostly form). Since you could still see the original, you could drag files or folders from one disk to the other to do file or folder copies — and the Mac would happily ask you to insert the proper disks (in sequence) to do the copy. This shadow image allowed for "direct manipulation", and most people "got it" right away — it was pretty intuitive. The Mac was smart enough to know that

if you double-clicked or tried to open something that was on a shadow-image, that it would ask you to insert the correct floppy so that it could proceed. It was all so logical, and almost everyone that tried the Mac just loved the Mac because of its intuitiveness.

The Mac way was better than the PC way of typing commands. The Mac way saved users from having some complex copy utility (mode) or a command. Every Command Line (DOS) of the time used a different syntax for whether they wanted the command to be a "TO" as in "copy source [to] destination", or a "FROM" command as in "copy destination [from] source" (without the brackets to give you a clue), so users were usually getting it wrong (not to mention the complexity of pathnames and forward versus backwards slashes and so on). Of course you could run utilities, or set parameters to make things behave differently, just to make sure nothing was as consistent as the Mac.

The Mac way was still a little bit painful on a Mac128. The Mac's floppy had a whopping 400K of storage, or up to 3 times more storage than the 160K (or later 320K) that PC's floppies had. Since the Mac used about 1/2 of its RAM memory for the System and Finder, it only had a little bit of memory left — so a file copy was done 64K at a time, with the machine ejecting one disk and asking you to please insert the other, up to 10 times on a full disk. This got much better with the Mac512's, which had far more memory (512K), and disks could be

copied in a few swaps — but then things got worse again with the Mac 512KE when Apple doubled the disks capacity to 800K (a little while later PC's got 720K Disks, and even started going to the 3 1/2" floppy that Apple had popularized). The "Please Insert Disk X" dialog was a well known site to us dinosaurs that used Macs in '84 and '85.

But there was still a "hole" — what if you didn't want all these "shadows" of every disk that you'd ever inserted lying around cluttering up your desktop? Those shadow images could get confusing and untidy. Each disk image not only cluttered the desktop, it took a little memory away — and with only 128K of memory (in those early days), memory was precious and these images could add up. So sometimes you wanted to eject a disk AND forget about the image. What to do?

Well the Mac needed a separate command called "Put Away" (2).

(2) This was moved to the file menu, since it could be used for files as well as disks. Also I don't think they wanted it too close to the "Eject" to avoid confusion or accidental selection of the wrong item.

The "Put Away" command would move a file or folder that was on the desktop to wherever on the floppy disk the file had originally come from. And "Put Away" on a Disk image would eject that disk AND it would forget about the Image (remove the shadow image from your desktop) — it meant what it sounded like, that you were going to put the disk away (and not use it anymore). Again, all this was very intuitive, and most people "got it" right away. It was logical.

But part of the Macs advantage went beyond just having logically arranged and easy to find menus (with the most common ones have keyboard shortcuts) — though both those concepts were new. The Mac also tried to use direct manipulation (intuitive actions) to make things even easier. You

didn't have to just select the close menu to close a window, you could go right onto the window itself and hit a little close box control — directly manipulating it. The Mac didn't even have commands to move a window, you just selected on the window and moved it directly (with the mouse). And so on. Many common actions had a "direct manipulation" equivalent. So how to do that with "Eject and Forget" or the "Put Away" action? Well the answer was fairly obvious — why not just drag the disk to the trash can (3)? Meaning you want to "trash" the image of the disk (not the data itself). Not perfect — but pretty good.

(3) Remember, you wouldn't want to make "dragging a Disk to the trash" actually erase the disk, since erasing a disk is very rarely used and a very destructive behavior (to avoid accidental data loss you don't want to make too easy to do). So since that behavior wasn't used for anything else (and wouldn't make sense as anything else), and you were trying to "trash" or eliminate the image of the disk (just not the data on the disk) it was the most sensible direct-manipulation shortcut for doing that — and Put Away was a common enough action that you really did want a shortcut. Reasonable compromise when you think about it.

Of course most Mac users would scratch their heads when first told of that shortcut — "that won't hurt anything?" — but it was a SHORTCUT! The proper way was to use the "Put Away" menu, or the shortcut key (added later) for the Put Away menu (Command-Y). The irony is that the shortcut was so surprising that users remembered it immediately. You told people once about dragging a disk to the trash (to forget about the image) and they remembered that behavior, and forgot about the menu or keyboard shortcut — mainly because users were a little surprised that the behavior didn't delete everything on the disk without warning (like other computers of the time would have done,

if they had User Interfaces). So the shortcut stuck, and it was because the action was so curious that it was so memorable — and now no one remembers the real way a disk was supposed to be "put away".

By 1985 or 1986 it was becoming more common to have Hard Drives to do file / folder / floppy copies — and it wasn't worth worrying about direct disk-to-disk copies very often. Later still we got 'removable' hard disks (Syquest's, Zip, Jazz) and CD-ROM Discs — and the drag-to-trash to "Put Away" behavior just carried over.

System 7.5 or Mac OS 8, had far larger removable storage, it was far less common to want to keep a shadow image of a floppy, CD, or removable disk around. Most people that were copying floppies would just copy the whole disk to the hard-drive first, then back from the new disk (from hard drive image) — this was faster than disk swapping anyway. Copying the many megabytes of storage on most removable drives (through a Finder Copy) just didn't make much sense. So Apple finally changed the old behavior — instead of "Ejecting" a disk leaving the shadow image around, the default Eject became the exact same thing as "Put Away".

For a few OS versions you could Option-Eject (or some similar shortcut key) to keep a shadow image around, for those few that still wanted to do that, but when I tried it under 8.5, I could no longer find references or the key sequence to do that — so it looks like the old behavior is gone.

Conclusion

Most people don't remember why things evolved as they did. For a brief while when working on the original System 8, Apple added a behavior where when you selected a disk, the trash can changed to look like a floppy/disk being ejected — the idea was that was more intuitive. I think after a few user studies showed that the Trash can suddenly changing

(whenever you selected or started dragging a disk) was just as disconcerting (or more so) than the behavior itself. So that fix was wisely dropped.

There are some interesting lessons to be learned about legacy and "intuitive" in all this.

1. Bad behaviors are forever

OK, not really, but behaviors do hang around for a lot longer than they make sense. Yanking them away confuses people, so it is often better to stick with a bad User Interface rather than to have to retrain everyone (or field the 1,000's of tech support calls that you will get complaining when you remove something).

2. Inconsistent and shocking can be very memorable

The reason the shortcut (drag-to-trash) stuck, is because it was so shocking and to some seemed illogical and inconsistent at first (but made sense when explained). It wasn't THAT bad, but it was enough of a surprise to stick in peoples minds — so much so that it displaced the proper behaviors (menu command / keyboard shortcut).

3. System Requirements change

What makes sense in the days of $500 400K floppy drives (as primary storage) may be less sensible in the days of a $99 100 MB removable disks. Things change.

Either way, I don't mind the "drag-to-trash" behavior — and think the Mac is a (barely) better system with it. The behavior is somewhat an anachronism but it isn't as bad of interface as people think (or as much as some Anti-Mac people imply). Let's face it, if it was THAT bad then no one would have used it, and everyone would have used the menu or shortcut key sequence instead. ■

Ray Dream Again

by Stuart Bonwit

ANOTHER _interim_ look at that remarkable modeling and animation software package, Ray Dream Studio 5.

I have done several ballet animations, 2D and 3D. So, I decided to try something different. I (naively assumed) would make an animation of a diva singing an operatic aria! The most popular human figure animation package is great for animating the figure in various poses, but it could not put expression on the figure's face. I thought I'd give it a try in Ray Dream Studio 5. It turns out, it is possible but definitely not easy.

Ray Dream comes with a large collection of 3D models to choose from. There are several human figures but only one with movable features. It is an outlandish cartoon face totally unsuitable for a diva. So using primitive 3D forms, extruded forms, lathed forms, and mesh (I prefer to call them "mashed") forms, I created a diva head. See Fig. 1.

Before I embarked on the aria trail, I thought I'd make a simple animation to demonstrate facial expression. The result is "The Wink." Four frames from the animation are shown in Fig. 2. Note that in the third frame with the mouth/jaw open the shape of the lips changed. The lips are really in four parts. Their shapes are created and changed in the mesh form, actually mashed. Under the mesh form, there something called "sphere of attraction." It uses the symbol of a magnet and allows a model to be stretched and mashed in an infinite variety of ways.

The hardest thing to do is a satisfactory rendition of the cheeks when the jaw opens. I'm still working on that. I labored probably two weeks trying to get a rendition of the cheek crease that goes from the edge of the nose to the edge of the lip that you get when you smile. Most of them looked like cancerous growths! One cheek model wasn't too bad but I couldn't get rid of it when the smile disappeared. An instantaneous removal, between one frame and the next, would be too jarring. I tried making the crease transparent when the smile went. However, I discovered that a transparent object casts the same shadow density as the opaque object. This is illustrated in Fig. 3, two frames from a demo animation. I'm sure this is something I am doing wrong or there is a way to get around it. I haven't studied the problem in the 420-page manual.

Now to the diva! To make the diva look as though she was singing the aria, the animation must be synchronized with the music. It is unbelievable how fast words come out of peoples' mouths even when they are singing tor-
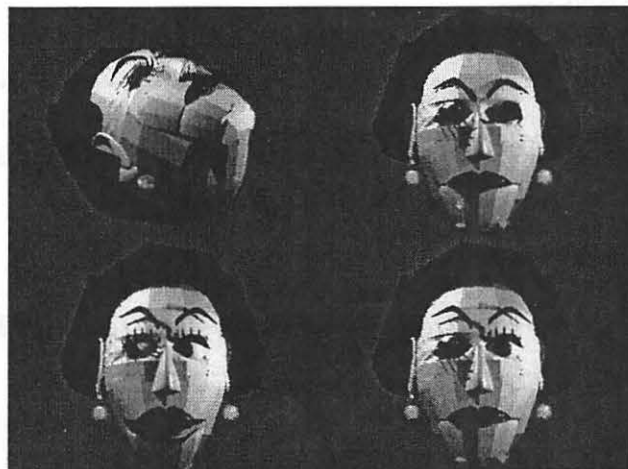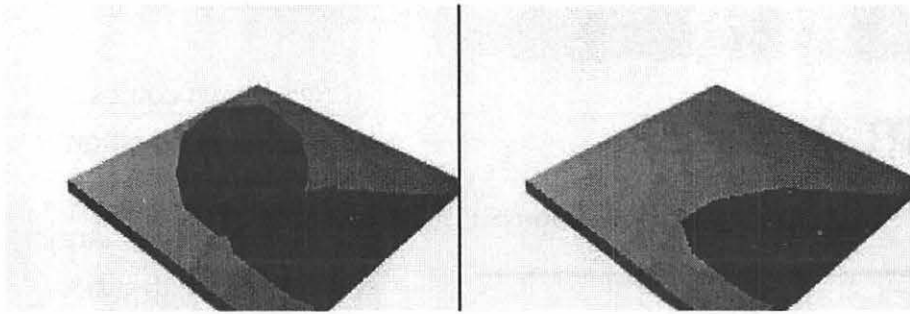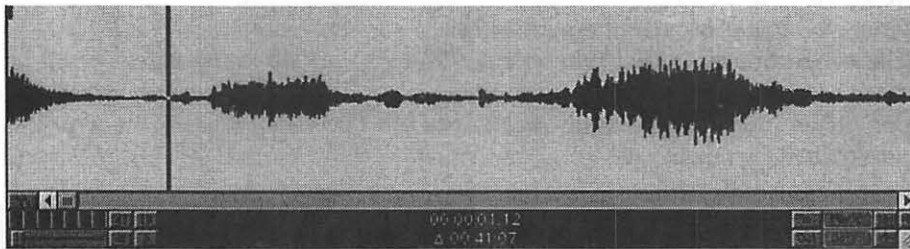
Figure 1.

Figure 2.

Figure 3.

Figure 4.

Figure 5.

turously slowly in an aria. My method for synchronizing the animation is the same one I used for the dancing general. I captured a piece of music into Adobe *Premiere* and displayed the audio clip. A very short section of the clip is shown in Fig. 4. Then I made notations on the printed sheet music of the seconds and frames from the start of the piece of music. This is shown in Fig. 5. The notations above the notes were put in with Adobe *PhotoDeluxe*. On the original sheet music they were scribbled in pencil.

In Fig. 5 at the extreme left above the phrase "vrà" is the notation "00:00." That is zero seconds and zero frames, the start of the audio track. This phrase corresponds to the first cluster at the extreme left of Fig. 4. In Fig. 5 the phrase "Tra" is noted as 01:12 or one second and twelve frames from the start. In Fig. 4 the cursor, the vertical line, is at the start of the phrase "Tra." This phrase is not sung very strong. It is the little cluster just to the right of the cursor. The notation at the bottom of Fig. 4 shows the location of the cursor at 01:12. The total track length is 41:07. The much stronger phrase, "voi," is the next large cluster in Fig. 4 and is noted as 01:22 in Fig. 5.

So far I have made a rough animation of the first four seconds of the sound track out of 41 seconds. I have not "mashed" the lips the way I did in "The Wink."

As I said at the beginning, this is an interim report.

Fractal Design's Ray Dream Studio 5 is a product of:

Fractal Design Corporation
6303 Carpinteria Avenue
Carpinteria, California 93013
USA
Technical Support:
Phone: 408-430-4200
Fax: 408-438-9672
Web: http://www.fractal.com

List price: $299.

■■

Save your Giant Receipts and send them to the office!!

Computer Camp coming to WAP this summer.

Computer Show and Sale date is June 5th.

Electrifier and Tribeworks Arrive; QuickTime 4 and Final Cut Are Near

by Dennis Dimick

IN CONTRAST TO the high-profile public beta testing of last year's QuickTime 3.0, news of Apple's upcoming QuickTime 4.0 has been hard to come by. A perusal of websites dedicated to publishing Macintosh rumors reveals the next release of QuickTime will be distinguished mostly by its "streaming" ability.

Beyond rumor, a few QuickTime-oriented software programs or updates have been announced or released recently, and I'll try to canvass a few here. I'll deal with traditional 2D and motion graphics programs, and leave family-relation QuickTimeVR to another time.

I'll look briefly at Adobe's Premiere 5.1 and After Effects 4.0, Electrifier Pro, Tribeworks iShell, Media Cleaner 3.1, Apple's Final Cut, Indeo 4.4, and Strata VideoShop. I'll also point you to a few websites where you can find fresh information on QuickTime topics.

QuickTime 4.0

Until Apple says more publicly, most information on the next release of QuickTime comes from websites such as www.macnn.com and www.maccentral.com. What they report is that QuickTime 4.0 is supposed to release sometime late this winter, and could arrive as a downloadable file of size up to 15MB.

Apple's iCEO Steve Jobs said during a December education conference that QuickTime 4 would be announced at MacWorld Expo in San Francisco in January, but not a word was heard there.

The next release is said to offer what is called true "streaming" capability that places QuickTime on a par with web live-video tools such as RealVideo and Microsoft NetShow.

Despite QuickTime's superior quality and versatility as a tool for creating and delivering motion video and audio media, Apple has lost prominence in the web space the past year because QuickTime does not stream.

This means, for example, where RealVideo can offer live video feeds from a news event as it occurs, QuickTime files must be saved to disk, compressed, and then delivered later to users. This new 4.0 release of QuickTime should allow Apple's multimedia tool to compete more evenly in delivering live video on the Web.

Adobe Premiere 5.1

Last fall Adobe Systems delivered an updated version of Premiere, its dominant QuickTime editing program. Released last year at version 5.0, users from the start complained about its instability, slow performance, and lack of support for QuickTime 3.0 features.

Happily, this Premiere 5.1 update remedies most problems, but the program still needs a powerful Macintosh to be useful. (I'd say a PowerMac 8500/120 though adequate will be slow, based on experience.) The new 5.1 release finally offers audio compression options that QuickTime has had since version 2.1. Premiere 5.1 doesn't crash as much, operates a bit
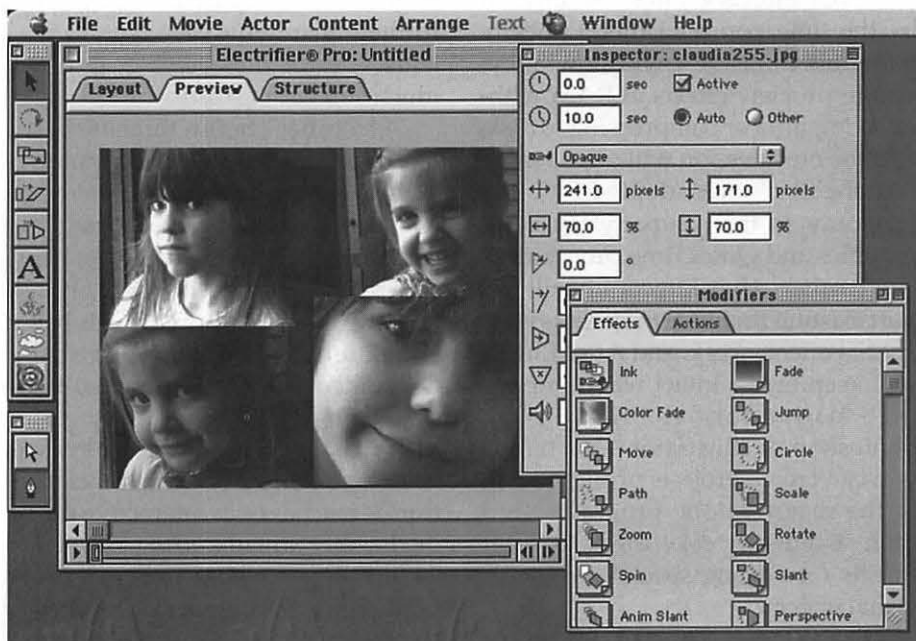
GETTING ELECTRIFIED: Electrifier Software, formerly Lari Software, has released an interesting movie authoring program called Electrifier Pro. It's the first program to take advantage of special effects and filters now offered as a part of QuickTime 3.0 itself.

less slowly than 5.0, and generally has a more solid feel.

It's also now possible to set up Premiere 5.1 to create preview files that can be called upon to speed up final compressions during movie editing. (This was a core quality of Premiere 4.2 that Adobe for some reason forgot to include in the trumpeted 5.0 release.) Adobe also claims Premiere support for QuickTime 3.0's built-in transitions, but this must await release of an additional Premiere plug-in extension sometime soon.

If you've got Premiere 5.0, a free updater file is available at Adobe's website, www.adobe.com.

After Effects 4.0

Adobe announced in January the next version of After Effects, its popular QuickTime-based motion graphics program. Embraced as a tool for creating video special effects, multi-layered looks, and composite images that move, After Effects is often described as Photoshop on steroids, or the motion-equivalent of Photoshop, Adobe's market-leading graphics editor.

After Effects 4.0 may be released by the time you read this. Publicity materials indicate it will now allow you to preview effects in RAM without compiling or compressing to disk, and the new version will offer a more "Adobe-like" look adopted by other programs in the company's suite of graphics and QuickTime programs.

Further, After Effects 4.0 will import existing Premiere projects as is for special effects work, and After Effects will keep layers intact when importing native-format files from Photoshop or Illustrator. This means you can create projects or files in any of the major Adobe programs, and then seamlessly take them to After Effects for adding special motion or visual effects.

Prices are said to start at $199 for After Effects upgrades from previous versions. You can find all the details, and download Adobe Acrobat versions of the publicity brochures, at www.adobe.com.

Electrifier Pro

Electrifier may be the most anticipated and interesting QuickTime tool produced since QuickTime 3.0 itself came out a year ago. Released in December, Electrifier Pro is the first authoring program to fully take advantage of QuickTime's new built-in special effects and transitions, hotspots, and sprite layer.

It's possible to create interactive movies with Electrifier (embed a URL in a movie frame) and you can make movies with a "vector" track that behaves the way Postscript or Illustrator files might when compared to their pixel equivalents. (Vector files are much smaller in size.)

Electrifier offers a timeline-based authoring interface, so you can synchronize time-based multi-layer effects and transitions. Not meant as a full-length broadcast movie-editing program, Electrifier will probably take a lead role in creation of web-based animations where small file size is demanded and QuickTime 3.0 is installed on client machines.

It has been said Electrifier Pro will allow web publishers to turn their sites from static pages to interactive multimedia that streams to users even at 28.8 dialup speeds. The program's publisher, Electrifier Software, already has announced a 2.0 version that will ship in the spring and be free to 1.0 users. This new version will focus on the "live streaming" features said to be a part of QuickTime 4.0.
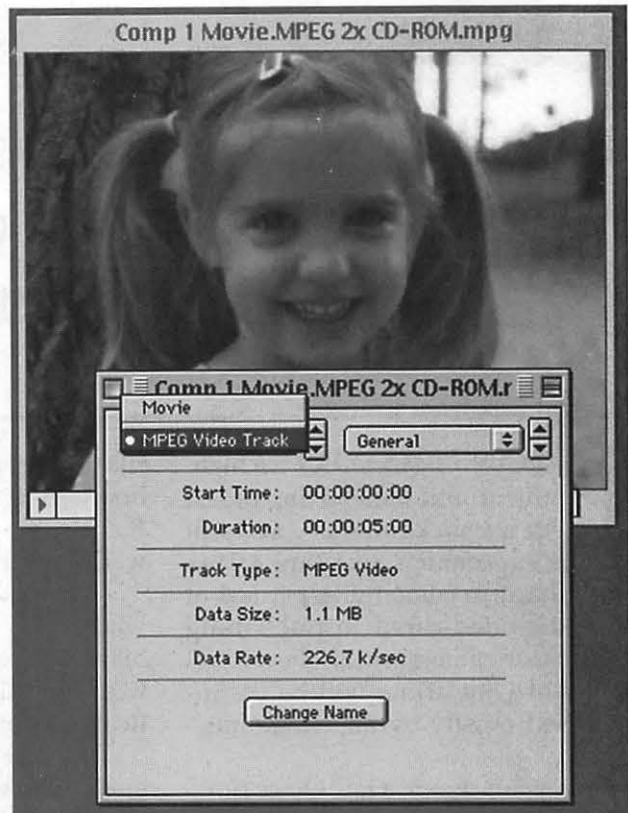
MPEG FROM MEDIA CLEANER: The latest 3.1 revision of Terran Interactive's Media Cleaner Pro offers an integrated MPEG movie exporter. This movie was opened in Apple's Movie Player to show the MPEG data track and data rate (226kb/sec.) You may find some older Macs play MPEG more easily than new QuickTime 3.0 codecs such as Sorenson.

Electrifier Pro is not cheap at more than $500, but if a lively looking web site is part of your program, Electrifier Pro may be right. Lots of details are available at Electrifier's website, www.electrifier.com.

Tribeworks' iShell

A group of engineers who used to work on Apple's late lamented Apple Media Tool have regrouped into a new tribe, come up with a new multimedia authoring program, and a novel way of marketing it. Released in early 1999 and called Tribeworks iShell, the program itself is free. If you want any technical support you'll have to pay $2,000 a year.

Tribeworks is serious about the free part, and you can download this QuickTime-dependent authoring tool

from their website. A hefty set of documentation is available also in Adobe Acrobat format. You will have to register to download, and must register the iShell program again once you have got it if you want to keep using it. Details are at www.tribeworks.com.

Media Cleaner Pro 3.1

Terran Interactive's movie compression program keeps getting better. Last summer a 3.0 offering with much improved interface and batch compression came out. Version 3.0 offered extensive support for QuickTime 3.0 compression features. Terran has upped the ante in version 3.1 by including an MPEG movie export module from HEURIS, and this is a free ($10 shipping) upgrade to those who already have 3.0.

MPEG support is in addition to existing RealMedia export and QuickTime compression schemes such as Sorenson video, Qdesign and QualComm audio. This MPEG exporter is a basic one, and doesn't allow a lot of specialized configurations. This tool, which costs $99 separately when bought from HEURIS, will allow you to prototype attractive MPEG from QuickTime source material.

My own experience reveals that MPEG often plays more smoothly on lower-end PowerMacs where QuickTime Sorenson Vision will stutter. I can play MPEG movies on a PowerBook 1400/166 where QuickTime Sorenson movies of same frame size and rate will be jerky.

(A new version 2.0 of the Sorenson codec was announced at MacWorld Expo, but nothing was said whether the upgraded codec will be included in the next revision of QuickTime. One hopes this updated version will play more smoothly on machines of lower power.)

Terran, who also markets a developer edition of Sorenson and the HEURIS MPEG tools, also has recently released an extensive web-based movie authoring and compression white paper called "How to Produce

MOTHER OF QUICKTIME: Apple's web page for QuickTime is a great place to start if you're looking to find out about getting the most enjoyment and productivity from Apple's excellent multimedia technology. Watch this web page for information on new QuickTime releases and other tools. The address is www.apple.com/quicktime/.

High-Quality QuickTime." Details for all Terran's offerings and related tools from other vendors are at www.terran.com.

Final Cut

Those who have followed the career of Randy Ubillos know originally wrote Adobe Premiere, and enhanced it up through version 4.0. Ubillos was lured away by Macromedia on the promise of producing a video editing software that would redefine what can be done with computers.

It was I think in 1996 that Ubillos and Macromedia demoed a prototype "Final Cut" software at the National Association of Broadcasters' meeting.

Since then nothing was heard from Final Cut until late last year when Apple bought "undisclosed digital video" assets, including Ubillos' talents, from Macromedia.

Lo and behold, Steve Jobs at MacWorld Expo in San Francisco did briefly mention that it finally plans to release the program as "Final Cut Pro" sometime this year. No pricing or specific features were mentioned. One wonders how it can compete in the market space already dominated by Adobe Premiere and other DV editing programs like Radius EditDV. Maybe Final Cut Pro will undercut the others in price. Apple has posted a web page with some background and it can be

found at www.apple.com/finalcutpro/.

Indeo Video 4.4

For years Apple users have complained of being unable to play Indeo-compressed AVI movies under QuickTime. Indeo compression-decompression tools have constantly lagged on the Mac behind their Windows counterparts.

This may have changed a bit in January, as Intel released the Indeo 4.4 codec for Mac QuickTime Pro 3.0. This will allow Mac users to create Indeo 4.4 movies, and also to play back Windows Indeo 4.4 movies. That said, users already report you must keep older Indeo codecs on your Mac as the new 4.4 is not necessarily backward compatible with older AVI movies. Information and downloads can be had at www.apple.com/quicktime/.

Strata VideoShop

Editing program VideoShop began life with Diva, later moved in with Avid, and for two years or so has been living with Strata. First-generation PCI AV PowerMacs such as the 8500 came with a free copy of Avid VideoShop 3.0.

Since VideoShop was taken in, 3-D specialist Strata of St. George, Utah has upgraded it twice. Now up to version 4.5, Strata VideoShop uniquely offers support for QuickTime 3D tracks and MIDI. The latest version, quietly released in late 1998, is said to support Mac OS 8.5 and QuickTime 3.0 features.

VideoShop's multi-owner heritage has made it feel (for me) as if the program was cumulatively bolted together without great concern whether the sum is greater than the parts, or whether the program is functional. The effects of a child being passed from home to home definitely show here.

I have paid to buy or upgrade this program since version 1.0, and am afraid I am through doing that. VideoShop is inscrutable, I'd say the only way to fix it may be to discard

the program, keep the name, and start over. My experience with VideoShop is through version 4.0. I hope Strata radically rebuilt it in 4.5, but based on what I have read, I'm not encouraged. For my money the 4.5 update should be free to anyone who paid for 4.0.

For example, PICT files used in VideoShop must be imported in millions of colors and then one-by-one converted to QuickTime movie format before they can be placed in the timeline window. Trying to change the time length of an imported PICT is nearly impossible once you have imported it.

Transitions must be compiled to disk at the moment you create them in editing. Though this makes final compressions faster, it makes movie composition and editing glacial, especially if you make changes along the way, or you discover transition length or look is not what you wanted.

Further, in version 4.0 it's not possible to drag a video clip from one timeline window video track to another. You must re-import the file into the movie timeline window from the "file bin." That said, VideoShop's design does not even allow you to (logically) place sequential video clips in adjacent A-B tracks and then place a transition between. Instead, you place clips end-to-end, then lasso adjacent ends with a selection tool, apply a transition, let it compile, and hope you have created the effect desired. If not, start over.

Mac programs are supposed to be easy to use. Try as I might, I have never been able to grasp the logic, or lack of it, of this one. Maybe for you it will be different.

Upgrades to VideoShop from version 3.0 and earlier run about $200, and if you already have 4.0, your price will run about $90. If you find yourself considering Strata VideoShop at full retail price of $495 or so, buy Adobe Premiere instead.

Information on VideoShop can be found at www.strata3d.com.

QuickTime Websites

Anyone working in digital media creation needs an Internet connection. Most companies have moved their product information to the web, and if you want to find out what is happening in this field, you need to "surf the web."

If you want to keep up on the world of QuickTime, check several websites regularly. These include Apple's QuickTime site, www.apple.com/quicktime. Here you can get the latest version of QuickTime, and find links to new programs, resources, and movies created with QuickTime.

Terran Interactive of San Jose, creator of media compression program Media Cleaner Pro, has one of the most informative websites on topics of digital video creation. Go to www.terran.com. Likewise, Adobe Systems' site is rich with information on QuickTime tools and techniques. Go to www.adobe.com.

Judith Stern and Robert Lettieri, who wrote the online documentation for Apple's Movie Player (www.apple.com/quicktime/) also have a web page updated weekly with all the latest news and links about QuickTime. Go to www.bmug.org/quicktime.

If all else fails and these resources don't satisfy your curiosity, do as I do: go to www.yahoo.com or your favorite search engine and type "QuickTime" into the search field. ■

Pi member Dennis Dimick has been writing on QuickTime and graphics topics for the Journal since 1992. He works as a magazine photo editor and has taught documentary photojournalism at workshops sponsored by the University of Missouri. He made his first QuickTime movies using a Mac IIci and a SuperMac VideoSpigot board. He can be reached via email: ddimick@aol.com.

A Not So Impartial Review of Microsoft Internet 4.5, Macintosh Edition

by Al Lubarsky

AFTER LESS than a month of using the Microsoft Internet 4.5 package for Macintosh, this user is still as enthusiastic as ever. Absolutely the best *free* packages available anywhere—no strings attached. Of course, this reviewer was reasonably swell-satisfied with the previous editions of Internet Explorer and Outlook Express, too. It may be difficult to explain this in a *Journal* that often refers to Microsoft as the Evil Empire and in just the last issue, had its Lab trying to dump these superior applications from a borrowed iMac in favor of *Netscape* and *Eudora*. Makes about as much sense as dumping the other Explorer (Pi's) in favor of AOL. No accounting for taste!

First about the Browser Wars

When landing in the anti-Microsoft camp, it sometimes helps to bring up the big guns first. Sort of gives some creditability (probably not much). Allow just a couple of shots from David Pogue in December 1998 *MacWorld*. After a lengthy treatise, his comparison of *Explorer 4.01* versus *Netscape 4.05* concludes that the choice is *Netscape* for speed and *Explorer* for features. He could have been correct, but in the few trials made in support of this article, *Explorer 4.5* consistently loads much faster and downloads Web pages at about the same speed as *Navigator 4.06*. While this test program was carried out on a Power Macintosh 6100/66, with 72MB of RAM and a 33.6 kbps modem over WAP Explorer

during "non-busy" Internet hours, it is not claimed to be scientifically structured, statistically sound or even repeatable by anyone else—but feel free to do your own comparison.

In so far as the features, the *Netscape* bookmarks features don't come close to the flexibility exhibited by the *Explorer* Favorites menu. Even after inadvertently trashing a well-edited Favorites list, it was possible to rebuild almost all of it from the list of sites visited during the past several months contained in the History file. There are shareware fixes and patches

to make *Netscape's* bookmarks almost as useful, or at least there were some back in the 2.01 days, when *Netscape* was the only Mac game in town, but why resort to that now? Pogue also mentions the *Explorer* text enlarging buttons, but truthfully, they have never been needed here; perhaps using well-fitted trifocals is the solution. His article also mentions stability versus crashes. *Explorer 4.5* has yet to crash on my machine; there is always that possibility, perhaps even before this article reaches you. On the other hand, *Navigator 4.06* occasionally freezes the machine while loading, but admittedly, not as frequently as past editions.

By far *the* best Explorer feature, the one that may serve to save the entire endangered specie of "two fingered, hunt and peck keyboarders," is the AutoFill Profile. Just fill in your "vitals" one time, and watch this feature zip through all your registration, order, contest and whatever other "requests for information" that confront you from day to day. A solid winner. The Print on One page feature works
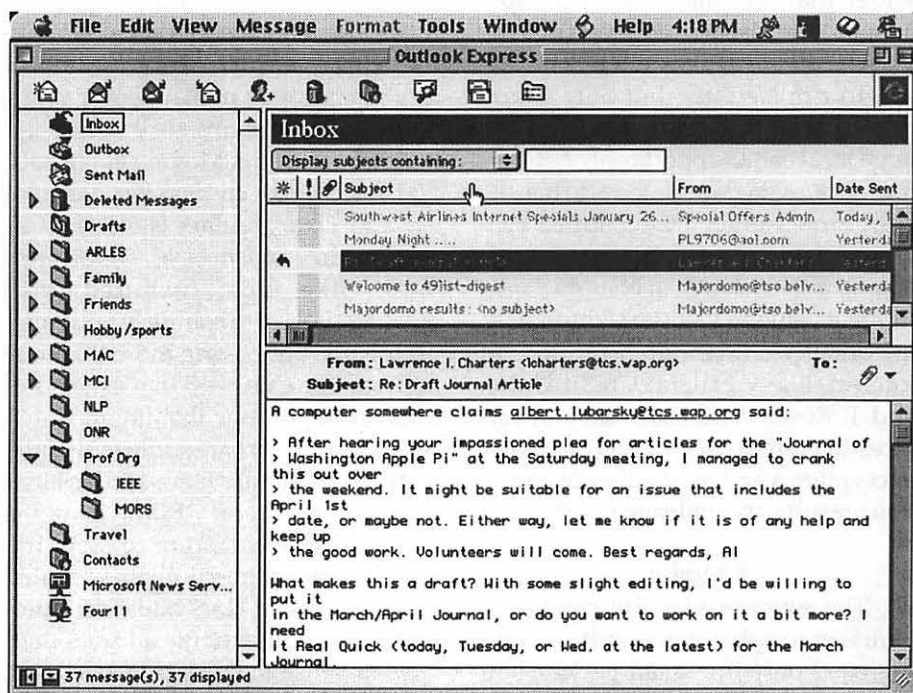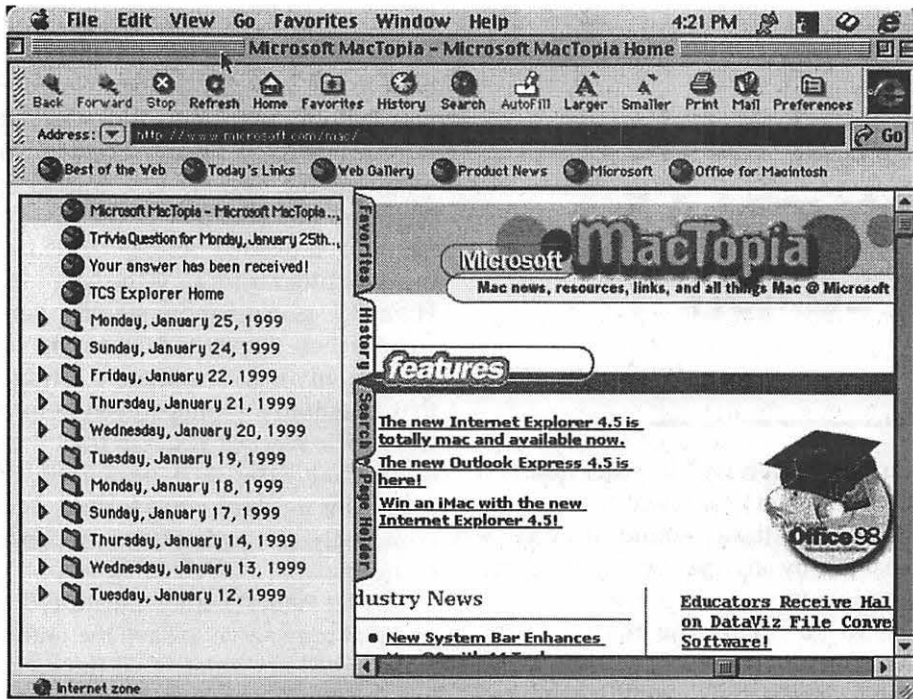

Figure 1. Three pane view

Figure 2. MacTopia page, with Explorer History folders on the left.

well with this setup and has already conserved at least the equivalent of one small tree when printing Web pages that seem to be purposely designed to run about a quarter inch wider than the maximum printable area on the LaserWriter Select 360.

Of course, there is at least one reason to run *Netscape*, but only if you don't want to change banks. Yes, one large local bank supports only *Netscape* for Macs, even though they do handle both browsers for PC-equipped customers. Is someone that writes for this *Journal* also in charge of NationsBanks Internet banking Website? Fortunately, the other two financial institutions of interest, Navy Federal Credit Union and T. Rowe Price have Internet services that are content with the 128-bit encryption version of either browser. Your results and mileage may vary.

E Mailer

The reviewer's level of experience here is somewhat more limited. Having used only *free* email packages in the past, it isn't possible to get into a detailed discussion about the merits of *Eudora Pro, versus Outlook Express (OE) 4.5*. However, in a comparison of no-cost apples (awful pun), neither Claris *E-Mailer* nor *Eudora Light* come remotely close to offering the type of mail service available on *OE 4.5*. Filtering rules are as simple or complex as you choose to make them. Folders and sub-folders are easy to set up, maintain and edit. Moving email back and forth between desktop file folders and email folders is straightforward, unlike *Eudora Light*. The address book, like most included with emailers, is easy to complete with pop-up menus, but having more than one address book on a system seems impractical, and none that are included with free emailers are sufficiently fully featured to handle large address lists or otherwise act as a PIM. Using the *OE 4.5* Contacts feature to store frequently used names with their related email addresses does allow for automatic completion of the address line.

For those that are true Microsoft believers or have some other reason to have *Word 98* installed, there is the automatic spell check — either as you type or with control-click access to contextual menus for synonyms and almost any other *Word* feature and— if all else fails, the traditional document spell-check. Even without experiencing these features on *Eudora Pro*, it is hard to imagine why anyone using *Word* would desire a second dictionary that needs customizing and maintenance, etc. A computer designer might find having three independent word lists with majority rule logic to be intellectually appealing, but isn't it difficult to build a compelling case for keeping two?

One new feature included within *OE 4.5* is the "three pane view" that allows mail file folders, folder contents and email text to be viewed at the same time. The Microsoft blurbs describing this, carefully avoid the phrase "within the same Window," possibly to keep Mac users from labeling the feature as a pain. Either way, when compared to *Eudora Light* or *Claris E-mailer*, a big improvement, especially since folder contents are now coded to show status (unread, read, forwarded, etc.)

Once the email is opened in a full screen, the Auto Text Clean Up menu selection may improve its legibility, at least in some cases, by filling lines and text wrapping. Along with colored quotes, that may make it easier to follow threads or conversations, the claims are somewhat better than the performance. Straggling and orphan lines seem to get a different color more often than do quotes, but perhaps with more experience, this can be avoided.

When preparing a new message, one of many personal signatures can be chosen, rather than one of the two in *Eudora Light*. After creating an email message, users now also have the option to Send Now, Send Later or Save as Draft. With these new Send options, users can control when to send messages. Attachments can also now be coded (and fortunately decoded, too)

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Installing

So much for the "using" part. Now that you're convinced to try **Microsoft** *Internet Explorer 4.5*, it can be downloaded from Microsoft's new site, "MacTopia." One just assumes that no Empire, Evil or otherwise, could exist in a place with such a façade. Right?

The installer file in MacBinary is 11.0 megabytes, which on an average day via TCS Explorer with a 33.6 kbps modem might take about 2 hours. While you're at it, might just as well go back for the *IE 4.5* 128-bit encryption, which at 656KB shouldn't take more than another 5 minutes. That's the only hard part. The Installer uses Drag & Drop Install, so just decide which folder and hard drive deserves this jewel and it is in.

For the more ambitious, *OE 4.5* is

fully scriptable in all functions - including all areas of email; even contacts can be scripted by users. Several sample scripts are included. The one needed, that is sorely lacking, would disconnect the telephone connection automatically after downloading new email or being informed that the user's mailbox is empty—a standard feature on *Eudora Light*. So far, no luck in making a script work, but there are probably lots of readers who will do better at it. Both *IE* and *OE 4.5* are also self repairing—the equivalent of new extensions are generated each time the application is launched, rather than storing a multitude of items that are prone to corruption. The same feature is used in *Office 98*.

All in all, the new Internet package is very Mac-like in most repects. For those using Microsoft *Office 98*, the Internet package can be included in the Office Manager menu and pretty well completes a useful small office suite, although those with experience with *Outlook* on PCs might wish for a better scheduling and information management system in the future. For those not yet convinced, this may be the last Mac offering from Microsoft as we currently know it, depending upon the upcoming decisions on the Empire's future direction. ■

Al Lubarsky has been a WAP member since 1995, when he retired from the Department of Defense. His first computer-related employment concerned systems integration of the AN/FSQ-7, a portion of which, complete with vacuum tubes, is currently on display at the National Museum of American History. It is untrue that he in fact told Orville that it would never leave the ground, but he has been referred to as an orthogonal thinker by more than several famous, or at least near famous, ADP, IS and IT professionals since then.

Final photo—see page 19

The new blue and white 17" Apple Studio Display (designed to match the new "Power Macintosh G3 blue and white") has a nice, sharp picture. Almost as impressive as the picture is what is on the screen: JetMoto2, a Sony Playstation videogame, loaded from a CD-ROM and running on the Power Mac using Virtual Playstation, from Connectix. (Photo by Lawrence I. Charters)

The Complete National Geographic
109 years of history on 31 CD-ROMS

by John Barnes

A CERTAIN fascination with the *National Geographic* magazine has its roots in my childhood. The pages of the yellow volumes made for fine reading in the waiting room of many a dentist, doctor, veterinarian, etc. There are any number of newspaper stories featuring eccentric recluses who died surrounded by complete collections of the magazine. The magazine seemed to be a particular thing for pack rats.

I dimly recall several boxes that were deep-sixed in various moves that my own family made. Let's see: at perhaps 800 issues or so over 109 years, with each issue about 1/4 of an inch thick, a crude guess is that a complete collection would occupy something over 15 feet of shelf space.

Well, you can easily see why I was attracted when I saw an ad for the complete set of *National Geographic* in a handsome wooden case about a foot wide. The box contains 28 CD-ROMs, which hold every issue *of National Geographic* magazine between issue number 1 in 1888 to volume 192 number 6 in December of 1997. The CD-ROM for 1998 should available soon. There are also some sets available for single decades. Check the National Geographic Society (hereinafter referred to as the NGS) at http://www.nationalgeographic.com.

My sister took the strong hint and, sure enough, the package showed up under the Christmas tree. I could hardly wait to pop the first CD-ROM into my PowerBook and see what wonders would be revealed.

Figure 1.

Installation, Startup, and Navigation

The little printed user's guide that comes in the box states that one should use the CD-ROM for 1997 to do the installation. The 1997 CD-ROM seems to have been created later than the others, so that it is worth paying attention to this suggestion. The installer application puts 28 megabytes of files into a folder on the user's hard drive. It is not clear whether the application is PPC native or Fat. In this day, when CD-ROM titles for the Mac seem to be going the way of the Dodo Bird, I was grateful to find one that worked reasonably well and that had interesting content.

Once installed, the application refuses to launch unless one of the CD-ROMs are mounted in the drive. I find this kind of stupid because it is likely that the subject that I am looking for is on another disk, and I will have to go through a painful eject and reload sequence. Having a CD-ROM jukebox does no good whatever because the application does not recognize more than one drive. Using pre-mounted images of the CD-ROMs is equally futile.

On first launch the application runs through a somewhat annoying

Figure 2.

QuickTime movie that is nothing more than an ad for Kodak, one of the NGS's partners in producing this set. A mouse click is enough to stop this nonsense on later startups, so it is not too annoying overall. There are whole bunches of these ads on the various CD-ROMs, and it is actually kind of fun to look at them with MoviePlayer.

Figure 3. Search Engine

Figure 3. Search Engine

Figure 4. Search Results

The opening movie gives way to a "sign-in" dialog that allows the creation of saved sets of search results and bookmarks for later retrieval.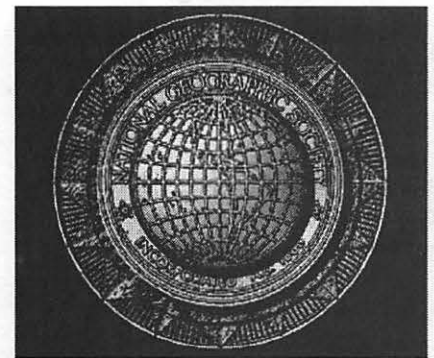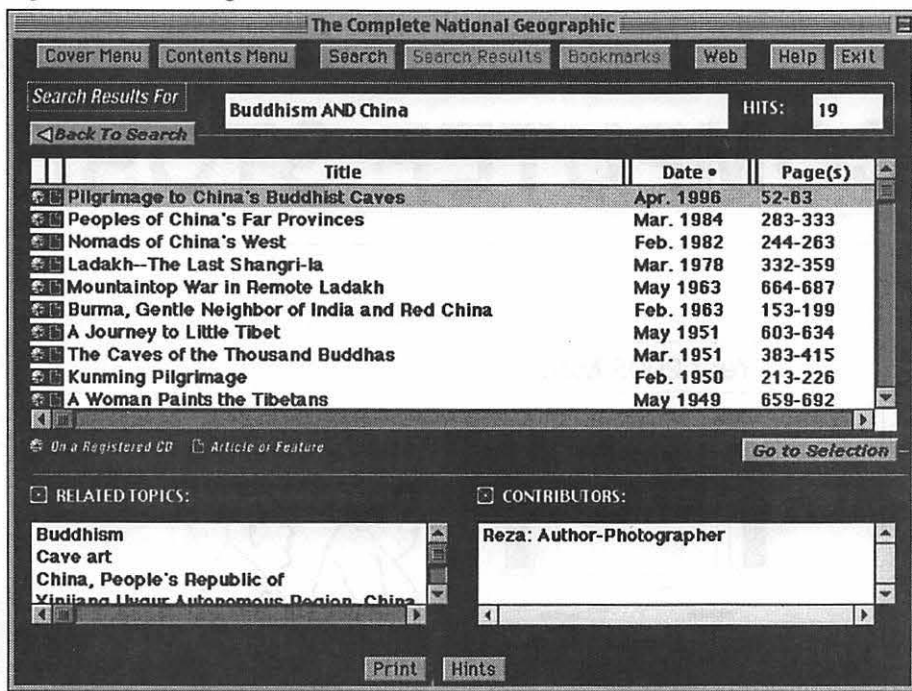 Once one gets to the actual content of the CD the first thing that appears is a navigation screen containing thumbnail images of the first 12 magazine covers for the decade that contains the mounted CD-ROM. The covers are mainly for looks, especially since sensational cover photos are a hallmark

"Having been a little rough on the publishers over the design of their product let me now say that having access to this treasure trove is a real joy."

of the magazine in recent years. Clicking on a cover corresponding to an issue that is not on the mounted CD-ROM brings up the "switch disk" dialog. I find this to be a design flaw. It would be more sensible if these displays were limited to items from the mounted disks.

All in all, navigating the information in the set is something that takes a bit of getting used to. This is consistent with the fact that Mindscape is the principal production and marketing partner in this effort and they have never learned how to design these things properly.

Searching—the best way to get to the meat

The best way that I found to access the content of the collection is through the search engine. The database that is installed on the user's hard drive spans the entire 109 years. Figure 3 shows an example query and Figure 4 shows how the search results appear in the navigation window. I am somewhat concerned by the quality of the indexing because I was unable to find search terms that yielded any results in 1997.

It does not take long to discover that the magazine pages are photographic reproductions rather than electronic documents. The pages are stored as JPEG files on the CD-ROMs. There is no hypertext linking articles, nor is there any searching for text

within them. The only practical way to read the articles is to zoom them up to full screen and leaf through them. Printing them out also works, but be sure to print in black and white unless you like to buy color ink cartridges. The quality of printed color photos is very good, but they do use up ink rapidly.

The two main windows that the user works with are the navigation window and the zoom window. The latter appears only when an article is zoomed to somewhat more than life size. The only other zoom setting is less than life size so that a double page spread fits into a 640x480 screen.

Reading articles under these conditions is a little tedious. When doing a real research project it is possible to bookmark articles and save search results. Getting to the actual content requires swapping disks. Perhaps the DVD-ROM version is better in this regard.

The web link tool that is supplied uses an ordinary browser to link to an NGS site that contains some added material in the way of maps and perhaps other stuff, but this linkage has nothing to do with article content.

The Joys of Geography

Having been a little rough on the publishers over the design of their product let me now say that having access to this treasure trove is a real joy. The history of the society, dating back to Alexander Graham Bell, has spanned truly fascinating times in the history of the human race and the NGS has been in the thick of recording the changing ways in which our race interacts with Spaceship Earth.

It is really interesting to see how their publication evolved from its birth as a staid and pretentious scientific journal into a lively, but still serious, chronicle of the varied terrain, flora, fauna, and human foibles of our world. Reaching out to a mass audience in this way was a deliberate decision taken very early on. It seems to

have been successful. How well the NGS can compete with other content providers in today's media-sated world remains to be seen.

From its dry recording of geography, *National Geographic* has moved to penetrating analysis of political and environmental issues. There is hardly any discovery of consequence in the area of physical or political geography or anthropology that has not been captured by a *National Geographic* author or photographer. While the photos do not come alive on the computer screen in the way that they do on the printed page, the effect is nonetheless often stunning.

I am a little disappointed that NGS has not placed the many fine maps that they have provided over the years in this collection. There seems to be a separate product for these that is, sadly, only available to Windoze users.
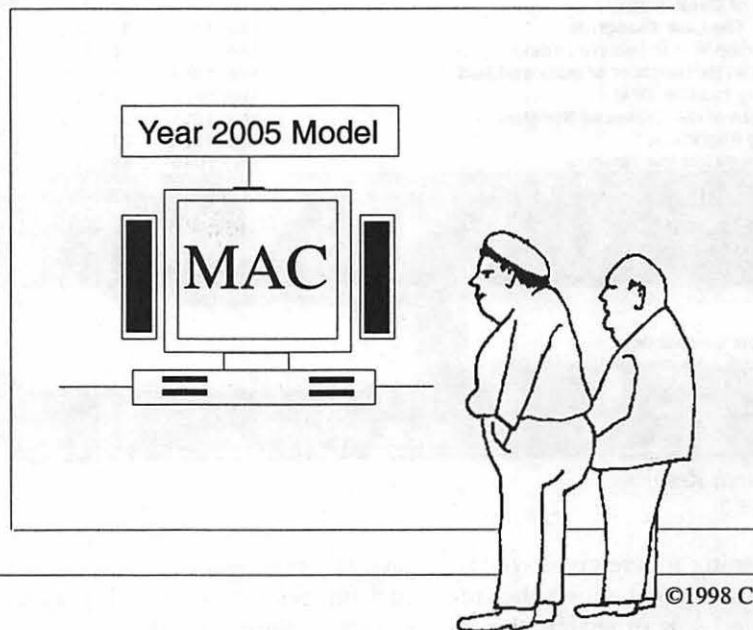
I have already spent many enjoyable hours with this collection. I am finding it an invaluable tool as my wife and I broaden our travels. Thank you, Sis. ■

COMPUTER STORE

Year 2005 Model

MAC

©1998 Charlie Stancil

This G7 Mac_ **is_** 14 times faster but I'm still getting the Pentium anyway cause Apple could still go out of business.

Connecting Grief and Blue Macs

by Lorin Evans

IT IS DÉJÀ VU all over again for long-time Macintosh users. If you lived through the trauma of understanding why parts on your recently acquired Mac 128 or 512 would not work on the new Mac Plus, smile and relax. Watch today's Mac owner try to divine the impact of an upgrade from any recent Mac to either an iMac or the new Blue G3.

The changes taking place both inside a Macintosh and outside with the devices you attach to it are a major departure from traditional Macintosh architecture. Choice will be yours in a whole range of peripherals. No longer will you be dependent on Apple for input devices such as keyboards, mice, and joysticks (for gamers). More choices will be yours for printers, scanners and storage devices. Let's take a quick tour across this rich new terrain. Your vocabulary will grow as you learn about USB, FireWire, IEEE 1394, and other such stuff. You will understand how USB and FireWire complement each other. Finally, we will take a peek inside the new Blue PowerMac G3 and compare it with its predecessor to see how all these changes come together.

Ah, The Good Olde Days

It used to be that all you had to know when shopping for attachments was that you owned a Macintosh. Given that, you could only use one kind of keyboard or mouse. You were told that your hard drive was a SCSI device as was any peripheral you attached to your computer. You might have heard that your keyboard and mouse were connected via the ADB bus. But, you really did not have to know that; just say Mac and you were all set. Need a printer? Just say Macintosh and the salesperson knew that you needed a serial printer. Your Mac had two serial outputs for things like modems and printers. True, your choices were more limited than your PC friends, unless you wanted to spend additional money for a parallel-to-serial interface. You did not have many choices in your external devices and they were more expensive than those available to your PC friends. Never mind that your peripherals moved data faster and lasted for years. They cost more.

You are now desirous of moving more data than ever before, from more contraptions than ever before and sharing that larger volume of data among more peripherals than ever before. Your Mac had too many input or output methodologies that are reaching the end of their utility. Apple could have developed new ones in-house. Apple needed to drive down the cost of its computers (or lower its profit margin) in order to reduce a major irritant with consumers. One way it could do that was to adopt more industry standards for its peripheral devices.

Attaching Little Stuff

The Apple Data Bus (ADB) was developed in-house by Apple as a way to provide a uniform interface through which to attach devices such as mice, keyboards, and adaptive firmware devices. It could power devices; that is why some modem manufacturers created modems that obtained their juice by connecting to the ADB bus. ADB has potential in it that has never been tapped by industry, much less Apple. But you want to connect many more kinds of devices today: digital cameras, game pads, joysticks, etcetera. The fewer the companies using this versatile interface, the more costly the pieces. ADB was offered to the computer industry, but only NeXT bought rights to it. So, to lower the cost of input devices, the iMac broke new ground by adopting an input standard that was growing in acceptance in the PC world—one called Universal Serial Bus or USB.

Welcome USB

Our learning curve aside, there are lots of good reasons to welcome the move to USB as a royalty-free way to connect the proliferation of external devices to your new Macintosh. Let's start with the basics. USB is a multiplatform standard adopted by the personal computer industry. It is ideal for any device not requiring the movement of vast amounts of data. It makes it possible for you to choose from a much wider range of attachments (given that the vendor provides the appropriate small driver or it is already in your system software). For manufacturers, this means a broader market for the same product; for you, it should mean greater choice and lower cost for these devices.

If Some is Good, Can One Be Better?

Yes it can. Why have one methodology to connect your keyboard and another for your printer or modem? Why not combine them via USB and still further simplify this whole process. You can. You will use the same serial bus for both inputs from small devices and output to your printer.

How Many Devices?

Lots. An ADB bus can accept

seven devices. I have a cooperative school project wherein six keyboards (and one mouse) are strung in series to one computer. Six students compose a story, each adding one sentence at a time. Try it some time—better yet, try it via USB. USB supports up to 127 simultaneous connections! This is accomplished via a small device called a hub which contains some number of input connectors called ports. What is really neat about USB is that you can mix input and output devices (keyboards, digital camera, small storage devices, printers, modems, etc.) on the same bus.

Speed of data along a USB bus is significantly faster than via ADB. An ADB connection moves information at 10 kilobites per second; the serial printer port on your Mac typically pushed data out at 230 kilobites per second. A low-speed USB moves the same information at 1.5 megabites per second. That is hundreds of times faster! This greater bandwidth can translate into better quality imaging and multiple devices operating simultaneously.

What else?

How about being able to connect and remove devices while a computer is running? The industry calls it "hot-pluggable." Now you can share equipment. Another nice feature is that you no longer require terminators, need to assign custom ID numbers, or special memory address settings. Think one type of cable; out goes that tangle of multiple styles of connectors, not having the combination for a particular need, or acquiring a new peripheral with yet another new "standard" connector.

And My Old Stuff?

Don't worry. Where there is money to be made there will be vendors to help you. To connect a non-USB peripheral such as a scanner or printer, you will find lots of third party solutions. Products include Farallon's

iPrint SL, which enables a USB equipped Mac to connect directly to the serial input of your existing printer <www.farallon.com>. You can also use the Stalker Software's PortShare Pro and SCSI Share software <www.stalker.com>.

Attaching Big Stuff

For the longest time, a Macintosh hard drive was a Small Computer System Interface (SCSI) device, as was your scanner, ZIP drive, etc. SCSI is a faster methodology for moving data than is IDE. It is far more elegant when it comes to attaching and exchanging data among additional devices. Unfortunately, it is also more expensive to implement than IDE. So, to lower the cost of your Macintosh, Apple began the switch to IDE internal drives with the 580 series computers. Later, the CD-ROM drive was changed to an IDE interface. By now, the emphasis was on increasing the data transfer rate among peripheral devices. A methodology was needed that was significantly faster than either IDE or SCSI.

Welcome FireWire

Apple recognized the need for a faster data exchange rate than was available from any of the SCSI methodologies. It recognized the limitations of SCSI: the need for termination, ID numbers, cable length, and an inability to swap drives while the system was running. It also recognized that "not invented here" is a reality. Apple developed ADB, and while an elegant way to connect slow devices, was created by Apple and few others would touch it. Give Apple credit. Apple offered the methodology they developed and named FireWire to the Institute of Electrical and Electronic Engineers (IEEE) as a standard in hopes that it would become more universally accepted. IEEE Standards is a world leader in the development and dissemination of voluntary, consensus-based industry standards involv-

ing today's leading-edge electrotechnology. They perform an important service by supporting international standardization and encouraging the development of globally acceptable standards. Skip the technical and political hurdles FireWire had to overcome. What emerged from all the dancing was a standard known as IEEE 1394. Unlike USB which is royalty-free, FireWire contains proprietary components that are owned by Apple.

FireWire is the fastest peripheral standard ever developed, which makes it great for use with multimedia peripherals, such as broadcast quality video camera, and other high-speed devices such as the new large format hard drives and high resolution printers. Even the Federal Communications Commission is planning to adopt 1394 for broadcast use.

What's In A Name?

Don't be frightened by other names for this standard. Apple claims the rights to the name FireWire. Thus, other firms that want to call their implementation of IEEE 1394 by that name must sign a licensing agreement with Apple, or create another name, or just use the term IEEE 1394. For example, some digital video camcorder manuals refer to i.LINK as their connective methodology. It is just IEEE 1394 with another name. FireWire, IEEE 1394, and i.Link, and other names that will be generated all refer to the same standard.

Why Is FireWire Better?

Let me count the ways. To start with, you can't push 400 megabytes per second of data out your existing SCSI connector—FireWire can. That means it will be great for digital video equipment, as well as new generations of hard drives, scanners, CD-recorders, DAT drives, and other products that take advantage of the FireWire interfaces. FireWire welcomes you to the world of "hot-pluggable" devices. For

the first time you can plug and un-plug high speed input/output devices while the computer is running and it will automatically recognize them. Don't try that with your existing SCSI devices! Third, it is auto-configuring; there are no IDs to set, no termination issues to resolve, and you don't have to reboot. Today, you can attach seven devices to a SCSI chain; 15 to ultra-SCSI. How about daisy-chaining up to 63 FireWire devices to your computer. The FireWire bus also provides power for the connected devices so you don't need to keep track of separate power cables and adapters. And, it is an industry-wide standard.

Why Is FireWire Good For Video?

FireWire provides a superhighway between your CD, DVD or RAID array and your computer. Full motion video and audio can be transferred from a digital camcorder to your machine just as easily as copying a file. Once it is transferred to your hard drive, these images can be manipulated using popular video editing programs such as Adobe Premiere <www.adobe.com/prodindex/premiere/main.html> and Radius EditDV [Radius was recently renamed Digital Origin] <www.digitalorigin.com>. Even Apple plans to introduce an editing package called Final Cut Pro <www.apple.com/finalcutpro/>. Once edited, the images can be copied back to tape and played back on your television. Because the signal is kept digital throughout this process, there is no loss of quality.

Sony <www.sel.sony.com/SEL/consumer/camcorder/> recently announced a new line of Digital8 camcorders which record and play-back digital video using ordinary 8mm and Hi8 cassettes. These new digital camcorders include a FireWire port. If you don't have access to a digital camcorder, Newer Technologies<www.newertech.com/products/desktop/firewire/

index.html> is working on adapters to convert analog video to digital video so you will be able to use your existing analog camcorder or VCR.

What About The Rest Of Us?

If you don't have a new Power Macintosh G3, are you left out of this revolution? Of course not! As long as your computer has a empty PCI slot, you will be able to install a card which adds FireWire ports to your machine. The PCI slot first appeared in the 7200 series. Currently Digital Origin [previously known as Radius] <www.digitalorigin.com> and Adaptec <www.adaptec.com/products/solutions/1394.html> offer such cards while others are on the way.

Platinum G3 vs Blue G3

I wish Apple could find some money in its budget to hire someone to create neat new names for its computers. It is not useful to find that there are two different G3 PowerBooks which are differentiated by shifting a couple of words around or that the color of the handles on the new mini-tower G3 is the identifier for it over the non-handled tower G3. Handles aside outside, the two units are completely different inside. Let's open them up and see.

Big Picture

Put simply, the platinum Power Macintosh G3 represents both the pinnacle for a design and the end of the line for a design that began with the Mac Plus. It changed some with the introduction of internal IDE, the change to a RISC-chip CPU, and an increase in its motherboard bus speed. The blue handled "Blue and White" G3, however, is the beginning of a whole new generation of Apple design technology.

Aesthetics

There is an obvious visual difference between the platinum tower case, and the Blue and White Power

Macintosh G3 series. While both are vastly easier to work in than any of their predecessors, Apple made the new Blue G3 a treat to work in. Apple should lease the design team that created the new case to the automobile industry. The labor involved in disassembling a car for servicing would plummet.

Motherboard

The two Power Macintosh G3 series each contain a motherboard; but, that is about the only similarity. The platinum-cased G3 motherboard has all the classic Macintosh features: onboard SCSI, video, and 1.44 MB floppy disk [which also reads 800k disks]. Your input connectivity is ADB and there are two serial ports for the modem and printer. FireWire is available for that model on a PCI slot card. The system bus on the Platinum G3 runs at 66 MHz, with processor speeds ranging from 233 MHz to 333 MHz.

The Blue G3 motherboard has onboard USB, ADB, and FireWire. There is no built-in SCSI; it is available on a PCI slot card. Video is supplied via an installed 16 MB card. There is no 1.44 MB support; you can add a USB floppy which reads 1.44MB disks only. The Blue and White G3 system bus runs at 100 MHz, with initial processor speeds ranging from 300 MHz to 400 MHz.

There are other changes to such things as the location of the start-up Read Only Memory (ROM). Boot ROM, which use to be on a chip, contained many components of the Mac OS, along with some 68k emulator code, hardware initialization, etc. Blue has a smaller boot ROM which provides for hardware initialization and software needed to load the Mac OS ROM into RAM.

You can learn more about the capabilities of all the new Macintosh models by visiting Apple's web site at <www.apple.com>. Click on the Mac in which you are interested. ■

Washington Apple Pi
Elections 1999-2000

One of the most expensive things Washington Apple Pi does is hold elections. Each year dozens of people get together to run as candidates, to administer the election, and to print special sections of the **Journal** with ballots, election statements and related information. A hefty percentage of all Pi members *must* return ballots or **the entire process must be repeated.** So help **save money** and return the ballot in the May/June issue by the due date. Candidates will be running for:

President
    Vice President Programs
        Vice President Publicity
            Vice President Volunteer Services
            Vice President Membership
   Secretary
      Treasurer
         Eight (8) Directors-at-Large

High Speed Internet Access ISDN, ADSL or Cable

by Don Essick

FRUSTRATED by the glacial speed of Internet access at home, I decided to check out the availability of a high-speed yet affordable internet connection to my home office. I could justify this, in part, as my wife is an independent consultant and often works at home and because I am terribly impatient. My initial research identified four alternatives which seemed to offer high-speed data services to the SOHO (Small Office/Home Office) market: ISDN, ADSL, Cable Modem and DDSS. OK, Cable modem sounds somewhat descriptive, but what is the rest of that alphabet soup?

ISDN is probably the most mature of the four technologies. ISDN stands for Integrated Services Digital Network. ISDN services support digital voice and data services over the regular copper wires which deliver your POTS telephone service. (POTS, one of my favorite acronyms, stands for Plain Old Telephone Service.) ISDN divides this digital line into 3 logical channels, 2 B channels which deliver voice and data services and a D channel which carries the LEC's signaling information. (LEC is the Local Exchange Carrier; you know, Bell Atlantic, GTE, those corporate monolithic monopolies which provide our telephone service.)

The two B channels of ISDN each support data speeds of up to 64Kbps or about twice the speed of a 33.6Kbps modem. You can "bond" the B channels together and go surfing the net at 128Kbps. Remember that the B channels carry both voice and data. If a voice or fax call comes in to your number, one of the B channels will go offline and ring your telephone or fax machine (which must be plugged into the ISDN modem). This is one of the disadvantages of ISDN service. Unless you put ISDN on a second line from your main telephone service, you can't use your in-house wiring to connect up multiple extensions. Your

> "And now the bad news: as of this writing ISDN is a pretty expensive proposition. In addition to the charges you pay to your ISP ...some ISPs impose a surcharge for ISDN access. Bell Atlantic charges a one-time connection fee of $125 and may impose a $99 connection fee plus time and materials for any inside wiring at your home."

POTS phone must be plugged into the ISDN modem.

One of the great benefits of ISDN is that more than one person can share the line. Most ISDN modems include an integrated router, which lets several people share the ISDN connection over an ethernet network. This allows multiple-computer families like us to get on-line without waiting for me to finish downloading large files. If you want to avail yourself of this option, you should make sure that the ISDN modem you choose has NAT (Network Address Translation) capability. You might also want to get DHCP (Dynamic Host Configuration Protocol) support. This allows your Mac to automatically configure itself when connecting using Open Transport.

Sounds good, but what will it cost? Well, that depends on what features you want in your ISDN modem and how much you will use it. Features you should look for in your ISDN Modem include things like NAT, Call Bumping, which "un-bonds" the B channels to let you take a voice call and then "re-bonds" the B channels when you hang up. The Dynamic Bandwidth Allocation feature automatically allocates one or both B channels depending on traffic volume across the connection. Unlike POTS service, you are charged for the time you are on-line during an outgoing ISDN data call. Thus, if you are using both B channels at the same time, you are charged double your basic B channel rate (see chart page 45).

Another optional feature of some ISDN modems is Enhanced Calling Features which include Call Waiting, 3-Way Calling, Caller-ID, etc. You might also want to make sure your modem has more than one analog phone port for POTS service, just in case you want to hook up both a phone and Fax machine. Oh, I forgot to mention that you must be within a limited distance from your central office for ISDN service to work.

And now the bad news: as of this writing ISDN is a pretty expensive proposition. In addition to the charges you pay to your ISP (Internet Service Provider) such as WAP Explorer Service, some ISPs impose a surcharge for ISDN access. Bell Atlantic charges a one-time connection fee of $125 and may impose a $99 connection fee plus time and materials for any inside wir-

ing at your home. The ISDN channel usage charges range from $23 + .02 per minute for each B channel minute basic rate to $249 per month for unlimited use. Remember that if both B channels are in use, you get charged double the per-minute rate. There are intermediate tier rates for 20, 60, 160, 300 and 500 minutes ranging from $31 to $120 per month. All except the unlimited rate charge $.02 per minute for time in excess of your package limit. ISDN Modems are available at a discount from Bell Atlantic and range in price from $129 for a basic unit to $759 for a top-of-the-line Ascend Pipeline 175 Modem and Router. There are special incentive packages available from Bell Atlantic which allow you to get connected to ISDN at a significant savings if you commit to Bell Atlantic as your ISP for one year.

ADSL (Asymmetric Digital Subscriber Line) is a relatively new arrival. It was recently introduced to the local area by Bell Atlantic in selected areas of DC, Northern Virginia and Suburban Maryland. Unlike ISDN, ADSL is not routed over the switched telephone network. It is a service that multiplexes data traffic onto the copper wires servicing your home using frequency division multiplexing. Voice traffic is carried in the 0-4kHz band and the 100kHz - 2.2mHz is used for data transmission. The DSL "modem" is also a splitter which filters out the lower frequencies and passes the high frequency DSL traffic. Another difference between ISDN and ADSL is that A in the name. The service is asymmetric in that the downstream speed (from the internet to subscriber) is much higher than the upstream speed. Thus if you are a publisher who frequently sends large files to a service bureau, for instance, you might want to consider ISDN over ADSL. ADSL upstream speeds are approximately 90Kbps for low speed and 180Kbps for high speed service.

Another major difference between IDSN and ADSL is that ADSL is an "al-ways on" service. You are actually part of the phone company's wide area network with your own unique MAC address. That's MAC (Media Access Control) and not Mac as in Macintosh. In fact, as of this writing, the iMac is the only Macintosh certified for ADSL. In theory, however, any Mac with and ethernet port and MacOS 8.1 or later should work. This means that all ADSL accounts are for "unlimited" service. There is no per-minute charge for ADSL service, though the ISP may have a different policy.

One of the superiority claims

> "Another major difference between IDSN and ADSL is that ADSL is an 'always on' service. You are actually part of the phone company's wide area network with your own unique MAC address. That's MAC (Media Access Control) and not Mac as in Macintosh. In fact, as of this writing, the iMac is the only Macintosh certified for ADSL."

made by Bell Atlantic for ADSL is that access speed is not compromised by multiple users as it can be with cable modems. Personally, I find this claim confusing, since the central office server would suffer similar degradation as multiple users sign on. In addition, nobody has a dedicated copper wire from central office to the home. Some kind of fiber optic or copper trunk line usually carries the line to a pedestal somewhere in your neighborhood where it is split out to

your individual line. Like ISDN, you must be close to your central office for ADSL to work (within 12,000 feet.) Contact Bell Atlantic or go to http://www.bell-atl/adsl/ for details.

What about cost? The ADSL service cost depends upon speed. Personal Infospeed 640Kbps service is $39.95 per month. Add $20 if you want to include Bell Atlantic.net as your ISP. Professional Infospeed 1.6Mbps service is $59.95 per month, (add $50 for Bell Atlantic.net.) 7.1 Mbps Infospeed is $109.95 (plus $80 for Bell Atlantic.net.) Not all ISPs will allow ADSL access so you may be stuck with Bell Atlantic.net or a limited list of other Internet providers. Other charges include a Service Connection Charge of $99 and $325 (!!!) for a "DSL Modem." If you want Bell Atlantic to come into your home and hook everything up and get you up and running on the service, it will cost you another $99. The $325 charge for the "DSL Modem" seems high, but remember although it's called ADSL, unlike IDSN it really is still analog from the central office to your home. There is a little bit of creative defining here, but the system will become more digital as standards are solidified. Bell Atlantic currently has a "special offer" which includes an ethernet card (for Wintel machines), DSL Modem and turnkey installation for $99 if you sign up for a year of Personal Infospeed with Bell Atlantic.net.

Cable Modem is the third and most frustrating service I researched. Not because of any technical reason, but because I live in Fairfax County and am served by Media General Cable of Fairfax. They were in the process of rolling out their cable modem service, called Roadrunner, as this was being written in mid-December.

Media General (http://www.mgcable.com/roadrunner/) was selected as the cable supplier by the Fairfax County Board of Supervisors to provide Cable Television and related services to county residents in

1982. It now serves nearly a quarter million households in Fairfax County. They will be providing cable modem service over their existing dual coaxial cable lines which are capable of providing up to 60 channels on each cable. Media General has set aside one 6 MHZ Channel on each cable for its Internet service. This will provide a theoretical 27 Mbps internet access. The actual speed you experience will be determined by many factors. The slowest device on the network actually determines the effective speed. Generally, the limiting device in this case is your computer. The cable modem connects to your 10 base T ethernet card or connector. Upstream speeds are limited to 768Kbps. I also learned that there is often a lot of difference between theoretical speed and actual speed of cable access. Due to the way that all subscribers share a "channel" on the cable, (i.e. every cable subscriber on a loop is allocated part of the cable bandwidth on which the internet service is handled), the more people who have cable modems on a particular loop, the slower the service gets as more users log on. Media General claims in its FAQ that "even in our worst case scenario (in which we assume maximum simultaneous

High Speed Internet Access Cost Comparison Chart

	56K Modem (Bell Atlantic)	ISDN (Bell Atlantic)	ADSL	Cable Modem (Media General)
Installation and Hardware	**$206** Includes purchase of a 56K modem for $119 and Installation of a second phone line from Bell Atlantic for $87.75	**$423** Includes lowest price ISDN Modem for Mac ($225) and installation of ISDN Service ($99) and Activation of ISDN Service ($99)	**$99 - $523** Includes discounted installation special from Bell Atlantic (requires 1 year contract with Bell Atlantic.net) Without one year commitment, package is $523.	**$99.99** Includes installation of Cable outlet, cable modem, software and NIC if required.
Recurring Costs**	**$37.55** Includes $19.95 unlimited internet from many ISPs and $17.60 for second phone line from Bell Atlantic	**$283.95** Charge for monthly unlimited ISDN internet from Bell Atlantic.net ($34.95) and Unlimited ISDN telephone service charges ($249)	**$59.95 - $109.95** Includes unlimited ADSL internet access from BellAtlantic.net and ADSL service from Bell Atlantic. $59.95 for 640Kbps, $109.95 for 1.6Mbps	**$49.99** Includes Unlimited Internet access, rental of cable modem.
Annual Costs**	**$453**	**$3407.40**	**$719.40** (640K) **$1319.40** (1.6M)	**$599.98**
Speed	53Kbps downstream and 33.6Kbps upstream	128Kbps upstream and downstream	640Kbps or 1.6Mbps downstream, 90Kbps upstream	10Mbps downstream, 768Kbps upstream ●

● assumes maximum speed of NIC card. ** All costs exclude taxes and fees

usage by every Road Runner user in any given neighborhood) Media General's Road Runner system is designed to provide bandwidth that will still exceed that of ISDN service."

Installation requires a cable outlet near your computer and a visit by two Media General technicians. One to install the cable outlet and one to install the cable modem and NIC (Network Interface Card) if necessary. The technician will also install a customized version of Microsoft Internet Explorer 4.01. The MGC FAQ warns against using other than the supplied browser for vague reasons.

The modem supplied by MGC is the Motorola CyberSURFR wave cable modem. (See techincal specifications at http://www.mot.com/MIMS/Multimedia/prod/specs/waveSpec.html). So how much will this cost? Currently, installation is $99 (including NIC) and the monthly charge to full service cable subscribers is $49 per month, which includes rental of the cable modem, unlimited internet access, up to 4 e-mail addresses and 5MB of space for you own web site.

A side-by-side comparison of the different options is on page 41. To try to make it as meaningful as possible, I've assumed that you want a second line for internet access.

DDSS Direct Digital Satellite Service—Forget it, only available for Wintel machines and requires separate phone line for uplink. Also has the most arrogant salespeople I've ever encountered.

Of course the chart on page 45 used costs that were available at the time this article was written. The Bell Atlantic special pricing on ADSL was due to expire on 12/31/98 but due to the slow pace of the rollout, I expect that will be extended.

If you are looking to invest in higher speed internet access, good luck. This is cutting edge technology and many of the people you will talk to from Bell Atlantic and the cable companies will be poorly trained and know little more than you do. The best thing to do if you realize that the person you are talking with is just as clueless as you are, is to leave your name and number and have them connect you with a specialist. This takes longer, but the chances of getting correct answers are much improved. ■

Computer Camp—2 sessions at WAP this summer

■ *There will be 2 two-week sessions offered this summer.*

■ *Select from either the July 5—16 or July 19—30 program.*

■ *Ten places are open for each of these sessions.*

■ *A session (two-week course of study) costs $600.00.*

■ *Classes run 9AM—5PM Monday through Friday.*

■ *Open to children within a WAP household (one holding a current household membership.) Recommended for ages 14-19.*

★★★ *Call office for flyer with more specific and thorough information and application form.*★★★

A session includes:

★★★ *Review/overview of the Macintosh. Moves on to customization, then networking, the Internet and how to use it.*

★★★ *Continues with graphic applications and their uses, and then how to use QuickTime. Final project will be building your own Web page.*

Hotline
—The hotline service is only for members of WAP. Please do not call after 9:30 pm or before 8:00 am.

Apple General

Name	Telephone	Heading	Subjects
Bob Sherman	305-944-2111	Communications	DBMaster
Ron Evry	703-490-1534	Hypermedia	Hyperstudio
Bernie Benson	301-951-5294	Miscellaneous	IIe Card for the LC
Harvey Levin	301-299-9380	Programming	Apple Script
Eric Sheard	908-782-6492	Spreadsheets	Advanced Visicalc (eves) 908-782-6492 (days) -2242
Allan Griff	301-654-1515	Spreadsheets	Apple Works
Eric Sheard	908-782-6492	Spreadsheets	Visicalc (eves) 908-782-6492 (days) -2242
Ken DeVito	703-960-0786	Telecomm	

Apple //

Name	Telephone	Heading	Subjects
Bernie Benson	301-951-5294	Accounting	Apple SSC (Super Serial Card)
Neil Laubenthal	703-691-1360	Apple IIGS	General
Allan Griff	301-654-1515	Apple Works	General
Ken DeVito	703-960-0786	Apple Works	General
Paul Campbell	313-255-6497	Apple Works	General
Ray Settle	410-647-9192	Apple Works	General
Allan Griff	301-654-1515	AppleWorks	General
Ken DeVito	703-960-0786	Beagle Buddies	
W. T. Cook	410-995-0352	Beagle Buddies	
Don Avery	202-362-1783	Beagle Buddies	
Dale Smith	301-762-5158	Communications	
Allan Griff	301-654-1515	Database	Apple Works
Morgan Jopling	410-721-7874	Database	Apple Works
Milt Goldsamt	301-649-2768	Database	Apple Works
Guy Durant	202-575-0414	Epson Printers	
Ron Evry	703-490-1534	General	
Harold Polk	301-662-6399	General	
Ken DeVito	703-960-0786	General	
Dave Jernigan	540-822-5137	Graphics	Print Shop (before 9 PM)
Joan Jernigan	540-822-5137	Graphics	Print Shop (before 9 PM)
Guy Durant	202-575-0414	Hard Drives	
Guy Durant	202-575-0414	Hardware	
Ron Evry	703-490-1534	Hypermedia	Hyperstudio
Bob Sherman	305-944-2111	Laser Printing	
Dave Jernigan	540-822-5137	Operating Systems (before 9 PM)	
Joan Jernigan	540-822-5137	Operating Systems (before 9 PM)	
Joan Jernigan	540-822-5137	Word Processing	Apple Works II (before 9 PM)
Ron Evry	703-490-1534	Word Processing	AppleWriter
Allan Griff	301-654-1515	Word Processing	

Apple // e

Name	Telephone	Heading	Subjects
Morgan Jopling	410-721-7874	Upgrade	

Apple // GS

Name	Telephone	Heading	Subjects
Rich Sanders	703-450-4371	Drawing/Graphics	Deluxe Paint II
Dick Grosbier	301-898-5461	General	
Eric Grupp	410-315-8331	General	
Seth Mize	410-766-1154	General	
Rich Sanders	703-450-4371	Word Processing	Multiscribe GS

Apple // GS

Name	Telephone	Heading	Subjects
Ken Carter	301-834-6516	General	

Apple ///

Name	Telephone	Heading	Subjects
Dave Ottalini	301-681-6136	General	
Paul Campbell	313-255-6497	General	
Seth Mize	410-766-1154	General	
Robert Sambolin	787-841-1641	General Repair	
Steve Truax	304-263-5749	Integ. Packages	3 Easy Pieces
Dave Jernigan	540-822-5137	Integ. Packages	3 Easy Pieces (before 9 PM)
Paul Campbell	313-255-6497	Repairs	
Dave Jernigan	540-822-5137		3.5" Super Drive (before 9 PM)
Dave Jernigan	540-822-5137		SCSI Drives (before 9 PM)
Steve Truax	304-263-5749		Stemspeller
Dave Jernigan	540-822-5137		Stemspeller (before 9 PM)

Name	Telephone	Heading	Subjects
Carey McGleish	313-332-8836		Word Juggler (evenings)

Cross Platform

Name	Telephone	Heading	Subjects
Ken DeVito	703-960-0786	Transfers	MS/DOS-Apple-Mac

IBM/Compatibles

Name	Telephone	Heading	Subjects
Louis Saunders	301-648-7332	Hardware	Troubleshooting & Repair
Etana Finkler	301-891-2821	Illustration	General Can call until midnight
Louis Saunders	301-648-7332	Network	Connectivity
Louis Saunders	301-648-7332	Printers	Connectivity
Tom Cavanaugh	301-627-8889	Printers	General
Louis Saunders	301-648-7332	Printers	Troubleshooting & Repair

Internet

Name	Telephone	Heading	Subjects
Dan White	301-843-3287	General	
Walt Francis	202-966-5742	General	
Will DeKroney	410-626-7716	General	
Curt Harpold	301-762-0887	Programming	JAVA
Craig Contardi	410-674-2752	World Wide Web	Netscape Navigator
Seth Mize	410-766-1154	World Wide Web	Sailor
Jaque Davison	703-644-7354	World Wide Web	Web Site Builder

Macintosh

Name	Telephone	Heading	Subjects
Nancy Seferian	202-333-0126	Art & Video	General
Robert Sambolin	787-841-1641		General
John Enberg	301-262-9347 or 301-604-8348	Basics	
Tho. Snowberger	410-757-4656	Contact Managers	Now Contact/UTD
Mort Greene	703-522-8743	Database	File Maker Pro
Bill Waring	410-647-5605	Database	Filemaker Pro
Bob Wilbur	703-426-0556	Database	Filemaker Pro
Rick Shaddock	202-321-2110	Database	FoxPro
Harvey Levin	301-299-9380	Database	Helix
Bob Wilbur	703-426-0556	Database	Helix Express
Mort Greene	703-522-8743	Database	MS-File
Dick Nugent	703-425-1056	Database	FileMaker Pro
Elizabeth Mangan	703-750-2710	Database	Pro-Cite
Dave Weikert	301-963-0063	Databases	Panorama
Bob Wilbur	703-426-0556	Database	General
Blake Lange	301-942-9180	Desk Top Pub.	PageMaker
Mort Greene	703-522-8743	Desk Top Pub.	PageMaker
Eric Grupp	410-315-8331	Desk Top Pub.	Quark Xpress
Paul Schlosser	301-831-9166	Desk Top Pub.	Quark Xpress
Ron Johnson	410-315-8764	Drawing/Graphics	Adobe Illustrator 3.0
Nancy Seferian	202-333-0126	Drawing/Graphics	Aldus Freehand
Bob Wilbur	703-426-0556	Drawing/Graphics	Canvas
Lloyd Olson	410-544-1087	Drawing/Graphics	ClarisDraw
Etana Finkler	301-891-2821	Drawing/Graphics	Freehand Can call until midnight
Nancy Seferian	202-333-0126	Drawing/Graphics	General
Neil Laubenthal	703-691-1360	Drawing/Graphics	General
Etana Finkler	301-891-2821	Drawing/Graphics	General Can call until midnight
Bob Wilbur	703-426-0556	Drawing	General
Blake Lange	301-942-9180	Drawing/Graphics	Illustrator
Etana Finkler	301-891-2821	Drawing/Graphics	Illustrator Can call until midnight
Mort Greene	703-522-8743	Drawing/Graphics	Photoshop
Blake Lange	301-942-9180	Drawing/Graphics	Photoshop
Mort Greene	703-522-8743	Drawing/Graphics	SuperPaint 2.0
Dave Jernigan	540-822-5137	Foreign Languages	FlashWorks (before 9 PM)
Dave Jernigan	540-822-5137	Foreign Languages	Greek Tutor (before 9 PM)
Dave Jernigan	540-822-5137	Foreign Languages	Hebrew Tutor (before 9 PM)
Dave Jernigan	540-822-5137	General	(before 9 PM)

March 1999

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	Intro to the Mac 1	Clinic 2	*Intro to Graphics* 3 *Photoshop-Part 1* *Graphic Hardware WkShop*	*Intro to Mac* 4 *Appleworks - Intro* *Intro to Quicken* Columbia Slice	*Intro to Mac* 5 *Appleworks - Adv*	6
7	*Intro to the Mac* 8	Clinic 9 *PhotoShop-Part 2* Genealogy SIG	10 *Intro to Quicken* *Computer Crafting*	*Intermed. Mac* 11 *Intro to Internet* Stock SIG	*Intermed. Mac* 12 *Intro to Internet*	13 Frederick Slice Graphics SIG
14	15	Clinic 16	*Spreadsheets* 17 *MovieWorks-Intro* Excel SIG WAP BoD	*OS Upgrade* 18 *Networking - Home/ Small Office* FileMaker SIG	*Internet Connection* 19 *Control* *Searching w/Sherlock*	20 Annapolis Slice
21	22	Clinic 23	24 Retired SIG	25 *Web Page Workshop* Women's SIG	26 *Web Page Graphics and Sound*	*NoVa ComCol* 27 **WAP General Meeting**
28	29	Clinic 30	31 *QuickTime 3 Pro*			

April 1999

WAP Office Phone: 301- 984-0300
TCS 2400 bps: 301-984-4066;
TCS 14400 bps: 301-984-4070

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				Intro to Mac 1 Columbia Slice	*Intermed Mac* 2	3
4	*Intermed Mac* 5	Clinic 6	*Quark Clinic* 7 *Appleworks - Intro* *Appleworks - Adv*	8 *Intro to Internet* Stock SIG	9 *Take Control of I-Net Connection Searching w/Sherlock*	10 Frederick Slice Graphics SIG
11	*Intermed Mac* 12	Clinic 13 *Intro to PageMaker* Genealogy SIG	*Spreadsheets* 14 *FileMaker Pro Intro*	*MovieWorks* 15 *Graphics Hardware* FileMaker SIG	16 *Upgrading Your OS Home&Small Office Networking*	17 Annapolis Slice
18	19	Clinic 20	*Graphics Intro* 21 *Computer Crafting* Excel SIG WAP BoD	22 *QuickTime 3 Pro*	*Intro to* 23 *PhotoDeluxe* *Intro to Quicken*	*NoVa ComCol* 24 **WAP General Meeting**
25	26	Clinic 27	28 Retired SIG	29 *Web Page WorkShop*	30 *WebPage Graphics & Sound*	

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.

UPCOMING GENERAL MEETINGS, PLUS
March 27, 1999, April 24, 1999
Computer Show and Sale—June 5th
Computer Camp—2 sessions, July 5—16 & 19—30

Meeting Notices

Annapolis Slice
3rd Saturday; 9:30 AM; Severna Park Library on McKinsey Rd. (off Rt. 2), Severna Park, MD
Answering Machine: (410) 647-5605

AOL SIG, contact John Barnes at JDBarnes@aol.com or in the evening at 301 / 652-0667.

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

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

DataBases (Mac) SIG
Volunteers needed to restart this SIG

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

FileMaker Pro SIG
3rd Thursday; 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; Call for location.

Genealogy SIG
2nd Tues. of the month; 10 AM to noon; WAP office.

Graphic Arts SIG
2nd Saturday of the month

Mac Programmers' SIG
Volunteers needed to restart this SIG

Newton Developers' SIG
Volunteer needed

NoVa Education (Ed) SIG
Call SIG chair for times & locations.

QuickTime SIG
2nd Tuesday of each month; 7:30 PM; WAP office.

Retired SIG
4th Wednesday of each month; 11 AM to 2 PM; each meeting will have a topic, but be run informally. WAP office.

Stock SIG
2nd Thursday; 7:30 PM; WAP Office. (Morris Pelham who chairs StockSIG is Sysop of the Investment/StockSIG board on the TCS. Contact him on that board.)

Telecomm SIG
Call SIG chair for times & locations.

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
Upcoming meeting: March 25th, at the Pi Office at 6:00 PM dinner ($2) followed by 7:00 PM meeting/presentation. Call SIG chair. New chair information not received.

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) 984-0300.

Hotline

—The hotline service is only for members of WAP. Please do not call after 9:30 pm or before 8:00 am.

Name	Telephone	Heading	Subjects
Joan Jernigan	540-822-5137	General	(before 9 PM)
Dan White	301-843-3287	General	
Dick Grosbier	301-898-5461	General	
Russell Robinson	301-739-6030	General	
Eric Seidel	540-667-5289	General	Networking
Neil Laubenthal	703-691-1360	General	
Tom Cavanaugh	301-627-8889	General	
Tom DeMay	410-461-1798	General	
Tom Witte	703-683-5871	General	
Bob Wilbur	703-426-0556	General	
Louis Saunders	301-648-7332	Hardware	Troubleshooting & Repair
Joan Jernigan	540-822-5137	Hypermedia	HyperStudio (before 9 PM)
Jerry Iler	410-987-5432	IIsi	General
Bill Geiger	703-237-3614	Integ. Packages	ClarisWorks
Sandy Kowalczuk	410-268-3149	Integ. Packages	ClarisWorks
Ray Settle	410-647-9192	Integ. Packages	Clarisworks
Joan Jernigan	540-822-5137	Integ. Packages	ClarisWorks (before 9 PM)
Jim Ritz	301-770-1405	Integ. Packages	MSWorks
Ray Settle	410-647-9192	Integ. Packages	MSWorks
Tim Childers	301-997-9317	Integ. Packages	MSWorks
Dave Weikert	301-963-0063	MacDisketeria	Disk Library
Dave Jernigan	540-822-5137	Mail List Manager	My Mail List Manager (before 9 PM)
Mort Greene	703-522-8743	Miscellaneous	File Transfer & Backfax
Sandy Kowalczuk	410-268-3149	Miscellaneous	HyperCard
Blake Lange	301-942-9180	Miscellaneous	Hypercard
Tom Witte	703-683-5871	Miscellaneous	Hypertalk
Jeff Dillon	301-434-0405	Miscellaneous	MX-80
Dave Jernigan	540-822-5137	Miscellaneous	Online Bible Mac
Dave Jernigan	540-822-5137	Miscellaneous	Soft Windows Mac
Rick Chapman	301-989-9708	Miscellaneous	Hypercard
Tom Witte	703-683-5871	Miscellaneous	Hypercard
Peter Combes	301-445-3930	Multi Media	Director
Peter Combes	301-445-3930	Multi Media	Language
Mort Greene	703-522-8743	Multimedia	Image Studio
Mort Greene	703-522-8743	Multimedia	Macro Mind Director
Stuart Bonwit	301-598-2510	Multimedia	Quicktime
Tom Witte	703-683-5871	Multimedia	Quicktime
Mort Greene	703-522-8743	Multimedia	Video Works
Frank PappaJohn	703-922-3851	Music Notation	Finale
Jerry Iler	410-987-5432	Older Claris	General
Jerry Iler	410-987-5432	PB180C	General
Lester Morcerf	410-987-0685	Performa 550	General
Tho. Snowberger	410-757-4656	Performa System	General
Rick Shaddock	202-321-2110	Pers.Contact Mgr.	ACT
Mel Benson	410-647-6873	Personal Finance	Dollars & Sense
Bill Geiger	703-237-3614	Personal Finance	Manage Your Money
Mel Benson	410-647-6873	Personal Finance	Manage Your Money
Clarence Goldberg	410-263-5189	Personal Finance	Quicken
Henry Miller-Jones	703-478-3721	Personal Finance	Quicken
Bob Wilbur	703-426-0556	Personal Finance	Quicken
Louis Saunders	301-648-7332	Printers	Connectivity
Louis Saunders	301-648-7332	Printers	Troubleshooting & Repair
Tom Cavanaugh	301-627-8889	Printers	General
Walt Francis	202-966-5742	Printers	General
Michael Hartman	301-942-3717	Programming	C
Michael Hartman	301-942-3717	Programming	General
Harry Erwin	703-758-9660	Programming	General (e-mail at herwin@gmu.edu)
Joshua Juran	301-231-8622	Programming	Perl, C, C++, Pascal
Michael Hartman	301-942-3717	Programming	Pascal
Charles Schindler	410-437-4624	Spreadsheets	Excel
Lloyd Olson	410-544-1087	Spreadsheets	Excel
Walt Francis	202-966-5742	Spreadsheets	General
Roger Burt	301-424-6927	Spreadsheet/Chart	ClarisWorks
Bob Wilbur	703-426-0556	Spreadsheet	ClarisWorks
Mark Pankin	703-524-0937	Spreadsheet/Chart	Excel

Name	Telephone	Heading	Subjects
Dick Byrd	703-978-3440	Spreadsheet/Chart	Excel
Mort Greene	703-522-8743	Spreadsheet/Chart	Excel
Rick Shaddock	202-321-2110	Spreadsheet/Chart	Excel
Tom Cavanaugh	301-627-8889	Spreadsheet/Chart	Excel
Bill Waring	410-647-5605	System	General Mac Help
Lloyd Olson	410-544-1087	System	Mac OS
Neil Laubenthal	703-691-1360	System	Mac OS Modems General
Bernie Benson	301-951-5294	Telecomm.	Modems Hayes Smartmodem
Jaque Davison	703-644-7354	Virtual Reality	Alien Skin Texture Shop
Jaque Davison	703-644-7354	Virtual Reality	Bryce 2
Jaque Davison	703-644-7354	Virtual Reality	Specular Logomotion
Jaque Davison	703-644-7354	Virtual Reality	Virtus - 3-D
Jaque Davison	703-644-7354	Virtual Reality	Virtus Walkthrough Pro
Dave Jernigan	540-822-5137	Word Processing	Word Perfect (before 9 PM)
Charles Schindler	410-437-4624	Word Processing	WordPerfect
Eric Grupp	410-315-8331	Word Processing	WordPerfect
Bob Wilbur	703-426-0556	Word Processing	WordPerfect
Walt Francis	202-966-5742	Word Processing	General
Tim Childers	301-997-9317	Word Processing	Hebrew
Tom Cavanaugh	301-627-8889	Word Processing	MS Word
Harris Silverstone	410-435-3582	Word Processing	MS Word
Joan Jernigan	540-822-5137	Word Processors	Claris Works (before 9 PM)
Dave Jernigan	540-822-5137	Word Processors	Word Perfect

Macintosh & Apple

Name	Telephone	Heading	Subjects
Ginny Spevak	202-244-8644	Miscellaneous	Dvorak Keyboard
Mike Spevak	202-244-8644	Miscellaneous	Dvorak Keyboard
Bob Sherman	305-944-2111	Telecomm.	General
Dale Smith	301-762-5158	Telecomm.	General
John Barnes	301-652-0667	Telecom	AOL
Dale Smith	301-762-5158	Telecomm.	TCS
David Harris	202-966-6583	Telecomm.	TCS
Nancy Seferian	202-333-0126	Telecomm.	TCS
Paul Schlosser	301-831-9166	Telecomm.	TCS

Networking

Name	Telephone	Heading	Subjects
Louis Saunders	301-648-7332	Mac	Connectivity
Douglas Ferris	301-924-4180	Networking	Novel
Douglas Ferris	301-924-4180	Networking	Windows
Dave Weikert	301-963-0063	Networking	Mac/AppleShare

Telecommunications Help Sheet

A quick reference sheet for use while on the TCS

TCS Phone Numbers:
—301-984-4066
    (for 300, 1200, 2400 bps)
—301-984-4070
    (for 9600, 14400, 28800 bps)

Main Menu
<B> ...... Bulletin Boards
<C> ..... Change Conferences
<E> ..... E-Mail
<F> ...... File Transfer
<L> ...... General Library
<M> .... Membership Search
<N> ..... Now On System
<O> ..... Off the System
<P> ...... Public Library
<T> ...... Time and Date
<U> ..... User Preferences
<W> .... Read Welcome Bulletin
<X> ..... eXamine Weather
    Forecast

File Transfer Menu
<A> ..... Adjust Pointers
<G> ..... Global Read New
    Descs
<L> ...... List All Available Areas
<N> ..... New File Descriptions
<O> ..... Off the System
<Q> ..... Quit to Main Menu
<R> ..... Read All New Descs
<Z> ..... Zelect File Areas

File Area Menu
<A> ..... Alphabetical List
<B> ...... Batch Functions
<C> ..... Change File Area
<D> ..... Download a File
<F> ...... Find File Descriptions
<H> ..... Help With File Transfer
<I> .... Info on File Contents
<L> ...... List All Files
<M> .... Mark Files for Down-
    loading
<O> ..... Off the System
<Q> ..... Quit to Main Menu
<R> ..... Read File Descriptions
<T> ...... TitleScan Descriptions
<U> ..... Upload a File or Files
<W> .... Welcome Bulletin

Editor Menu
<A> ..... Add to File
<C> ..... Clear File in Memory
<D> ..... Delete a line from File
    (#)
<E> ...... Edit a Line (#)
<F> ...... Find a String
<G> ..... Global Search &
    Replace
<I> .... Insert Lines into File (#)
<L> ...... List the File (#)
<M> .... Toggle Reply Mode
<N> ..... Line Numbering Mode
    On/Off
<P> ...... Purge Temporary File
<Q> ..... Quit - Clear File & Exit
<R> ..... Read back from Tempo-
    rary File
<S> ...... Save File and Exit
    Editor
<T> ...... Write File to Temporary
    File
<U> ..... Upload Mode Toggle
    (No Reply Mode)
<V> ..... View Temporary File
<X> ..... Exchange a String
    within line (#)
<"> ...... Modify Reply Mode
    Characters

Change Conference Menu
<1-8> ... Choose Conference
    Number
<L> ...... List Conferences
    Available
<Q> ..... Quit to Main Menu
<1> ...... General Conference
<2> ...... Apple II Conference
<3> ...... Macintosh Conference
<4> ...... Classified Conference
<5> ...... Global General Confer-
    ence
<6> ...... Global Apple II Confer-
    ence
<7> ...... Global Macintosh
    Conference
<8> ...... Global Miscellany
    Conference

Conference Menu
<A> ..... Adjust Pointers
<C> ..... Change Conference
<G> ..... Global Read All New
    Msgs
<L> ...... List All Available
    Boards
<O> ..... Off the System
<Q> ..... Quit to Main Menu
<R> ..... Read All New Msgs
<W> .... Welcome Bulletin
<X> ..... Xfer All New Msgs
<Z> ..... Zelect Boards of Interest

Bulletin Board Menu
<A> ..... Alter/Edit an Existing
    Message
<B> ...... Blind Reply to a Msg by
    Number
<C> ..... Change Boards
<D> ..... Delete Msg From or To
    You
<E> ...... Enter a Message
<F> ...... Find Message by
    Keyword
<L> ...... Library for this Board
<O> ..... Off the System
<Q> ..... Quit to Main Menu
<R> ..... Read a Msg or Msgs
<S> ...... Scan Message Headers
<T> ...... TitleScan Msg Headers
<W> .... Welcome Bulletin for
    Board
<X> ..... Xfer (Download) a Msg
    or Msgs

User Preferences
<A> ..... Alter Password
<E> ...... Emulation Mode
<F> ...... File Transfer Protocol
<P> ...... Prompt Character
<Q> ..... Quit to Main Menu
<R> ..... Reply Mode Prefix
<V> ..... Video Length
<X> ..... Expert/Novice Prompts
<Y> ..... Your Current Status

Electronic Mail Menu
<B> ...... Blind Reply to a Letter
<D> ..... Delete Letters
<E> ...... Enter a Letter
<F> ...... Find Letters
<H> ..... Help/Brief Tutorial
<I> .... Info on Letters
<K> ..... Keep Letters
<L> ...... List Letters
<O> ..... Off the System
<Q> ..... Quit to Main Menu
<R> ..... Read Letters
<S> ...... Scan Headers of Letters
<T> ...... TitleScan Letters
<X> ..... Xfer (Download) Letters

Macintosh Tutorials

General Macintosh Classes

Introduction to Macintosh

Meant for the new user or anyone who wants to learn more about the basic operation of the Macintosh. The student will learn how to safely turn the Macintosh on and off; 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. The basic dos and don'ts of computer maintenance will also be covered. You will learn how the Finder works. The finer points of the Menu Bar and the Apple Menu will be discussed. Error Messages, Dialog Boxes, Icons, Folders, Keyboard Shortcuts, Scrapbook and Clipboard will also be covered. You'll learn the basics of installing software, as well as use of the Chooser and peripheral devices, and how they are connected to the Macintosh. You should review the program Macintosh Basics and Mouse Basics prior to attending the class. This is a two session class. The price is $70 for both sessions ($100 for nonmembers).

Introduction to Macintosh
Evening Set 1
3/1/99 and 3/8/99 from 6 pm - 9 pm
    (Jim Ritz)
Evening Set 2
5/3/99 and 5/10/99 from 6 pm - 9 pm
    (Jim Ritz)
Day Set 1
3/4/99 and 3/5/99 from 9:30 am - 12:30
    pm (Pat Fauquet)

Day Set 2
4/1/99 from 9:30 am - 4 pm
    (Pat Fauquet)
Day Set 3
5/6/99 and 5/7/99 from 9:30 am -
    12:30 pm (Pat Fauquet)

Intermediate Macintosh

Intermediate Macintosh will follow-up on the concepts taught in Introduction to Macintosh. You will learn more advanced Macintosh skills and terminology, and about using, installing, and updating system files; about managing memory, hard disk space, fonts, sounds and other resources; You'll learn how to upgrade your hardware and applications. You will learn more about maintaining and troubleshooting your Mac. Topics will include: organizing and managing your hard drive; backing up information and backup strategies, archiving, disk formatting, defragmentation and optimization; managing system extensions and control panels; avoiding conflicts and incompatibilities; virus protection; memory management; upgrading or replacing the operating system; system enhancements; customizing software installation; mouse maintenance; and Macintosh "housekeeping" philosophies. This is a two session class. The price is $70 for both sessions ($100 for nonmembers).

Intermediate Macintosh
Evening Set 1
4/5/99 and 4/12/99 from 6 pm - 9 pm
    (Jim Ritz)
Day Set 1
3/11/99 and 3/12/99 from 9:30 am -
    12:30 pm (Pat Fauquet)
Day Set 2
4/2/99 from 9:30 am - 4 pm (Pat
    Fauquet)
Day Set 3
5/13/99 and 5/14/99 from 9:30 am -
    12:30 pm (Pat Fauquet)

Upgrade Your Operating System or Replace Your System Software

Learn how to prepare your computer to upgrade its system software or re-place the operating system. Students are invited to bring in their own CPU's and System Software CD's for guided instruction. Learn how to back up essential files and documents, how to use Disk First Aid to repair any hard drive catalog errors which may exist, what pieces of the System Software you will want to or need to install, and which pieces of the old System Folder to bring into the new one. Learn how to update printer and scanner drivers. Learn all about features in the newest System Software from Apple. **NOTE:** Students who choose to bring their CPU's should not bring any cables, power cords, keyboards or monitors. The price is $35 ($50 for non members).

Upgrade Your Operating System or Replace Your System Software
3/18/99 from 9:30 am - 12:30 pm
    (Pat Fauquet)
4/16/99 from 9:30 am - 12:30 pm
    (Pat Fauquet)

Personalize Your Mac

The Macintosh platform offers the user many features that can be customized to make the computer fit the user. In this class we will explore the customization options available within the operating system such as increased screen font sizes, new desktop patterns and pictures, alert sounds, start-up and shut down items, launchers, contextual menus and basic AppleScripting. We will also look at additional system extensions, control panels and software to further customize the computer interface including additional clipboards, scrapbook and notepad enhancements and additional calculators. Since these system enhancements will occasionally cause extension conflicts, the class will also cover troubleshooting them. Specialized notepads. scrapbooks, calculators. **Prerequisite:** A good working knowledge of the Mac OS and its interface. The price is $35 ($50 for non members).

Personalize Your Mac
Call Office for Dates

Searching with Sherlock

System 8.5 introduced Macintosh users to a new "find file" application called Sherlock. This class will cover all three of Sherlock's search options. In the "Find File" portion we will cover search strategies to not only find files but also as an aid to cleaning up your hard drive and System Folder. In the Find by Content section we will discuss indexing of your hard drive to make these searches faster and how to structure searches to find what you think you have. In the Search Internet section we will cover Sherlock search plugins and how to use and manage them. Learn how to save searches and when to use Sherlock instead of Internet search engines. **Prerequisite:** A good working knowledge of the Mac OS and its interface. The price is $35 ($50 for non members).

Searching with Sherlock
3/19/99 from 1 pm - 4 pm
(Pat Fauquet)
4/9/99 from 1 pm - 4 pm (Pat Fauquet)
5/5/99 from 1 pm - 4 pm (Pat Fauquet)

AppleWorks (ClarisWorks)

Introduction to AppleWorks (a.k.a. ClarisWorks)

This class will introduce the student to the integrated software package, AppleWorks. The course will begin with an introduction to the fundamentals of the AppleWorks environment: the window layout, the help menu, and the universal commands. Each of the six modules (Text, Draw, Paint, Spreadsheet, Database, and Communications) will be treated separately but the emphasis will be on text and draw documents. The course will conclude with an examination of some basic integrated applications. **Prerequisite:** Introduction to the Macintosh or a good knowledge of the Mac OS and its interface. The price is $35 ($50 for nonmembers).

Introduction to AppleWorks

3/4/99 from 1 pm - 4 pm (Pat Fauquet)
4/7/99 from 9:30 am - 12:30 pm
(Pat Fauquet)
5/13/99 from 1 pm - 4 pm
(Pat Fauquet)

AppleWorks (a.k.a. ClarisWorks) for the Experienced User

In this class we will take AppleWorks to a new level! Learn how to make easy outlines, lists, and check-off charts. Make great slide shows and presentations right in AppleWorks. Learn how to dress up charts and graphs, how to make specialized dictionaries, and how to have AppleWorks read to you! Learn the secrets of stationary files, how to make your own AppleWorks libraries store not only pictures, but also frequently used text strings. Learn how to write personalized form letters and how to do special layouts for newsletters. Many of the projects included will be using the capabilities of ClarisWorks 4.0 and AppleWorks 5.0. Students will receive templates, stationary files and handouts to take home. If you have any feature of the program that you would like covered in particular, please mention it when you sign up. **Prerequisite:** Introduction to AppleWorks or a good knowledge of the basics of AppleWorks and its interface. The price is $35 ($50 for non members).

AppleWorks for the Experienced User
5/14/99 from 1 pm - 4 pm

AppleWorks (a.k.a. ClarisWorks) for the Experienced User Workshop

This class is for those who have some experience with AppleWorks and are interested in asking questions and having specific problems discussed. The class will be a question and answer format. You should bring along on floppy a sample of things you need help with. The idea is that you can work on a project while the instructor is helping another with one that does not interest you. **Prerequisite:** Intro-

duction to AppleWorks or a good knowledge of the basics of AppleWorks and its interface. The price is $35 ($50 for non members).

AppleWorks for the Experienced User Workshop
3/5/99 from 1 pm - 4 pm (Pat Fauquet)
4/7/99 from 1 pm - 4 pm (Pat Fauquet)

Networking

Networking for the Home and Small Office

Do you have two Macintoshes and one printer— or two printers and one Macintosh—or maybe even more?

Come learn the possibilities offered by the Macintosh platform to share not only printers, but also files and even modems. Learn about the built-in networking software in every Macintosh and various hardware and software options available to do even more. This class will cover AppleTalk and PhoneNet connectors, AB switch boxes, serial port expanders, USB ports and hubs, ethernet, cards, and transceivers. Hubs, router and servers will also be discussed.

Learn how to install network cabling without tearing down all the walls and learn how to determine what kind of cable to buy and how to put the connectors on the cables.

In addition to talking about wires and hardware choices we will also discuss sharing files and applications between two or more computers and printers. **Prerequisite:** A good working knowledge of the Mac OS and its interface. The price is $35 ($50 for non members).

Networking for the Home and Small Office
3/18/99 from 1 pm - 4 pm
(Pat Fauquet)
4/16/99 from 1 pm - 4 pm
(Pat Fauquet)

Internet, Telecommunications

Introduction to the Internet

This two session class is an introduc-

tion to the Internet. The browser screen and the functions of the various buttons will be discussed. The user will learn how to personalize the browser window to meet visual and screen needs. Internet addresses and error messages will be explained. Search engines and directories will be discussed and explored. Students will learn about bookmarks and how to manage and share them with others. They will learn how to download pictures and files and how to use them on their computer. This will include how to install downloaded software and to use it. Computer viruses and methods of avoiding them will also be discussed. Student will learn how to print information and save files from the Internet, both with and without pictures. This class is appropriate for all users of the Internet including America Online customers. **Prerequisite:** Introduction to the Macintosh or a good knowledge of the Mac OS and its interface. The price is $70 for both parts ($100 for non members).

Introduction to the Internet
3/11/99 and 3/12/99 from 1 pm - 4 pm
(Pat Fauquet)
4/8/99 from 9:30 am - 4 pm
(Pat Fauquet)
5/6/99 and 5/7/99 from 1 pm - 4 pm
(Pat Fauquet)

Take Control of Your Internet Connection

Are you tired of having to call your Internet company for advice, only to reach a technician who has never seen a Mac? Are you fed up with being told that if you want to use the newest browser or the latest system software, they will not provide technical support? Would you like to know what settings and numbers you need to know to keep your Internet connection always working?

Come learn how the software that enables you to reach the Internet works. Learn how to record the essential numbers and settings. Then learn how and where to find the latest

browser and Internet software. Learn about browser plugins and how to download and install them. Learn how to personalize your browser and mail software. Learn how to switch between Netscape and Microsoft Internet Explorer. Learn how to deal with bookmark files and Internet addressbooks.

Students are invited to bring their own CPU to work on if they so desire. Do not bring any cables, power cords, keyboards or monitors. If they wish to test their modem connection, bring the modem, modem cable and modem power supply. The price is $35 ($50 for non members).

Take Control of Your Internet Connection
3/19/99 from 9:30 am - 12:30 pm
(Pat Fauquet)
4/9/99 from 9:30 am - 12:30 pm
(Pat Fauquet)

Learn to Use the TCS (the Pi's legendary bulletin board)

Learn how to use ZTerm (a telecommunications program) or Nifty Telnet; to log on to the TCS. Learn to send and receive Internet e-mail, to navigate around the TCS's conference system, read and enter messages to it and how to download files from the Files Library. **Prerequisite:** Introduction to the Macintosh or a good knowledge of the Mac OS and its interface. The price is $35 ($50 for nonmembers).

Learn to Use the TCS (the Pi's legendary bulletin board)
Call Office for Dates

Web Page Development

Web Page Workshop
Come design a web page! In this class students will be introduced to HTML and how it works. They will learn how to use Claris Home Page or Adobe PageMill or GoLive CyberStudio Personal Edition to make a series of linking web pages using pre-made back-

grounds, graphics, animations and sounds. They will learn how to plan and organize their files for easy web page maintenance. They will learn about the principles of good web page design. Their pages will be ready to upload to the web. If you have a external Zip drive, please bring it and an empty Zip disk to class. If you have an internal Zip drive at home, please bring an empty Zip disk to class. This is an all-day workshop. Please bring a sack lunch or money to order lunch in. It is suggested that a good follow-on class would be Graphics and Sound for My Web Page. **Prerequisite:** Introduction to the Macintosh or a good knowledge of the Mac OS and its interface. The price is $70 ($100 for non members).

Web Page Workshop
3/25/99 from 9:30 am - 4 pm
(Pat Fauquet)
4/29/99 from 9:30 am - 4 pm
(Pat Fauquet)
5/27/99 from 9:30 am - 4 pm
(Pat Fauquet)

Graphics and Sound for My Web Page

In this all-day workshop students will learn how to make and prepare backgrounds, clipart, buttons, rules, dividers and animations for web pages. They will learn about the GIF, JPEG and PNG formats and when to use them. In the sound portion of the class students will learn how to record and edit sound files to prepare them for adding to a web page. Copyright issues will be discussed. Students will be introduced to the use of scanners and digital cameras. Bring several photos for scanning and a CD or tape for music and sound effects. If you want to use these projects in an actual web page, please sign up for Web Page Workshop in addition to this class. If you have an external Zip drive, please bring it and an empty Zip disk to class. If you have an internal Zip drive at home, please bring an empty Zip disk to class. This is an all day workshop.

Please bring a sack lunch or money to order lunch in. **Prerequisite:** Introduction to the Macintosh or a good knowledge of the Mac OS and its interface. The price is $70 ($100 for non members).

Graphics and Sound for My Web Page
3/26/99 from 9:30 am - 4 pm
(Pat Fauquet)
4/30/99 from 9:30 am - 4 pm
(Pat Fauquet)
5/28/99 from 9:30 am - 4 pm
(Pat Fauquet)

Consumer Graphics and Multimedia

Introduction to Graphics

Are you confused by graphic jargon? Would you like to learn how to choose and use a scanner? Do you know the difference between draw and paint programs? Are you wondering about digital cameras? Are you baffled by PICT, GIF, TIFF, BMP, JPEG, and all those other graphic formats? Would you like to learn how to send a picture by e-mail? Do you know what to do with pictures people send to you? Would you like to learn how to make your own Finder backgrounds and icons? This is the class for you! We will explore all these topics in non-technical language and show you how make graphics work for you! **Prerequisite:** Introduction to the Macintosh or a good knowledge of the Mac OS and its interface. The price is $35 ($50 for non members).

Introduction to Graphics
3/3/99 from 1 pm - 4 pm (Pat Fauquet)
4/21/99 from 9:30 am - 12:30 pm
(Pat Fauquet)

Computer Crafting Class

An informal class in a flexible format to help students combine regular art and craft skills with their computer. This combination will open many new doors for some, and make life easier for others. This will not be a class to teach a specific skill, rather it will teach how to open your creative spirit. Students are invited to bring clipart, graphic applications and projects to class. Instead of showing you new software you have to buy, this class is structured to help you get the best use out of software you own.

Learn how to create stencils, templates, silk screens, sponge patterns, etc. Using new ink jet media you can make elegant faux stained glass, personalized gifts, animated greeting cards, elegant wall hangings, memory books and quilts, jewelry, games, etc.

Requirement for attendance: imagination or a desire to imagine. New crafters may attend to learn new computer tricks and experienced crafters may attend to learn computer tricks. None of the classes require previous experience.

Creativity grows in a creative environment. Come play with us. Each class will be different based on the needs and skills of the students. Requests for specific content are invited.

When you register, tell us what you want to learn, what software you want to use and anything else you want to share. **Prerequisite:** Introduction to the Macintosh or a good knowledge of the Mac OS and its interface. The price is $35 ($50 for non members).

Computer Crafting Class
3/10/99 from 1 pm - 4 pm
(Mary Keene)
4/21/99 from 1 pm - 4 pm
(Mary Keene)

Working with QuickTime 3 Pro

Have you ever wished you could make a video from your computer instead of writing a report? Have you ever wanted to add titles, credits and/or a new sound track to your home videos? Have you ever wanted to cut or mix your own audio tapes? Have you wanted to make your own QuickTime movie, a QuickTime panorama or make QuickTime VR object? Do you know what equipment you need and how to hook it up to your Mac to make all those things happen?

Some Specifics

■ **Where:** Unless otherwise stated, all tutorials sponsored by Washington Apple Pi are given at the office located at 12022 Parklawn Drive, Rockville, Maryland.

■ **When:** unless otherwise stated, all tutorials are three hours in length and begin at 7:00 P.M. on the date listed. The office building is secured at 6:00 P.M..

■ **Fees:** $35.00 per class for members and $50 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.

■ **Instructor Cancellation:** If a class is cancelled 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.

All these projects can be done with QuickTime 3 Pro which is included in Macintosh OS 8.5 In this class we will explore these projects, discuss what you need to do them, and show you where to buy the missing parts without spending a fortune. If you have a external Zip drive, please bring it and an empty Zip disk to class. If you have an internal Zip drive at home, please bring an empty Zip disk to class. This is an all day workshop. Please bring a sack lunch or money to order lunch in. **Prerequisite:** Introduction to the Macintosh or a good knowledge of the Mac OS and its interface. The price is $70 ($100 for non members).

Working with QuickTime 3 Pro
3/31/99 from 9:30 am - 4 pm
(Pat Fauquet)
4/22/99 from 9:30 am - 4 pm
(Pat Fauquet)
5/20/99 from 9:30 am - 4 pm
(Pat Fauquet)

Introduction to Adobe PhotoDeluxe

This inexpensive program is fun and easy to learn. It can be used to edit images for the web. It also can be used to enhance digital photographs or scanned images, make calendars, posters, and cards. The only major drawback to the program is its poorly written manual with lots of neat examples but few detailed instructions. In this class students will learn how to use this program to accomplish many tasks that normally require Adobe PhotoShop. **Prerequisite:** Introduction to the Macintosh or a good knowledge of the Mac OS and its interface. The price is $35 ($50 for non members).
Introduction to Adobe PhotoDeluxe
4/23/99 from 9:30 am - 12:30 am
(Pat Fauquet)

Introduction to MovieWorks

Many Washington Apple Pi members purchased MovieWorks at the November General Meeting. Come learn how this software works in a hands-on session. We will make a "movie" that brings in several pictures, adds

titles, has narration and an animation and transitions between pictures. We will then make QuickTime movies that can be played on a computer and over the Internet. The instructor will demonstrate how to digitize a movie on a computer with a video capture card and how to record from the computer to a VCR. We will discuss how to add video capture and video out capabilities to your computer. We will also discuss how to optimize your system to make the best possible movies with MovieWorks. Students are invited to bring their own pictures to be put into their MovieWorks projects. If you own a Zip drive or other large capacity storage device, you may want to bring it to take your project home. If you do not own MovieWorks, information will be provided on where to obtain the software. The price is $35 ($50 for non members).
Introduction to MovieWorks
3/17/99 from 9:30 am - 12:30 pm
(Pat Fauquet)
4/15/99 from 1 pm - 4 pm
(Pat Fauquet)

Graphic Hardware Workshop

This will be a free form session. Scanners, digital cameras, a tripod and turntable, microphones, an AV Macintosh and VCR will be available for student use. Software such as Adobe PhotoDeluxe and PhotoShop, MovieWorks, QuickTime movie, panorama and VR author ware, audio editing and recording software, and Internet authoring packages will be available for student use. The instructor will provide hands-on guidance. Students should bring photos or objects to scan, sounds or movies to digitize, scripts to record, or projects in progress. Since the end products may be too large to fit on a 3.5 disk, students are encouraged to bring drives for removable media other than Zip drives. Two Zip drives will be available.

This workshop does not replace introductory instruction in individual software packages such as PhotoShop,

MovieWorks and PhotoDeluxe. The instructor will aid in accomplishing projects, but will not be able cover introductory material. The price is $35 ($50 for non members).
Graphic Hardware Workshop
3/3/99 from 9:30 am - 12:30 pm
(Pat Fauquet)
4/15/99 from 9:30 am - 12:30 pm
(Pat Fauquet)
5/12/99 from 9:30 am - 12:30 pm
(Pat Fauquet)

Home and Small Business Financial Management

Introduction to Quicken

This course will be an introduction to the personal use of Quicken 7 or 98, and will cover the following: Entering Accounts, Use of QuickFill, Split Transactions, Categories, Writing

Checks, Preferences, Passwords, Help, Reconciling Accounts, Reconciliation Report, Credit Card Accounts, Transferring Money.

Students should have some familiarity with the program and made an attempt to use it before class. The class will be taught using Quicken 7 (not the deluxe version). The instructor will try to answer all questions as long as they are within the curriculum outlined above. Bring your written questions. **Prerequisite:** Introduction to the Macintosh or a good knowledge of the Mac OS and its interface. The price is $35 ($50 for non members).

Introduction to Quicken
3/4/99 from 7 pm - 10 pm
(Henry Miller-Jones)
3/10/99 from 9:30 am - 12:30 pm
(Pat Fauquet)
4/23/99 from 1 pm - 4 pm
(Pat Fauquet)

Making Quicken Really Useful as an Interface to Your Bank
Instructor will go over online banking and bill paying along with the general concept of this new banking service.

The focus will be on using Quicken with a Crestar Bank account. The principles are the same with most financial institutions, so if you use or plan to sign up with another bank, this will still be valuable. To use any of these services, you need at least a 14.4 modem and Quicken 7 (you cannot use earlier versions).

If you plan to use Citibank's service or some other financial institution (certain Credit Unions, for example) which have proprietary software, this class will be only of limited use, but may be helpful in understanding how these systems generally work, security issues, etc. Instructor has approximately one year experience with 3 different banking institutions/services. **Prerequisite:** Students should at least be using Quicken to maintain a checking account register. A basic understanding of Quicken and its basic terminology. The price is $35 ($50 for non members).

Making Quicken Really Useful as an Interface to Your Bank
Call Office for Dates

Databases, and Spreadsheet Programs

Introduction to FileMaker Pro and/ or the AppleWorks (a.k.a. ClarisWorks) Database Module
This course covers what a database is, database terms, how to plan a database, and create database fields and layouts. Searching, sorting, printing and editing information in a database will also be covered. The differences between the AppleWorks module and FileMaker Pro will be discussed as well as when and how to migrate an existing database into FileMaker Pro. **Prerequisite:** Introduction to the Macintosh or a general knowledge of the Mac OS and its interface. The price is $35 ($50 for non members).
Introduction to FileMaker Pro and/ or the AppleWorks Database Module
4/14/99 from 9:30 am - 12:30 pm
(Pat Fauquet)
5/19/99 from 9:30 am - 12:30 pm
(Pat Fauquet)

Washington Apple Pi
Tutorial Registration Form

Washington Apple Pi
12022 Parklawn Drive
Rockville, MD 20852
301-984-0300

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———————

Please fill in the course number(s) 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.

FileMaker Pro Clinic

This class is for those who have some experience with FileMaker Pro and are interested in asking questions and having specific problems discussed. The class will be a questions and answer format. You should bring along on floppy a sample of things you would like help. **Prerequisite:** Introduction to FileMaker Pro or a good knowledge of the basics of FileMaker Pro and its interface. The price is $35 ($50 for non members).
FileMaker Pro Clinic
5/19/99 from 1 pm - 4 pm
(Pat Fauquet)

Introduction to Spreadsheets

This class will introduce basic spreadsheet concepts. Students will learn how to set up a spreadsheet, how to enter and edit numbers and words, how to enter basic formulas and make basic charts and graphs. They will learn how to sort data and how to print the whole spreadsheet or only a portion of it. Students will use either the spreadsheet module of AppleWorks (ClarisWorks) or Excel. This class is not meant for persons who are intermediate or advanced users. **Prerequisite:** Introduction to the Macintosh or a general knowledge of the Mac OS and its interface. The price is $35 ($50 for non members).
Introduction to Spreadsheets
3/17/99 from 1 pm - 4 pm
(Pat Fauquet)
4/14/99 from 1 pm - 4 pm
(Pat Fauquet)
5/5/99 from 9:30 am - 12:30 pm
(Pat Fauquet)

Professional Graphics and Desktop Publishing

Adobe Photoshop Part 1

Learn the basic fundamentals of Adobe Photoshop, the most widely used graphics program. Learn the proper way to configure the Photoshop preferences and how to use the tool, info, channel and color palettes. Also learn how to use each of Photoshop's tools, create new documents, define colors and manipulate text and images. Also covered will be the proper format to save your image in, and what compression will or won't do to your image. Prerequisite: Introduction to the Macintosh or a good knowledge of the Mac OS and its interface. The price is $35 ($50 for non members).
Adobe Photoshop Part 1
3/3/99 from 6 pm - 9 pm
(Paul Schlosser)
5/5/99 from 6 pm - 9 pm
(Paul Schlosser)

Adobe PhotoShop Part 2

This class will cover use of the plug-in filters, scanning, exporting files for use in other applications, and more on layers, channels, and paths. **Prerequisite:** Adobe PhotoShop Part 1 or a knowledge of the topics covered in that class. The price is $35 ($50 for non members).
Adobe PhotoShop Part 2
3/9/99 from 7 pm - 10 pm
(Blake Lange)

Introduction to Adobe Illustrator

This course will cover the basics of vector graphics, drawing straight lines, curves, and shapes, tracing images, using paint tools, working with layers, and creating and editing text. **Prerequisite:** Introduction to the Macintosh or a good knowledge of the Mac OS and its interface. The price is $35 ($50 for non members).
Introduction to Adobe Illustrator
5/11/99 from 7 pm - 10 pm
(Blake Lange)

Introduction to Quark XPress

Learn the basic fundamentals of Quark Xpress, the most widely used page layout program. Learn the proper way to configure the Xpress preferences and how to use the tool, measurement, color and documents palettes. You'll learn how to properly create new documents, define four-color process and spot colors, create master pages and manipulate text and graphic objects. Learn how to correctly use Xpress font and picture usage windows and how to configure the document for the laser printer or high-resolution imagesetter. Prerequisite: Introduction to the Macintosh or a good knowledge of the Mac OS and its interface. The price is $35 ($50 for non members).
Introduction to Quark XPress
Call Office for Dates

Quark Xpress Clinic
This class is for those who have some experience with Quark Xpress and are interested in asking questions and having specific problems discussed. The class will be a question and answer format and you should bring along on floppy a sample of things for which you would like help. Prerequisite: Introduction to Quark Xpress or a good knowledge of the basics of Quark Xpress and its interface. The price is $35 ($50 for non members).

Quark Xpress Clinic
4/7/99 from 6 pm - 9 pm
(Paul Schlosser)

Introduction to PageMaker
This course is for new users of PageMaker. It will cover using the various tools in the tools palette, the commands in the pulldown menus, and the control palette. You will learn how to create pages, bring in various types of text and graphics and do page layout. **Prerequisite:** Introduction to the Macintosh or a good knowledge of the Mac OS and its interface. The price is $35 ($50 for non members).

Introduction to PageMaker
4/13/99 from 7 pm - 10 pm
(Blake Lange)

PageMaker Clinic
This class is for those who have some experience with PageMaker and are interested in asking questions and having specific problems discussed. The class will be a question and answer format and you should bring along on floppy a sample of things for which you would like help. **Prerequisite:** Introduction to PageMaker or a good knowledge of the basics of PageMaker and its interface. The price is $35 ($50 for non members).

PageMaker Clinic
Call Office for Dates ■

iMac Benchmarks: Quick Comparisons

© 1998 Washington Apple Pi Labs

Benchmarks

BENCHMARKS are wishy-washy things. When you are comparing apples to oranges, do you compare color? Texture? Vitamins? Taste? Ballis--tic characteristics when you throw them at bad mimes? Do you use the same standards all the time, even when the standards become outdated or inappropriate?

The most widely quoted benchmark in the Macintosh world is *MacBench 5.0*, by Ziff-Davis Publishing Co. *MacBench 5.0* is more-or-less OK, but Washington Apple Pi Labs prefers our own Mac Bench (see "Introducing: Washington Apple Pi Mac Bench," *Washington Apple Pi Journal*, January/February 1998, pp. 25-26). Among many other flaws, Ziff-Davis keeps "renormalizing" the benchmark with every release, making it impossible to do longitudinal comparisons. In Version 5.0, for example, the Power Macintosh G3/300 is given a score of 100 as the "standard," making it very difficult to make comparisons with older machines.

In short, we didn't use *MacBench 5.0*. Instead, we used Symantec's *System Info 4.0*, part of *Norton Utilities for Macintosh 4.0*. *System Info 4.0* has several things to recommend it, but the biggest one is that it covers older machines. It does have a few quirks: it suggests the disk cache should be set to 128K, that AppleTalk should be off, and that the video should be set to 256 colors. Since these are not ideal for an iMac, we dubbed these "Norton settings." We then created another set of settings with the disk cache set to Default (by pressing the Default button in the Memory Control Panel), AppleTalk to On, and video to Millions of colors. We also decided to retest the iMac after adding 64 megabytes of memory (for a total of 96 megabytes) and installing Mac OS 8.5 (instead of the "fresh out of the box" combination of 32 megabytes of memory and Mac OS 8.1). We then ran several benchmarks, under differing conditions:

Score	Setup (* supplied by System Info 4.0)
0.961	Mac Plus *
1.07	Mac SE *
6.76	Mac II *
19.7	Mac IIfx *
47.1	Quadra 840AV *
100	Power Mac 6100/60 *
581	iMac, 32 MB, Mac OS 8.1, Norton settings
500	iMac, 32 MB, Mac OS 8.1, "typical use"
611	iMac, 96 MB, Mac OS 8.5, Norton settings
498	iMac, 96 MB, Mac OS 8.5, "typical use"

Editor's note: to those of you who found the J/F version of this article confusing (without the tables)— my apologies. I imported the article, and since it was from one of my best sources and time was short, I didn't proof it. Therefore, the fact that the tables did not come in with the text wasreported to me by the very capable person(s) who put this together.

Although we had rejected it earlier, we were curious, and decided to try MacBench 5.0 as well, and got these results:.

Score	Setup (* supplied by MacBench 5.0)
Processor	
100	Power Mac G3/300
72	iMac
Disk	
100	Power Mac G3/300
74	iMac (32 MB, Mac OS 8.1)
99	iMac (96 MB, Mac OS 8.5)

From this, we drew a few conclusions:

• As the *MacBench 5.0* disk test shows, it really does pay to have more memory, and use the Default setting in the Memory Control Panel to set an optimum disk cache;

• An iMac may or may not be three-quarters as fast as a Power Macintosh G3/300. Despite our best efforts, neither Apple nor any of our so-called "friends" would loan us one for testing. However, three-quarters as fast as a G3/300 is still very, very fast;

• The System Info 4.0 benchmarking demonstrates that, yes, you can get higher benchmark scores by turning off networking and setting an iMac screen to 256 colors. However, if you didn't want networking and you were satisfied with 256 colors, you could have purchased a Pentium;

• Yes, an iMac really is between 500 and 600 times faster than a Mac Plus;

• Yes, it really is five to six times faster than a Power Mac 6100, too.

Subjective Benchmarks

Subjectively speaking, we also, unanimously, concluded that we'd rather be working on one iMac than 500 to 600 Mac Plus computers. In theory, 500 to 600 people working at Mac Plus computers might actually get more work done than one person working on an iMac, especially since the Mac Plus didn't come with *Nanosaur*. We have no desire to test this theory.

There are, of course, other things an iMac can do that a Mac Plus cannot, such as run *Gerbils! Gerbils!*, created by the same people who wrote *Nanosaur*, was designed as a demonstration of what can be done with Apple's QuickDraw 3D technology. Unlike *Nanosaur*, *Gerbils!* really isn't a game; no matter what you do, you can't win or lose. Instead, you watch oddly-shaped "gerbils" run around on a track and occasionally bump into one another while music plays in the background. You can vary the track texture, the shape of the "gerbil," and radically alter the track layout.

You can also run, if you have enough memory, multiple copies of *Gerbils!* This is far, far more fun than running any "normal" benchmarking utility so, after installing a total of 96 megabytes of memory and Mac OS 8.5, we installed *Gerbils!* on the iMac. Then duplicated the *Gerbils!* folder. Several times.

We discovered that you could run up to 12 copies of *Gerbils!* simultaneously, each with its own customized, textured track. This serves as a good test of the multitasking abilities of Mac OS, and nicely demonstrates the speed and power of the iMac's video circuitry. But mostly it is funny: when a gerbil is bumped off a track, it says "Bye-bye." When twelve tracks are going at once, it sounds like a preschool when the kids are leaving for home.

Economic Benchmarks

"The news media" has expressed interest in who is buying the iMac. The answer is: almost everyone. There have been many Mac loyalists, finally moving from their Mac Plus machines to the PowerPC age. There have been government agencies (NASA's headquarters purchased 600), die-hard Windows users (some of whom claim they are "just testing it out"), and game players (the iMac is a great game machine).

For Mac loyalists with older machines, what kind of value does the iMac offer? (See chart on page 61.)

Compared to a Mac Plus of twelve years ago, an iMac is almost half the cost. It comes with 32 times as much memory, 5,000 times as much storage, and (as noted earlier) is between 500 and 600 times faster. If you set
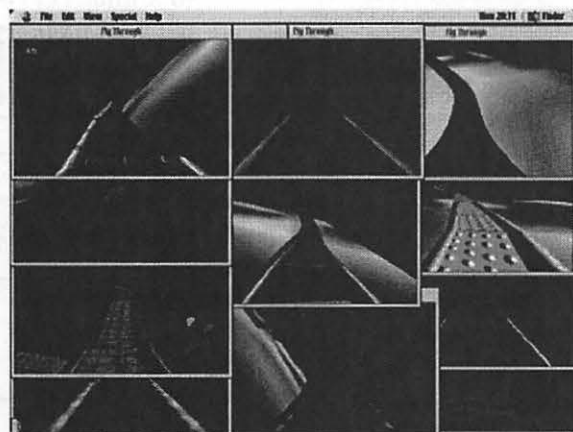
If you increase the memory on an iMac to 96 megabytes, you can run twelve copies of Gerbils! *at the same time, each with individually textured tracks. (Yes, we know only eleven copies show up in this screen shot, but there really were twelve copies running). You can see one of the "gerbils" on the left side, in the third pane down. Incidentally, it is not a good idea to run a test like this when there are others around, as the constant "Bye-byes" tend to drive people mad.*

	Mac Plus	iMac
Introduced	January 1986	August 1998
CPU	8 MHz 68000	233 MHz PPC 750
Floating Point Unit	None	Built-in
Level 1, Level 2 cache	None	32K/32K, 512K
Data path	16 bit	64 bit
Bus speed	8 MHz	66 MHz
Memory	1 to 4 megabytes	32 to 384 megabytes
Video	512 x 342, black and white	512 x 384 to 1280 x 1024, 256 colors to millions of colors
Storage	800,000 byte floppy	4 billion byte hard drive, CD-ROM drive
Sound	8-bit mono	16-bit surround sound stereo
Networking	LocalTalk port	10/100Base-T Ethernet port
Bundled software	None	Acrobat Reader 3.0.1 ClarisWorks 5.0 FAXstf 5.0 Nanosaur 1.0.5 Quicken Deluxe 98 Williams Sonoma Guide to Good Cooking Microsoft Internet Explorer 4.0.1 Microsoft Outlook Express 4.0.1 Netscape Navigator 4.0.5 America Online 4.0 MDK Kai's Photo Soap SE
Price	$2495	$1299

the iMac screen to 800 x 600 pixels (the most common setting), the built-in display shows almost three times as much information, and in millions of colors instead of black and white.

It is entirely possible that none of the software you ran on your Mac Plus will run on an iMac, and it won't talk to your old ImageWriter dot matrix printer, either. This is a blessing. Trust us on this.

While we would *still* like to do some comparison tests against a Power Mac G3/300 or G3/333, all our tests do show one thing: this is a fast, powerful machine, and an excellent value. Moreover, as two members of the Washington Apple Pi Labs team insists, "it's cute." ■

REMINDERS

● **Elections are Coming!! Remember to Vote!!**

● **Send in your receipts from GIANT**

● **Computer Show and Sale—June 5th**

● **Computer Camp—2 sessions in July**

MoniSwitch: When You Have More Macs Than Sense

© 1999 Washington Apple Pi Labs

EVERYONE HAS the same problem: only two hands, only one pair of eyes. You've tried to compensate for this limitation by getting a chair with wheels and a "wraparound" desk that looks like a battle station command console on *Star Trek*. But you still can't seem to keep track of everything. Then one day you get an E-mail that starts out:

> MoniSwitch2 & MoniSwitch4: Umschalter zum Betrieb von 2-4 Macs an 1 Monitor und Tastatur.

You look at your Monitor and your Tastatur and say, "That's it! That's the answer!" Then you realize you don't read German. Dang!

The MoniSwitch is a keyboard and monitor switch that, depending on the model, allows you to share one keyboard and monitor with either two or four Macs. This is handy: many of the desktop Macs stack quite nicely, so you can have a tower of computers and, by rotating a switch, select the one you want to control at any point.

For graphic artists, the MoniSwitch is a clear winner. It isn't at all uncommon for a graphic artist to have an older Mac that is plugged into a scanner and a handful of removable media drives (Zip, Jaz, Syquest, Bernoulli). Meanwhile, they have a second Macintosh, a screaming, byte-burning Power Macintosh G3 that they use for rendering pictures and other horsepower-intensive applications. With a MoniSwitch2, they can switch back and forth between the two machines, taking advantage of all the peripherals, while viewing everything on a single screen and using a single keyboard, mouse, and graphics tablet. Best of all, the the MoniSwitch2 that makes this all possible is only $110, including cables.

Network managers, those strange

"Buying a MoniSwitch requires some effort: it isn't advertised, nor is it sold in any stores. If you are in Europe....For those in the U.S., the exclusive distributor is The Mac Guy, a non-storefront Web retailer in Portland, Oregon."

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people who have windowless rooms overcrowded with incomprehensible stuff, will find the MoniSwitch4 indispensable. Instead of devoting, say, 10 linear feet of space to keyboards and mice for four Web servers, plus even more space for four monitors (which nobody but the network manager ever sees), a single MiniSwitch4 can control everything. Most amazing is the price: $165 for the MoniSwitch4, including cables.

Washington Apple Pi Labs, ever at the cutting edge of yesterday, didn't have a MoniSwitch4 to play with, so we used a MoniSwitch2 (for two Macs) and dreamed dreams of a MoniSwitch4. The MoniSwitch2 is an unremarkable metal box that, on the front, has a switch marked "A" and "B." Assuming everything is plugged in correctly, when the switch is in the "A" position, you can boot the computer from the keyboard Power On key, force a reboot from the keyboard, type, mouse around, view, and generally do whatever you want with whatever Mac is plugged into the "A" ports on the back. If you switch the MoniSwitch to the "B" position, you can do the same with a *different* Mac plugged into the "B" ports on the back. This saves a huge amount of desk space.

And huge amouts of money, too. Say you are fond of big, expensive monitors. And you like big, extended keyboards. And you prefer fancy trackballs to everyday mice. With a MoniSwitch, you can share one 17" or 19" monitor, one keyboard, and one trackball between two different Macs, saving you from an expensive divorce settlement with your spouse.

The MoniSwitch isn't the only Macintosh keyboard and monitor switch, but it is probably the least expensive. Rose Electronics has an excellent keyboard-monitor switcher, the ServeView, in models that can support up to 16 Macs at once. But an 8-machine ServeView is roughly $1500, and a set of cables for one Macintosh is around $50. In other words, a fully equipped ServeView costs more than many Macs.

There are some critical differences between the ServeView and the MoniSwitch. With the ServeView, switching between computers is done by the keyboard: pressing Control, then 1 (not at the same time: Control, lift finger, then 1) switches to computer 1; Control, then 2 switches to computer 2; etc. This is quite elegant and quick. By comparison, the MoniSwitch is controlled by the large switch on the box, so your hands must leave the keyboard to switch between systems.
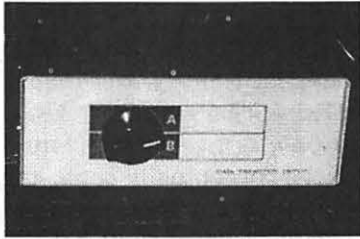
The front of the MoniSwitch2 offers this exciting two-position switch. Most people can master the switch with only minimal training. (Photo by Lawrence I. Charters)
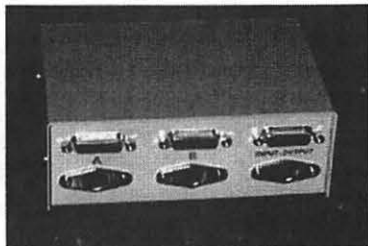
There are three sets of ports on the back of the MoniSwitch2. On the left, the input ports from Mac A, with Mac B's input ports in the center. The user views the monitor and types on the keyboard/mouse plugged into the set of ports on the right. No power is required, nor is any software required, and the A and B cable sets are included.

On the other hand, the MoniSwitch is in some respects more functional. If you hold down the Shift key during a restart, the MoniSwitch will force the Mac to load without extensions, as expected; the ServeView will not.

Another important consideration: both devices require Macs that have an ADB (Apple Desktop Bus) port and a 15-pin monitor port. In other words, they won't work on a Macintosh SE (no video port) or an iMac (no video port or ADB port). But they will work on things as dissimilar as a Macintosh IIci and a Power Macintosh 8600/300. Another nice touch: neither device requires any software.

Simply on the basis of price, the MoniSwitch is the clear winner: almost anyone who has more Macs than desk space can put it to good use. There are two "flaws" worth mentioning, however. First, the cables supplied with the

MoniSwitch are fairly short: one meter (a little over three feet). This may not be a problem if you have some Macs stacked on top of each other, but if you are trying to share things between Macs on, say, two different tables or desks, the tables or desks better be close together.

The second "flaw" is one of training: you must let a Macintosh fully boot before switching to the "other" Macintosh. If you don't, the ADB bus gets confused, and the mouse will jump around, drag things you didn't want to be dragged, and generally act strange. A small application, ADB Cleaner, is included to help with this problem. When you double-click on ADB Cleaner, it "resets" the ADB bus. For several seconds you won't be able to do anything at all, then your Mac will make an odd sound and the keyboard and mouse will be working correctly. (After trying this several times, some at Washington Apple Pi Labs think the sound is that of a newborn baby after it gets whacked on the butt, right after birth. Others, troubled by this description, think they need to hang out with a new crowd.)

Buying a MoniSwitch requires some effort: it isn't advertised, nor is it sold in any stores. If you are in Europe, you can order one directly from the manufacturer, Dr. Bott KG. For those in the U.S., the exclusive distributor is The Mac Guy, a non-store-front Web retailer in Portland, Oregon.

If you have more than one Macintosh, a MoniSwitch could be an excellent space-saving investment. For those with only one Macintosh, consider: a new, blue and white G3 has both an ADB port *and* a video port.

MoniSwitch2 complete with cabling (2xADB+2xVideo) $110
MoniSwitch4 complete with cabling (4xADB+4xVideo) $165

The Mac Guy
http://www.themacintoshguy.com/sales/video.shtml

"Network managers, those strange people who have windowless rooms overcrowded with incomprehensible stuff, will find the MoniSwitch4 indispensable."

orders@themacintoshguy.com
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http://www.drbottkg.de

Fine print: The Mac Guy also sells adapters that *may* allow the MoniSwitch to work with a combination Macintosh and Windows machine, depending on how the PC is designed. We didn't want to spoil your reading pleasure, so Washington Apple Pi Labs voted to stick this notification down here. ■

Index to Advertisers

Learning New Software— Goes to the Movies!

...highlighting the MacAcademy training videos of the programs Macromedia Director 6™ and MetaCreations Painter 4™, and how videos can help prepare one for better using books about applications.

by C. Etana Finkler

This is another of a series of articles with a focus of exploring various ways of learning a new software program.

WELL, AFTER A stressful fall in a new job and an overly busy schedule, I decided that over the holiday month I would accomplish two finite, relatively passive goals: to watch the two full sets of MacAcademy videos that I own: Macromedia Director 6 and MetaCreations Painter 4. I did complete these goals, and in this article, I would like to share my very positive reactions to watching training videos as a method of learning software, and to recommend it to you. (I am unfamiliar/unaware of the training videos made by other companies, but I believe there are other companies that do make videos).

The MacAcademy videos are not inexpensive *for the individual,* at $59 per volume or $50 each if you buy the set for the application (and a set can be 3-7 volumes). *For a corporation,* however, they are extremely inexpensive, and a well-advised investment, since they can be viewed and re-viewed by every computer user of that particular program. They cover an extensive set of applications, including accounting, desktop publishing, digital cameras, integrating programs, Mac to Windows, multimedia, networking, troubleshooting, and web

Fig. 1

page design—practically any software application you could think of, they have. They have Access™, 4th Dimension™, Infini-D™, Premiere™, etc. I have viewed QuarkXpress™, Adobe Illustrator™, Director 4, 5, and 6, and Painter 4, and I have to say that they can be very boring to watch! However, you can rewind, and that feature makes all the difference.

My first encounter with them was with QuarkXPress, which I just wasn't comprehending either on my own or with a training book. Then I watched the trainer on the video show how to make text boxes and art boxes in Quark, and I had the program down! Showing sometimes can be much more effective than reading in a book, and this is where video training excels.

I *really* was won over to the MacAcademy series of videos with the most recent set I bought—the Painter 4 series. I bought them used at this past December's Washington Apple Pi Computer Show and Sale and couldn't wait to view them. I have had Painter on my system since I installed Painter II on my IIsi,. At that time not only could I drink a cup of coffee while waiting for the pencil to turn to an eraser, but could also grind and brew

the coffee; it was that slow. Now I have a 7100av/80 and two monitors, and I had perused the *Painter 4 Wow!** book and the *Painter for Macintosh Visual Quickstart Guide**, but I still found Painter to be conceptually confusing to learn: often I would try to paint and nothing would come out of the brush; the tools are not totally intuitive.

And that is where the videos were so helpful. Jeremy Sutton, the trainer, is the same artist who has created the beautiful video demo that comes on the Painter CD-ROM, of drawings of a piano keyboard transforming into a pianist's face and then figure, with audio accompanying the video drawings/paintings. I can't really decide whether I liked his training best, or whether Painter was the most fun to be trained in, but I just loved these 4 videos, and wished there were more of his good ideas to try out.

I did watch the videos all the way through first off, and it really gave me a better understanding of what the big picture was with Painter, especially in the case of the floaters, paths and masks. (When I try to do what the trainer does on the video, step by step, and it is the first time I am viewing

Figure 2.

the video, I get so bogged down in the slowness of it, with my minimal understanding of the program, that sometimes I put the videos aside and don't finish watching the set.) After I watched the video all the way through, I went back to review a few specific topics: customized brushes whereby Jeremy shows how to create one brush with a thick / thin / opaque / transparent range to it; and to review how to make my own image hose that I could spray over my painting (*Fig. 1*).

I then went on to my books with renewed vigor, and created the two other paintings included with this article—*Fig. 2* and *Fig. 3*—still-life of flowers, and rollerblader. I was able to use floaters, masks, and shapes, as well as different paint brushes and paint techniques, and then bring the riff (raw Painter layers file) into Photoshop for finalization and flattening and saving as a tif, then into Quark to print. I finally understand the process and am able to make happen what I want to happen.

The MacAcademy videos are very well organized: on the back of the box subjects are listed, with their time code of when they appear in the video, and on the actual video there is always a clock, so you can find what you want pretty efficiently.

I bought the 5-video set of Director 4 videos (at $49 per video) a couple of years ago before I owned the program; I watched one and a half videos, falling asleep along the way, and put them aside for a year; they are that tedious. Then at a Washington Apple Pi Computer Show and Sale, I bought an old version of Director for $20, and for $500 I upgraded it to Director 6 Studio, including Sound Edit. I sent another $100 to MacAcademy for the 5-video upgrade to the Director 6 videos, which are taught by a different artist, Chris Leach. And I have to say I often fell asleep last month watching this Director 6 series.

Director is a program I still hardly know; it is a programming applica-

tion, combining sound, video, text, artwork, simple animation, and interactivity into either a running video or an interactive game, training application... I believe it is the program that makes the tutorial and product demo applications you get when you buy software CDs. Director is the maestro that puts it all together. So the MacAcademy training video set has to be somewhat dry, I guess, since it is teaching programming, not painting or drawing.

I can't exactly say whether I liked the way these Director videos are organized/presented, or not. I think it would have been better if the projects they chose as their base for teaching the program were projects I could better identify a use for. They showed a very specific project: a game which was interactive, and I think I could write my own storyboard and use some of those methods, but mostly it seemed that I would not be doing that, so how is it relevant to what I might do; and what exactly can I do in Director? How could they show me the different possibilities that Director can do, and how can I approach learning them?

These videos got so bogged down in the lingo that is Director, that I didn't understand how I could apply that to anything I could do. I definitely will re-view the videos, and step-by-step I will do the two projects covered on the 5-video set along with the trainer. I am confident that doing his project along with him will teach me so much, and I might even have a couple of "ah-ha's" along the way that will put me over the edge of comprehending how to make Director projects of my own, instead of just being too overwhelmed by the program.

One interesting thing to note is that when I watched their previous set of either Director 4 or Director 5, the instructor showed things that weren't even covered in this current version's video: how to take a set of frames over time and combine them all into one

Figure 3.

little movie condensed down into one frame, sort of stuffed/compressed.

I think the best way to learn Director would be to be the apprentice to an artist who is using it!

However, now, after viewing the training videos through to the end, I am returning to the *books* with an entirely different sense of understanding, and finally I am able to use the books as they were intended; I am finding them easy to understand, and full of rich possibilities of going deeper into learning the applications. I can finally recommend these two books mentioned above, as well as the fat and thorough *Director6 Demystified** book that I look forward to returning to, now that I have seen the videos. (I sailed through the first 200 pages of the 1000 pages of *Director6 Demystified* last year, loving and understanding their presentation of the chapters: A Guided Tour: the Stage, the Cast, the Score, Animation, Making it Multimedia, Introducing Interactivity, Deeper into Graphics... and then I got completely stopped at "Book 2: The World

of Lingo." I couldn't figure out how to learn to make projects; I could hardly identify whether the second section of the book was a tutorial or a lecture; it seemed obtuse. But now, I just went back to skim the pages, and after viewing the video, I must say that the book looks less daunting.

So I do highly recommend viewing training videos of software programs or other computer topics. Videos can very effectively help prepare one for better using the many terrific books that are written with the purpose of teaching the use of applications, but may be too advanced for the beginning learner to tackle. ∎

Best of the TCS

Compiled and edited by John Ludwigson

ONE THINKS of computer people as a bunch of t echno-crazed geeks; moved by nothing but flying bytes and mysterious boxes connected by rat's nests of wires and cables. Yet, the geeks have a literate side. Behold the lament of one and the contrapuntal response.

The English, of course, deal with this through their quaint institution of royalty. When fazed by their own linguistic inventions, they kick it all upstairs: it is, after all, The Queen's English!

Geek 1: This is very well done, but who wrote it?

Let's face it —English is a crazy language. There is no egg in eggplant nor ham in hamburger; neither apple nor pine in pineapple. English muffins weren't invented in England or French fries in France. Sweetmeats are candies while sweetbreads, which aren't sweet, are meat.

We take English for granted. But if we explore its paradoxes, we find that quicksand can work slowly, boxing rings are square and a guinea pig is neither from Guinea nor is it a pig.

And why is it that writers write but fingers don't fing, grocers don't groce and hammers don't ham? If the plural of tooth is teeth, why isn't the plural of booth beeth? One goose, 2 geese. So one moose, 2 meese? One index, 2 indices? Perhaps one Kleenex, 2 Kleenices?

Doesn't it seem crazy that you can make amends but not one amend, that you comb through annals of history but not a single annal? If you have a bunch of odds and ends and get rid of all but one of them, what do you call it? If teachers taught, why didn't preachers praught? If a vegetarian eats vegetables, what does a humanitarian eat? If you wrote a letter, perhaps you bote your tongue?

Sometimes I think all the English speakers should be committed to an asylum for the verbally insane. In what language do people recite at a play and play at a recital? Ship by truck and send cargo by ship? Have noses that run and feet that smell? Park in a driveway and drive on a parkway? How can a slim chance and a fat chance be the same thing, while a wise man and a wise guy are opposites? How can overlook and oversee be opposites, while quite a lot and quite a few are the same? How can the weather be hot as hell one day and cold as hell another?

Have you noticed that we talk about certain things only when they are absent? Have you ever seen a horseful carriage or a strapful gown? Met a sung hero or experienced requited love? Have you ever run into someone who was combobulated, gruntled, ruly, or peccable? And where are all those people who ARE spring chickens and who WOULD actually hurt a fly? You have to marvel at the unique lunacy of a language in which your house can burn up as it burns down, in which you fill in a form by filling it out, and in which an alarm clock goes off by going on.

English was invented by people, not computers, and it reflects the creativity of the human race (which, of course, isn't a race at all). That is why,

when the stars are out, they are visible, but when the lights are out, they are invisible. And why, when I wind up my watch, I start it, but when I wind up this essay, I end it.

Geek 2: In rebuttal to the last message...

(Multi-national personnel at North Atlantic Treaty Organization headquarters near Paris found English to be an easy language ... until they tried to pronounce it. To help them discard an array of accents, the verses below were devised. After trying them, a Frenchman said he'd prefer six months at hard labor to reading six lines aloud. Try them yourself.)

Dearest creature in creation,
Study English pronunciation.
I will teach you in my verse
Sounds like corpse, corps, horse, and worse.
I will keep you, Suzy, busy,
Make your head with heat grow dizzy.
Tear in eye, your dress will tear.
So shall I! Oh hear my prayer.

Just compare heart, beard, and heard,
Dies and diet, lord and word,
Sword and sward, retain and Britain.
(Mind the latter, how it's written.)
Now I surely will not plague you
With such words as plaque and ague.
But be careful how you speak:
Say break and steak, but bleak and streak;
Cloven, oven, how and low,
Script, receipt, show, poem, and toe.

Hear me say, devoid of trickery,
Daughter, laughter, and Terpsichore,
Typhoid, measles, topsails, aisles,
Exiles, similes, and reviles;
Scholar, vicar, and cigar,
Solar, mica, war and far;
One, anemone, Balmoral,
Kitchen, lichen, laundry, laurel;
Gertrude, German, wind and mind,
Scene, Melpomene, mankind.

Billet does not rhyme with ballet,
Bouquet, wallet, mallet, chalet.
Blood and flood are not like food,
Nor is mould like should and would.

Viscous, viscount, load and broad,
Toward, to forward, to reward.
And your pronunciation's OK
When you correctly say croquet,
Rounded, wounded, grieve and sleeve,
Friend and fiend, alive and live.

Ivy, privy, famous; clamour
And enamour rhyme with hammer.
River, rival, tomb, bomb, comb,
Doll and roll and some and home.
Stranger does not rhyme with anger,
Neither does devour with clangour.
Souls but foul, haunt but aunt,
Font, front, wont, want, grand, and grant,
Shoes, goes, does. Now first say finger,
And then singer, ginger, linger,
Real, zeal, mauve, gauze, gouge and gauge,
Marriage, foliage, mirage, and age.

Query does not rhyme with very,
Nor does fury sound like bury.
Dost, lost, post and doth, cloth, loth.
Job, nob, bosom, transom, oath.
Though the differences seem little,
We say actual but victual.
Refer does not rhyme with deafer.
Foeffer does, and zephyr, heifer.
Mint, pint, senate and sedate;
Dull, bull, and George ate late.
Scenic, Arabic, Pacific,
Science, conscience, scientific.

Liberty, library, heave and heaven,
Rachel, ache, moustache, eleven.
We say hallowed, but allowed,
People, leopard, towed, but vowed.
Mark the differences, moreover,
Between mover, cover, clover;
Leeches, breeches, wise, precise,
Chalice, but police and lice;
Camel, constable, unstable,
Principle, disciple, label.

Petal, panel, and canal,
Wait, surprise, plait, promise, pal.
Worm and storm, chaise, chaos, chair,
Senator, spectator, mayor.
Tour, but our and succour, four.
Gas, alas, and Arkansas.

Sea, idea, Korea, area,
Psalm, Maria, but malaria.
Youth, south, southern, cleanse and clean.
Doctrine, turpentine, marine.

Compare alien with Italian,
Dandelion and battalion.
Sally with ally, yea, ye,
Eye, I, ay, aye, whey, and key.
Say aver, but ever, fever,
Neither, leisure, skein, deceiver.
Heron, granary, canary.
Crevice and device and aerie.

Face, but preface, not efface.
Phlegm, phlegmatic, ass, glass, bass.
Large, but target, gin, give, verging,
Ought, out, joust and scour, scourging.
Ear, but earn and wear and tear
Do not rhyme with here but ere.
Seven is right, but so is even,
Hyphen, roughen, nephew Stephen,
Monkey, donkey, Turk and jerk,
Ask, grasp, wasp, and cork and work.

Pronunciation — think of Psyche!
Is a paling stout and spikey?
Won't it make you lose your wits,
Writing groats and saying grits?
It's a dark abyss or tunnel:
Strewn with stones, stowed, solace, gunwale,
Islington and Isle of Wight,
Housewife, verdict and indict.

Finally, which rhymes with enough
—
Though, through, plough, or dough, or cough?
Hiccough has the sound of cup.
My advice is to give up!!!

****

When a Pi member, who had been seeking help with a complex setup, wrote that she had been "tinkering with 2 computers in my living room, upgrading the ram, cables mismatched all around...I'm finally a Mac nerd!", it inspired the following travel story.

Traveler: It definitely sounds like it. Next step: airplanes.

I don't remember where I was going but — I had a PowerBook 520 from work. Not the most powerful laptop on the planet, but good for doing remote E-mail. As always, I'd packed the case with two LocalTalk adapters and some telephone cable.

Someone on the other side of the aisle was using a PowerBook 3400. I noticed that they had an outdated copy of Disinfectant, as well as outdated copies of Disk Copy and Disk First Aid. So I offered to update them, and we ran an AppleTalk cable across the aisle. As we were in the very front row, this didn't block anything except some of the flight attendants.

But it did attract attention, and someone else with a PowerBook 5300 asked what we were doing. We told him. I then looked back in my case and — tada! — found another set of LocalTalk connectors, and another telephone cable. So the network snaked over the back of the seat to his computer.

This attracted a crowd, including one PC wag who mentioned that, when he networked with his friends, he just talked. Everyone thought this was quite funny.

And after that: restaurants.

I don't remember what prompted it, but maybe three years ago a group of us were having breakfast in Boston. We were there for MacWorld and, over pancakes and waffles, had some kind of discussion going. By the time the waitress came back with our checks, there were LocalTalk cables running all over the place. She had not a clue what we were doing, but dismissed it all by saying, "Oh, you're computer people." Apparently it is perfectly OK to run cables all over a restaurant (or airplane) if you are "computer people."

****

Spam seems to have become part of life in a wired world. Coping with it requires a good deal of resourcefulness, ingenuity, and maybe a sharp knife. Here is a brief cautionary tale for Pi members who travel.

Traveler: I am accessing the TCS for the first time in over two years and doing it via telnet, so please forgive me for any errors.

I am currently living in Spain and use my WAP email account as a backup. I arrived here in Sept '96 and have had no problems using it to send mail until this weekemd. Since then I have received a message such as the below whenever I tried to send a message via my account:

> Connecting to Internet using Account RWAPS
      Sending   mail   using Rmailroom.wap.orgS
      Sending 1 of 1
      Sending message RTestS
      ** 571 <dtripp@bitmailer.net> we do not relay.

      ** SMTP server error R503 no RCPT address receivedS

I assume that you have found it necessary to change the WAP setup to avoid spammers. Is there a way I can change my parameters so that WAP will recognize me as a legitimate user calling in remotely vice via a direct connection? This would have been a problem even when I was in Alexandria and wanted to check my personal email from work.

Penguin 1: Your surmise is correct. You must now GET your mail and then SEND within thirty seconds of that, in order to have a successful send.

Also note the added and unwanted R and S stuff in your message; those are curly quotes changed in the translation to ASCII. To prevent them, don't use curly or smart quotes when

composing a message.

Penguin 2: >Is there a way I can change my parameters so that WAP will recognize me as a legitimate user calling in remotely vice via a direct connection?

Yes, look a dozen or two messages back on this board for very detailed explanations of this phenomenon and what to do about it. If you'd like the technical perspective from the folks who created our mail server...

<http://www.stalker.com/SIMS/AntiSpam.html>

... read the section called "Relay Restrictions and Mobile Users". Basically Eudora out of the box handles everything correctly. Emailer, which you seem to be using from the log snippet you posted, needs to check for new mail (with your name and password) before sending outgoing mail. There's no down side to just hitting Send a second time if you get the relay restriction message, other than the fact that it's an inconvenient second click.

On the positive side, this closes a hole that'd been used to send spam to other people on the Internet, the backlash from which had crashed us more than once. It was time for us to fall in line with the expected practice of restricting e-mail relay to authorized members only. So when you're dialed directly into Rockville you're authorized at connection, and when you access the server from Spain you authorize by first successfully checking your incoming mail.

P.S. The messages to read are 1206 and 1209.

[Ed. And here they are!]

C1 B30 Msg # 1206 EMAIL Change
      Yesterday, a spammer used our Mail Server as a relay to send spam to the Internet. Because of this, I have had set a feature of our Mail Server to disallow this. However, setting the fea-

ture will impact any Explorer user who gets mail remotely using a direct Internet connection instead of dialing up one of our Explorer modems.

THIS ONLY AFFECTS EXPLORERS WHO ACCESS MAIL REMOTELY

It does not affect anybody who normally dials into Explorer and connects via PPP.

There is a workaround that will permit remote access of mail by our users. You must first get (request) mail before you try to send any that you might have. When you do this the mail server notes the internet address that you requested mail from and for the next 30 seconds it will accept and relay any mail sent from that address. So, in order to send mail you must get mail first and then immediately send the mail that you have pending.

To the best of my knowledge, most mailers can be set to get mail without sending any pending mail. Some versions of Claris eMailer do not have a convenient way to keep from sending mail that is pending and will send first and then wait for mail. One way you can do this is to open all of your pending mail, tell eMailer to 'Connect now' or 'Connect again' and once it checks for mail (you can see this in the status window) you can then press the 'Send now' button in each open message. There may be other ways [Ed: see Emailer's preferences] but I have not had time to look at this.

If anybody comes up with specific workaround methods for other mail clients, please post them here. I will collect them so that the TCS Crew can document the how-to in a web page for others to use.

To repeat, this only affects Explorers who access their mail remotely over the Internet, not those who make their connection to Explorer via our dial-in lines. Remote Explorers will have to get mail before they can send mail and must send it within 30 seconds of getting it.

The Crew is sorry that we must cre-ate more complexity for some of our users but unfortunately there are some people (spammers) who abuse the rights of others. Were we to not close the relay, our Mail Server would be 'blacklisted' and none of the Explorers would be able to get mail.

C1 B30 Msg # 1209 R/1206 EMAIL Change

>> To the best of my knowledge, most mailers can be set

>> to get mail without sending any pending mail.

This is Eudora's normal method of operation — precisely for this reason. When you launch the program and check your mail, it'll first check for incoming mail before it sends any outgoing mail. This ensures that TCS members are password-authorized to use the server for outgoing mail. (And as you said, anybody sending mail from within the Pi's own dial-ups is already password-authorized during PPP dial-up — what we're talking about here is basically our PowerBook people on the road, or people who check the TCS POP mail server from work.)

Boiled down, I don't think anybody will notice a difference in service. In the worst possible case, on the road with some specific software packages, you might have to press Send a second time in response to an alert message.

The up side, of course, is that nobody can hijack our system to distribute spam to zillions of outside victims. (Thus overstraining our servers twice: first with the flood of outgoing mail, then with the backlash from other victims.)

You curious types might want to read a chapter from the documentation: <http://www.stalker.com/SIMS/AntiSpam.html#Mobile>

> Any way we can ID the spammer(s) and take some action - complain, set a filter, at least name the <bleeping> creeps?

Generally speaking, efforts to protect ourselves are fairly effective while efforts to police the Internet are not. We have a lot of anti-spam measures activated, and we block ** A LOT ** of spam. (This is, after all, a sweetheart target market for cretins flogging computer-related junk.) But we haven't gone after anybody in a while (they're no longer unaware that they're being cretins, and having their Internet accounts pulled is no longer a deterrent), and we're also not trying to track down any of the creeps who keep trying to take down our web server with Pings of Death. We just prevent them from doing so. /;+/

[There were some additional comments....]

Member 1: >we block ** A LOT ** of spam

Yes, I have notice a marked decline over the last few months. I had begun to hope that it was because people had decided that I was not as, umm, lonely as they had thought. ;-)

> This is, after all, a sweetheart target market for cretins flogging computer-related junk

One of the curious things about the computer-related sales spam that I have gotten is that these messages *never* seem to try to sell anything that is Mac-related. People around here have already found ways to "Instantly Solve Almost All Windows '95 Problems" as one spammer recently offered.

Penguin 1: >these messages *never* seem to try to sell anything that is Mac-related.

Right, and when they point to web pages or downloads with trojan horse effects, these shenanigans are "only available for Windows." It sure is a breath of fresh air to be using the minority platform.... ■

Graphic Design 102 for Anybody: Out of Memory Messages

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A S A MAC owner, you can do a lot of computing without learning a lot of "tech stuff." As a Mac graphics application user, this statement remains true. There comes a day however, when it becomes necessary or helpful to learn a few simple technical concepts so computing can remain simple and easy. That day is today if you are reading this.

With the advent of lower pricing for scanners coupled with more user-friendly software, the "memory book" fad, faster, simpler computers and the great Mac OS have combined to make the "high-end graphics look" more available to all levels of computer users from newbies to advanced professionals. Learning a few basic and common concepts is the difference between desiring and doing for the average user (like Joe Performa who retired to Florida or Betty Secretary who

has a home business and wants to use her scanner for a copy machine and for graphic acquisition).

In the July/August *Journal* I talked about some general scanning tips, techniques and the capabilities of PhotoDeluxe which is one of the most common applications included with reasonably priced scanners. In this article I will talk about the common problems, some solutions and provide a quick checklist to help diagnose and solve these common problems.

Insufficient Memory problems

Most computer users have at one time had a dialog box report insufficient memory. The first thing to check is the "About this Computer" box in the Apple menu. Find the Apple in the upper left hand corner of the menu bar, click and hold until the menu drops down, move the cursor to the words, "About this Computer..." and select to open the dialog box (Fig 1).

If the box reported enough RAM, the newbie assumes a software problem and calls tech support or another user for suggestions. The first

thing suggested is to "Get info" and see what the number boxes say (Fig. 2). Notice the "thermometer" or "status" bars to the right of each item listed. Each bar has a "filled" space (rounded area to the left) and an empty space (flat area to the right). Compare the bar for Mac Os and the bar for ClarisWorks. The empty space on ClarisWorks indicates that if ClarisWorks is slow or crashing, RAM allotment is not the problem since very little of its allotment is being used at present. If Netscape is crashing or balking, increasing its RAM allowance might help since it is using most of its allowance. To increase RAM, close the application, open the "Get info" box and increase the "preferred" number (Fig. 1). This should solve that problem. If nothing in the dialog box points to a problem, the "scratch disk" may not have enough room or maybe "Virtual Memory" is the problem. In order to understand what is going on, let's take each factor individually.

Memory

There are 2 basic kinds of memory, ROM and RAM. I will briefly define these terms for newbies.

ROM—(Read Only Memory) is the most basic form of memory in a computer. Think of it as a miniature CD-ROM (Compact Disc Read Only Memory) soldered to the computer's motherboard (the green plastic thingy with all the sharp metal spikes and tiny silver/gold lines running around it). ROM, like the CD ROM has program code written to it at the factory. Once written, the data can not be altered. It is set in concrete to all intents and purposes. It is this software that tells your computer it is a Mac and expected to act like a Mac. It teaches your Mac to be a team player with Mac software and hardware.

RAM—(Random Access Memory) is the memory that the user interacts with when using a computer. It is in this arena the majority of computer work takes place. RAM is used by the computer processor, by the op-

Figure 1.

About This Computer		
		Mac OS 8.1
Built-in Memory: 72 MB		
Virtual Memory: Off		
Largest Unused Block: 19.8 MB		™ & © Apple Computer, Inc. 1983-1997
Claris Emailer 2.0	4.4 MB	
ClarisWorks	9.5 MB	
JPEGView	10.1 MB	
Mac OS	17.7 MB	
Netscape Navigator™ 4.04	7.2 MB	
SimpleText	528K	
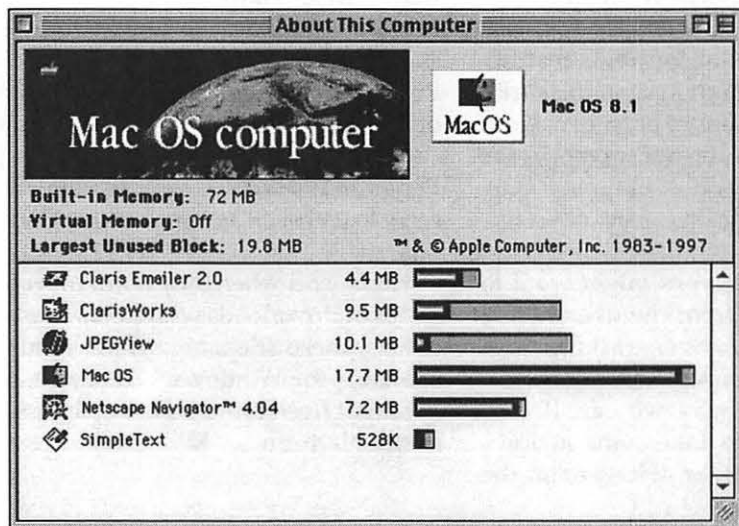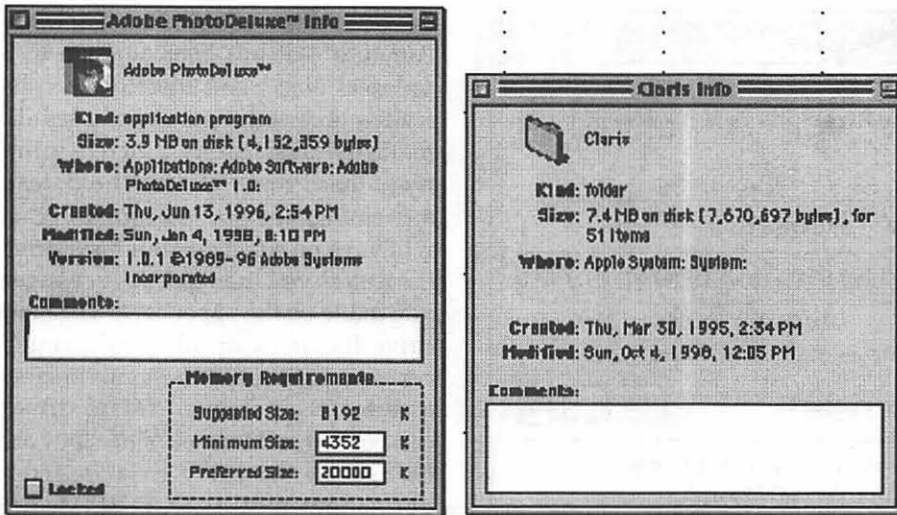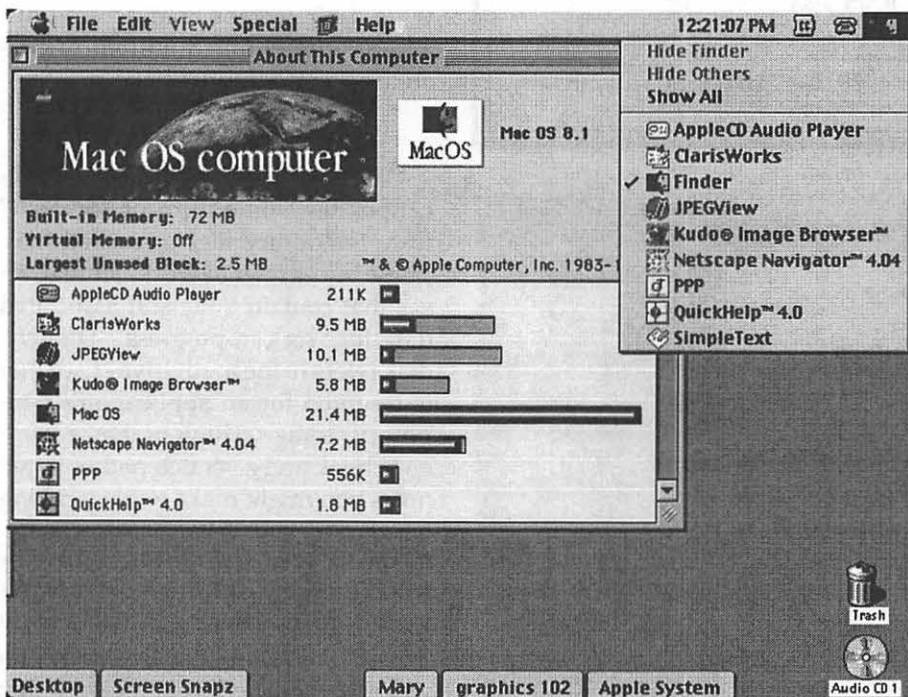
Figure 2.

Figure 3.

erating system software and by application software.

Like responsible adults, the Mac OS knows it must take good care of its resources if it is going to be able to meet all the demands made on it. The Mac OS takes a portion of the installed RAM right off the top and tucks it away in a space marked "System Folder" to meet its needs (Mac OS). For our purposes, think of it as the "operating system's RAM budget." The OS further splits this allocation and parcels out shares to all the bits and pieces in the system folder that use RAM. It then sets aside enough surplus RAM for stuff not currently using it and tacks on a bit of RAM insurance for unexpected demands. Think of the surplus as a "savings account"; technical term for the RAM claimed by the OS is "system heap."

All unused RAM is collectively known as the "application heap."

For all operating systems 7.5.x and below, the RAM allotment is a pretty rigid arrangement. The system can share the heap but can't loan it to software applications. Starting with OS 8.0 and later, the system heap becomes increasingly dynamic, i.e., able and willing to use, share and return system RAM to the system heap as necessary (fig. 1 and 3). If an extension is not loaded or functioning at present, its allocation stays in the heap to be loaned to something else.

With all versions of 7.x.x, the only way to decrease the size of the system heap was to turn off all non-critical pieces of OS software, which yielded mixed results.

OS 8.0 and higher returns all unused RAM to the heap for reuse by whatever needs it at the moment. This improved use of RAM resolved many Out of Memory messages provided you have enough RAM to begin with. (I am assuming you checked the RAM requirements before buying or using software.)

Application RAM

When you "Get Info", notice the boxes labeled suggested size, minimum size, and preferred size (Fig. 2). Only "application" icons have size boxes. Folder icons do not have RAM size boxes. The preferred size must be at least equivalent to the suggested size or the application requirements as stated by the manufacturer, or higher, otherwise you will get an insufficient memory message as soon as you attempt to open the application.

Okay, you have verified there is no problem with the physical amount of RAM or the RAM allocation but you are still getting an insufficient memory message. Now what? It's time to check the amount of space on the "scratch" disk.

Hard Drives

Out of memory messages not caused by RAM problems may be caused by one of several other pos-

Figure 4.
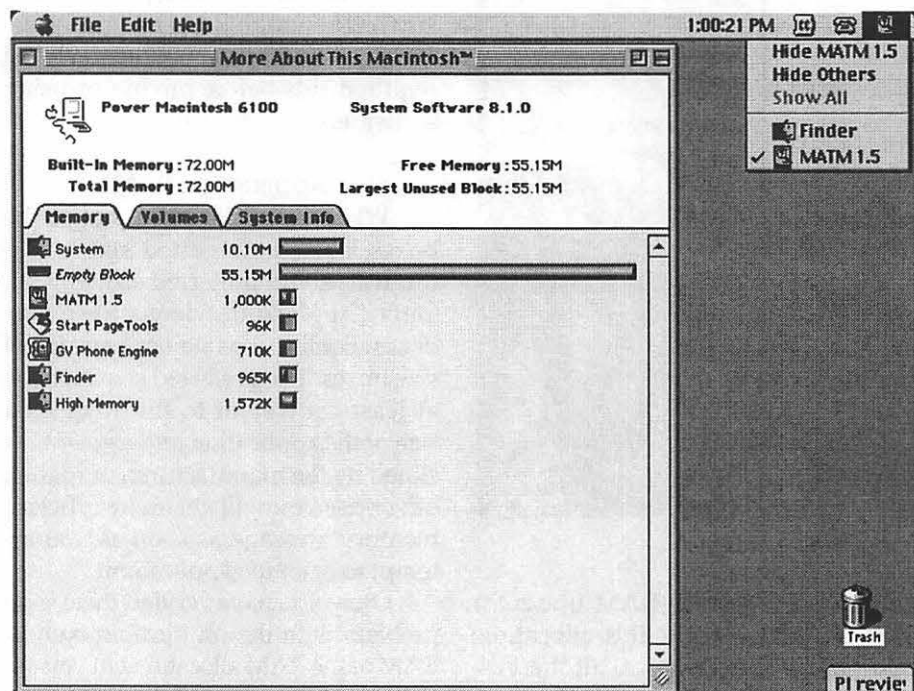
Figure 5.

the hard drive, it becomes "invisibly concrete"—it has been written to a physical object and therefore can be readily accessed, viewed and used. To make the data visibly concrete, print it out (hard copy). You can hold, read and change the printed copy but that will have no effect on your hard drive file unless you then enter the changes you made on the paper copy. The hard drive file, back up files and printed copies constitute permanent, concrete files for our purposes. (Hard drives can be read and written; since they are changeable, in reality, they are semi-permanent records.) CD-ROMs are read only and you can not change the files on the CD unless you first move the files to the hard drive. CD-ROMs were designed for read access only, and are pretty much written in concrete by any definition.

Temporary or current files

Virtually all image editing applications use some form of "Scratch" disk, temporary files or cached files. These terms refer to work/storage areas that contain a file and associated data for work in progress. "Scratch" disk refers to the hard drive space that is reserved for an application's temporary storage. Think of it as a reference book and a scratch pad of jotted notes you might make while working on a project you were writing or drawing by hand back in the dinosaur days BMacs (before Macs <grin>). The scratch disk is the space on a hard drive that is claimed by an application when it is opened. It is used by that application to hold notes, changes, revisions, layers, temporary files, work in progress, etc. This space is used only while the application is open. When you quit that app, the files on the scratch disk are stored with the file they belong to. Think of scratch disks as a form of volatile hard drive space. When you quit the app, the scratch disk "disappears." When you open the app, the scratch disk reappears. Actually, you have to take that on faith,

sibilities. To better understand how, look at where things go wrong and the solutions.

Primary "concrete" work products go to the hard drive for storage.

The data you produce is semi-concrete while it is in RAM—it will disappear when you quit an application or shut down the computer if you have not saved to a hard drive. Once written to
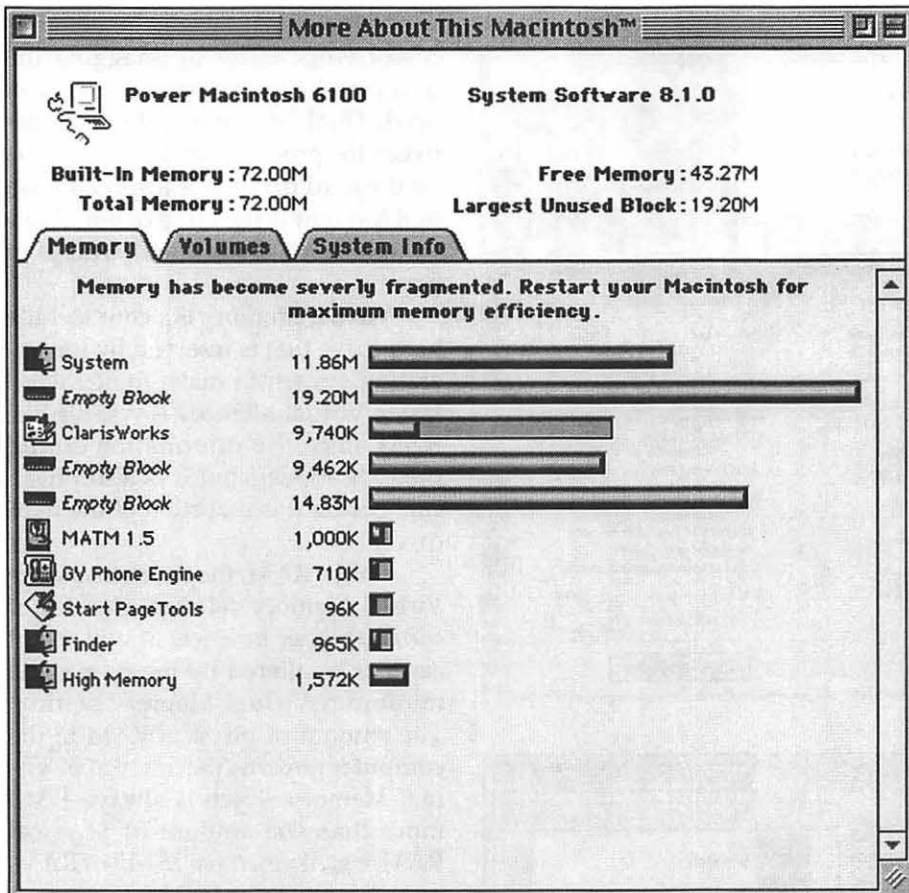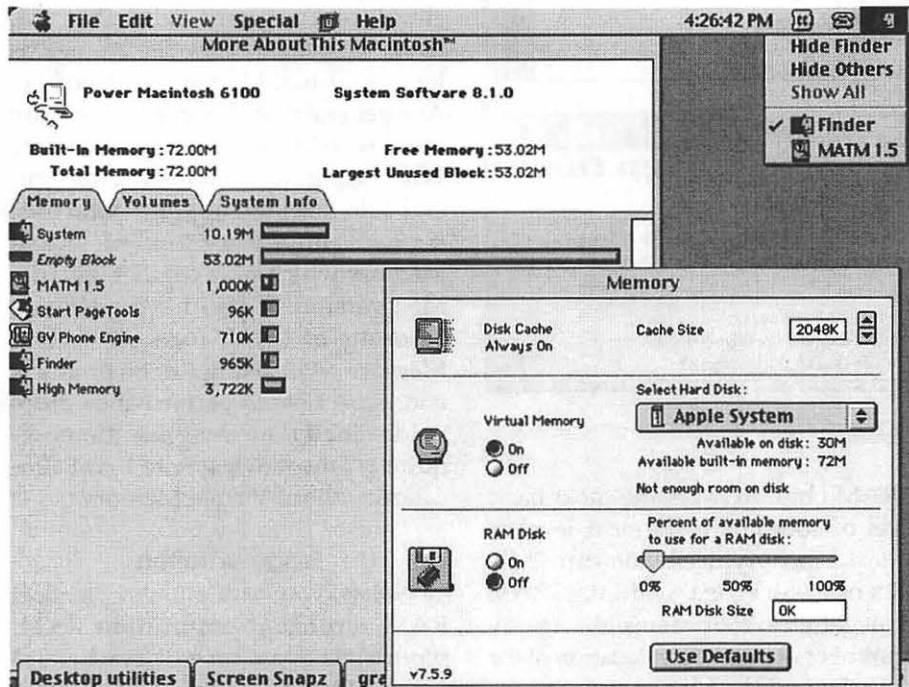
Figure 6.

Figure 7.

since the only evidence you have that a scratch disk was created is the reference to it in the application or user's manual. All Adobe software, including PhotoDeluxe, (except fonts and type products) use scratch disks (Fig 4).

If your hard drive does not have adequate free space for the scratch disk, you will get insufficient memory messages. There is no set amount of space necessary for a scratch disk. It is a fluid amount depending on the file size and complexity. When using image editing software like PhotoDeluxe or PhotoShop, always be sure you have 3-4 times the file size in available hard drive space for the scratch disk. Some software will permit you to designate a primary and secondary scratch disk. If you work with multiple partitions or drives, you may want to choose the "scratch" disk.

If you have the option and the space, designate one partition or drive as your scratch disk and remove everything in that space when you finish a project. Resist the temptation to "loan" the scratch space for any reason except scratch disk use. Everything in the scratch disk space should be erasable daily to maintain adequate scratch space and to ensure files are properly saved and stored in data files which are routinely backed up. Normally, the boot drive or the drive that holds the application is the default scratch disk. If you don't see scratch disk in the menu bar, look for it in the "preferences" item in the application's menu bar. Before you start work on a large project, clear an adequate space on the hard drive as a protection against out of memory messages.

Other Memory schemes

Disk cache is a portion of RAM reserved for storing data that will be used by the processor frequently (fig.5). The cpu (central processing unit) is able to access this data quickly and easily so you don't have to take naps while it hunts through the billions of bits of data on your hard drive
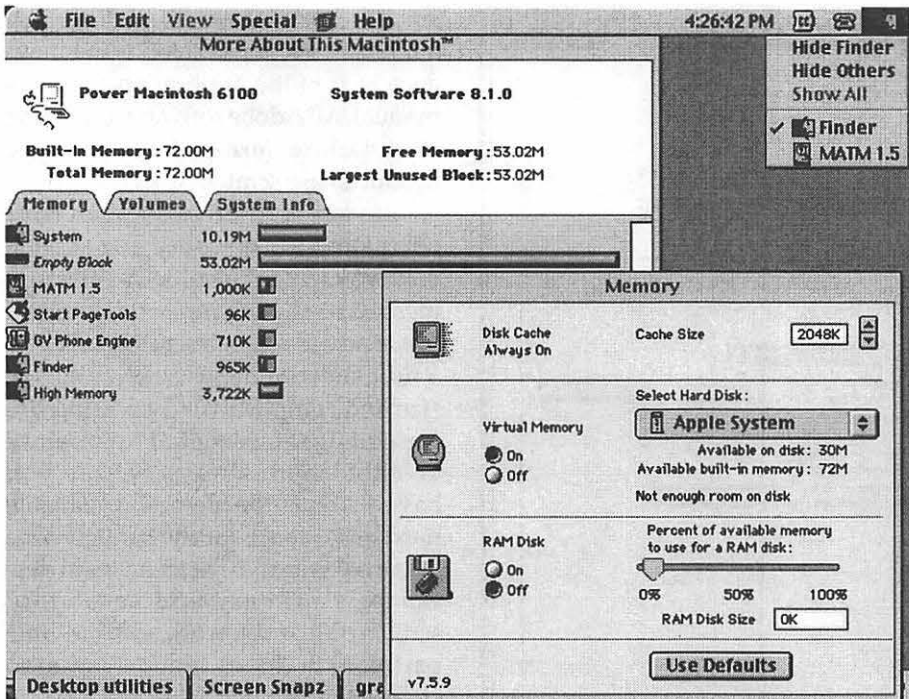
Figure 8.
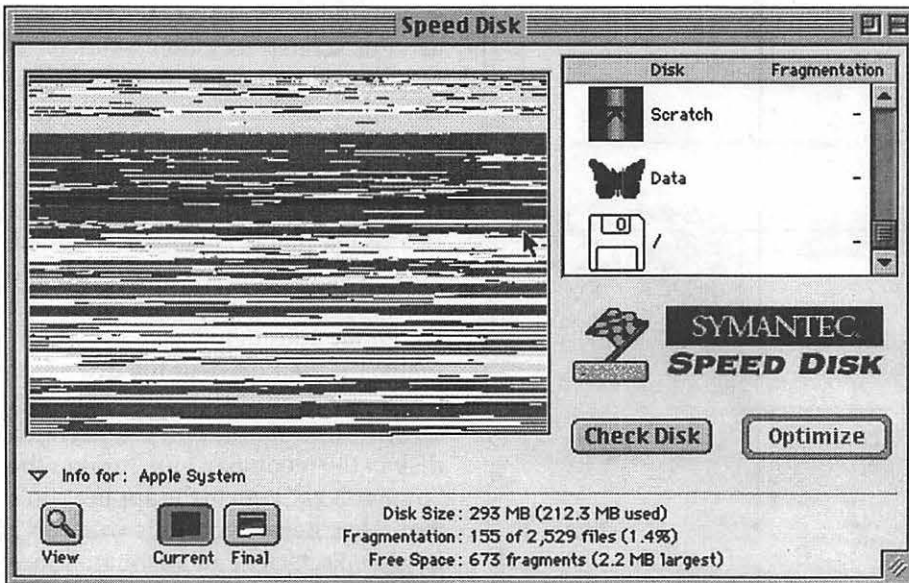
Figure 9.

for what it needs. Disk cache cuts down on the amount of time you spend waiting and the processor spends searching. Other forms of cache also help you work faster and more efficiently while helping to avoid out of memory messages.

L2 cache is a chip added to the motherboard; it looks very much like a RAM chip. ROM is the most basic level of code, L2 is the next level of code. L2 cache typically comes in 256k, 512k or 1 MB. When we think of RAM in megabytes, 256k seems like a puny amount of memory. The location of the L2 cache and the type of code it uses allows it to perform Herculean feats. Think of it as David slaying the giant

applications. L2 cache helps the processor work faster by snagging the next chunk of data the processor will need. Think of it as a middleman between the processor and system cache on the hard drive. It is a special form of RAM that is the HD's devoted servant, robot, assistant and whipping boy.

Virtual Memory is a chunk of the hard drive that is reserved by the operating system to make things work faster. Virtual Memory is volatile like RAM since the information stored there disappears but it is also physical because it is a portion of the hard drive.

Unlike RAM, the user can change Virtual Memory settings—turning it off, on, higher or lower at will. What can not be altered by the user is the minimum Virtual Memory setting. The amount of physical RAM in the computer governs the amount of Virtual Memory which is always 1 MB more than the amount of physical RAM, e.g., if you have 16 MB of RAM, your minimum Virtual Memory is 17 MB (Fig. 5). This 17 MB is a physical chunk of your hard drive that will never be available for file storage as long as Virtual Memory is turned on. As a general rule, Power Macs will run faster with Virtual Memory turned on. When using Adobe software, this general rule does not apply. Adobe uses it's own proprietary form of Virtual Memory which may conflict with the Mac version. If you have adequate amounts of RAM, turn off Virtual Memory when using Adobe products and expect some performance drop. Additionally, most applications require 1-2 megabytes more RAM allocation without Virtual Memory.

Fragmentation

Okay, you have enough physical RAM, sufficient application RAM, scratch disk space cache, L2 cache, and Virtual Memory is set appropriately but you still get out of memory messages. Now what? If you are working
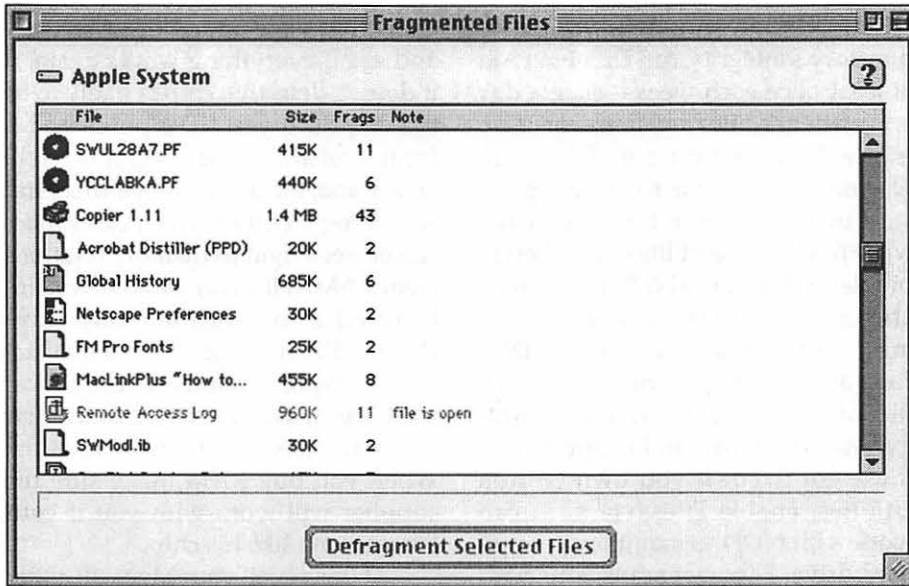
Figure 10.
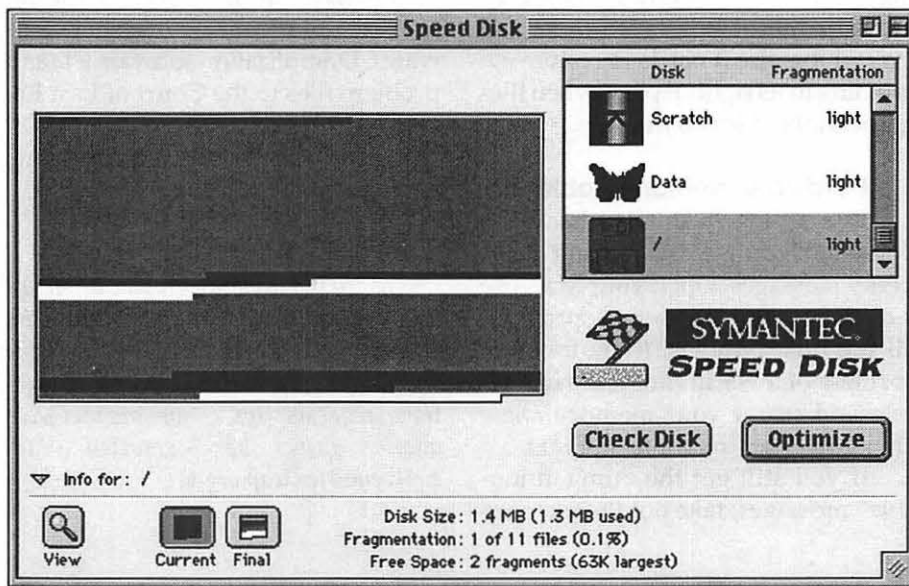
Figure 11.

with very large files, fragmentation may be your problem. Fragmentation can occur in two places—RAM or hard drive. System 7.x.x had more problems with RAM fragmentation than OS 8.x does   hard drive fragmentation will occur with any OS.

RAM fragmentation occurs when you must work with several applications open or you may have opened and closed several applications since your last startup or restart (Fig. 6 & 7).

Some applications have better manners than others. When they close, they remove all traces of themselves from RAM and send their RAM allotment back to the application heap to be recycled to another application (Fig 6). Badly mannered applications leave the RAM allotment in pieces, some of which may be too small or too scattered for other applications to use (Fig.7). "About this computer" reports an unused block of RAM large enough, but an application or document may still refuse to open citing lack of memory because the *available memory is not contiguous* (Fig. 7).

To resolve RAM fragmentation, if you are running 7.x.x, restart your computer (Fig. 6). With 8.x, quit all applications and re-open the ones you need (Fig. 8). If you still get an out of memory message, re-start your computer. A restart before opening any large or complex graphics work is a good habit to form and can be faster in the long run since you are less likely to get insufficient memory messages that interrupt your thought processes.

Fig. 1 & 6 show RAM status using two different utilities. Fig. 1 is using "About the Computer" part of the Mac OS found in the Apple menu; fig. 7 uses a shareware utility called "More About This Mac" (see splash screen in Fig. 12). Compare the amount of information you get with both utilities.

If your RAM profile looks like fig.7, opening a large graphics file may result in a crash or freeze if the file is cranky.

Hard Drive fragmentation

Continual movement of data leaves bits and pieces scattered all over the hard disk (Fig. 9). When you save a file, it does not always go back into the same spot it came from. If it is too large to fit, it gets broken up to make it fit. If you have a nearly full hard drive, a small 16k file may get broken into 15 pieces or more as it looks for corners to squeeze into. (This is a major contributor to processor slowdown, see Fig 10.) How littered or neat your desktop looks is not an indicator of a messy or fragmented hard drive. Software such as Norton's Speed Disk must be used to check the amount of fragmentation. If you have been using Macs long enough to feel comfortable with them, follow the directions in Speed Disk to optimize the hard drive. If you are a relative newbie, call a more experienced friend and ask for help.*The single most critical factor is to back up your data files before you do anything else. Then and only then, run Speed Disk or other Optimizing software.*

Think of a fragmented hard disk as a little kid who craves sweets. If he can't get as much as he wants, he will resort to sneaking them, often hiding the wrappers under things, in corners, pockets, etc. Remember how you caught him with a mouth so full of candy he couldn't talk and candy wrappers falling out of his pockets? That is what a fragmented hard drive looks like and more significantly, what it acts like (Fig. 9).

The single most important thing required to keep your hard drive up to the hard work you expect from it, is an undamaged Disk Directory (Fig. 11). Moving things a lot especially in a hurry, makes it easier for things to get missed by the Disk Directory or the wrong information can be attached to

wrong files. To preserve your disk directory's integrity, run Disk First Aid at least once each week—once a day is even better, after any freeze or crash is ideal. After you run DFA, run Norton Disk Doctor to clean up the stuff that DFA doesn't fix. *Never run NDD first..* These utilities fix different problems. If you use NDD first, it may attempt to fix a DFA problem resulting in more damage. **Always run DFA first**, after it is happy, run NDD. If either one finds problems, run that utility after the repair to be sure everything got fixed. If you own Norton Utilities, enable Filesaver so it can work with NDD to maintain a happy hard drive. Filesaver scans your hard drive at the intervals you specify taking snapshots of your files, where they are stored, how you saved them and everything else it needs to restore everything to its rightful place when files get scrambled for any reason.

Hardware memory problems.

Everything in this list has been done and you are still getting those pesky messages. Open your Mac, use a can of compressed air to spray out all the dust bunnies, (they love the coziness of a warm motherboard) locate and reseat your memory chips after you clean the contact points.

If you still get the "unmentionable" messages, take out the memory

chips that were added most recently and see if everything works again, if it does, a defective chip is likely to be the culprit. If you have purchased it from a reliable source and it is a reliable brand, the dealer or manufacturer should replace it for you. Power Macs can be very rigid in their expectations from RAM. If the chip has been manufactured in one of the many ways cheaper RAM can be made, it may not meet the specifications of your Power Mac. This will increasingly be the case as PMacs continue to become faster. When you buy RAM make sure the supplier will work with you if your Mac doesn't like his chip.

At this point, your Mac will either be humming along happily or you will be down to your last nerve. In the latter case, take your cpu, system software CD, application software CD and problem files to the Court of Last Resort—The Tuesday Night Gang.

If you and your Mac are purring, enjoy yourselves! You've earned it.

Mary is a freelance graphic arts/craft designer and teacher in the Washington Metro area and an active member of the Washington Apple Pi. Questions, suggestions, requests, tips, comments and feedback can be emailed to: e.mkeene@tcs.wap.org &

Figure 12.

Solving the Y2K Crisis on the Cheap

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DO YOU HAVE friends, relatives and coworkers who are always "waiting" for things to get better? Once they get a new car, or a new spouse, or a new computer, they're going to *really* take off, conquer the world and finish that project that is way, way overdue. But they aren't going to do anything until the problems are solved, first.

Wrong: there will always be problems. It may come as a shock to most but: life is an endless series of problems. Discovering problems, avoiding problems, complaining about problems, being defeated by problems, and defeating problems is called "living."

There isn't anything else to living; that's it.

TV often suggest that, once you buy X or Y or Z, you can "start living." Don't wait: start now. Unless, of course, waiting is what you do best.

For example, you can wait for the Y2K Crisis to bring the end of the world. Maybe someone else will check to see if your employer's payroll system will send you paychecks in the year 2000. If it doesn't, it won't be the end of the world, and in the meantime just think of all the time you'll save by waiting.

Or you can act, and not wait for Y2K. Several dozen people outside San Diego decided not to wait and hitched a ride on a comet. This is the Lemming Approach: don't wait to fall off the edge of the world when you can jump. Millions of lemmings can't be wrong.

Or you can reminisce. "Back in the good old days," they say (you know who "they" are), "we didn't have problems like this." So rather than combat the Y2K problem, let's just journey back in time. Not just any old time, either, but a particular year. Pick one: 1972, 1944, or 1916.

1972

1972 was a great year. The calendars for 1972 and 2000 are identical: all the days of the year are on the same day of the week. Both have January 1 on a Saturday, both have February 29 on a Tuesday — they're identical twins, separated by a mere 28 years.

And 1972 was a splendid year. You were much younger then (if you'd been born). The economy was doing OK, we'd landed (and left) the Moon, things were less complicated and more relaxed. Well, yes, there was that pesky Viet Nam war, a few major riots, some problems at the Olympics, and a completely unnecessary attempt to rig the U.S. presidential election. But aside from that, it was a great year. If you can't deal with the Year 2000, you can always relive Year 1972. The calendar is the same.

1944

On the other hand, 1944 might be even better. If you think prices were low in 1972, the prices in 1944 were unqualified bargains. People were politer back then, children minded their parents, and nobody ever had their morals corrupted by watching violence on TV. The economy was booming, literally everyone had a job,

and there were no problems with the Olympics at all. None.

Admittedly, the Olympics were cancelled because of World War II, but almost everyone from that era will tell you that World War II was "a good war." You were much younger then (if you'd been born) so, if you can't deal with the Year 2000, try 1944. The calendar is the same.

1916

Then there is 1916. Looking at a calendar, the Year 2000 is a mere repeat of 1916, separated by just 84 years. As years go, 1916 is an ideal candidate for serious reminiscing: people really *did* walk five miles through the snow, uphill both ways. People really *did* enjoy brisk trips to the outhouse at midnight. Milk really *was* delivered fresh to your doorstep in the morning, in a glass bottle. (Or you could get it factory fresh in the barn, if you lived outside the city.)

Yes, yes, it is true the Olympics were cancelled. Europe was engulfed in a big war, but it involved a bunch

A twin of the Year 2000, 1916 was a time when men were men and women couldn't vote, and you could be jailed for talking about many of the things you hear on TV talk shows. Computer errors were unknown.

1944

Another twin of the Year 2000, 1944 was a year of full employment, and a Jeep was really a Jeep and not some fancy-smancy Suburban Assault Vehicle.

1972

Yet another twin of the Year 2000, 1972 was a wonderful time: spam E-mail was not a problem, the Internet was not crowded with Yahoos, and you could still go out to a movie at a drive-in.

of foreigners, so it wasn't a big deal. The worker's riots and strikes, and Red agitation, were passing fads, mere details. The important thing to remember is: if you can't deal with the Year 2000, you can always relive Year 1916. The calendar is the same.

Think Differently

If waiting, or jumping, or reminiscing aren't your style, you might consider actually doing something. Make sure that your bank is Y2K compliant; make sure your payroll system will pay you in the year 2000; make sure you have reservations if you plan on going out on December 31, 1999 (it promises to be a big night for partying). Don't worry about your VCR; if it is blinking "12:00" now, you obviously aren't concerned about programming it to record anything. The telephone company and electric company will still deliver service on January 1, 2000, the Rose Bowl Parade promises to be spectacular, and the biggest problem you are going to have shopping in the new year will be parking.

If you have a Macintosh, make sure it has a fresh battery. If the battery dies, you'll relive 1901 or 1956 instead of 1916, 1944, or 1972, and the days of the week will *all* be wrong. Aside from that, your Macintosh should be quite happy. (Of course, if you have a new Macintosh, you'll be even happier.)

If you don't have a Macintosh, consider cutting out one of the calendars accompanying this article and

2000

Without doubt, the Year 2000 will be a time of conflict: is it really the beginning of the next millennium, or the end of the last millennium? One sage piece of advice: have a big party on both December 31, 1999 and December 31, 2000, and cover all bets.

holding it up in front of your computer. If your computer can't deal with Y2K, maybe it would be happy with Y1.972K or Y1.944K or possibly Y1.916K. Full-page PostScript copies of the calendars are available on the Washington Apple Pi Web site, http://www.wap.org/.

It is your choice. ∎

Critical Y2K Dates for the Paranoid

ARE YOU paranoid? Do you have Doubts? Do you think people are too trusting? Then you should do your own Y2K tests. Here are some critical dates:

September 9, 1999: many lazy people enter distant future dates as 9/9/99. This will come back to haunt them on September 9, 1999, unless they make corrections before then.

December 31, 1999: Party time! Set your computer to December 31, 1999, and 11:58 p.m. Then turn the computer off for five minutes. Then turn it on and hope you see —

January 1, 2000: Among other things, make sure your computer thinks this is Saturday.

January 3, 2000: the first business day of the year 2000. Let's hope your computer thinks it is Monday.

January 10, 2000: the first day of the year 2000 with a double-digit day, and first one to require a seven-digit date field. Your computer should think it is Monday.

February 28, 2000: Set your computer to February 28, 2000, and 11:58 p.m. Then turn the computer off for five minutes. Then turn it on and hope you see —

February 29, 2000: Yes, the year 2000 is a leap year. Your computer should think it is Tuesday.

March 1, 2000: Assuming your computer doesn't think it is February 30, it should think this is Wednesday.

April 1, 2000: beginning of the second fiscal quarter for the year 2000. Your computer should think this is a Saturday. Be prepared for some really epic April Fool's Day pranks.

July 1, 2000: beginning of the third fiscal quarter for the year 2000. Your computer should think it is a Saturday.

October 1, 2000: beginning of the third fiscal quarter for the year 2000, and the beginning of the federal government's 2001 fiscal year. Your computer should think it is a Sunday. Fearless prediction: the federal budget will still be under debate in Congress.

October 10, 2000: Chinese Independence Day, and the first day to require an eight-digit date field. Your computer should think this is a Tuesday.

December 31, 2000: last day of the 20th century. You'll be partying, so who cares what day it is?

January 1, 2001: first day of the 21st century. Your computer should think it is a Monday, but don't go to work: it is a holiday.

September 8, 2001: many UNIX systems count days from an arbitrary beginning, and this date is day 999,999,999. HAL 9000 probably had problems on September 9, 2001...

February 29, 2004: the first leap-year day of the 21st century.

If you are running these tests on a Macintosh, you should be bored by now. If you don't have a Macintosh, you probably want to check them out; they are available in several flavors.

20th Anniversary Memory

Dave,

I guess my response is belated because I never really considered myself one of the old-timers. I'm surprised to be included in such an august group. For what it's worth at this late date, these are my recollections.

I first heard about Washington Apple Pi while I was working for Westinghouse in 1986, probably from Bob Leedom. I had been considering a personal computer but was not thrilled with either the Apple IIe or the IBM PC. Both used a command line interface and seemed like anemic versions of the VAX I was using at work. The Commodore Amiga had really neat graphics but it could not be expanded except through non-standard third-party card cages and it used the same old command line interface. Then Apple announced the Mac and I was hooked. I was fascinated with the graphical interface and started looking for an excuse to justify the cost. I actually joined WAP before I bought a computer to gain access to technical information and in hopes of participating in a group buying program.

On my first visit to WAP I found a small office on Woodmont Avenue that was crammed with literature and equipment. There was a library but there was not enough room to move around, much less find what you needed. The people at the desk were friendly and encouraged me to attend the monthly meetings.

When the Mac Plus was announced I realized that the SCSI bus resolved my concerns about expandability and I was ready to commit. I convinced my wife that I could use the Mac to process the payroll and accounting for her State Farm office and we purchased a Mac Plus with an ImageWriter for a little over $2700 on August 7, 1986. The next day I ordered a state-of-the-art 1200 baud modem so I could connect to the TCS. When System 7 became available we upgraded to 4 MB of ram and an enormous 40 MB hard drive. We continued to use that configuration until 1993 so we really got our money's worth.

Thanks for the chance to recall my first love affair with a computer.

--Bill Waring

DoubleClick

I JUST PURCHASED a HP-4100Cse scanner. I have a P/I-P55T2P4 motherboard with 16 megs of memory. I have a sound and video card. My hard drive is a 1.6G.

1. The scanner has a cable to connect to a UBS connection, but I do not have a UBS connector on my machine. I have COMM 2 available. I have the option of returning the scanner, and getting one with a parallel port for COMM 2, or getting a card that has two USB connectors for my PC. What do you suggest?

2. When I ran the CD that came with the scanner, it said I did not have the correct version of Windows 95. I am running version 4.00.950. How can I get a free upgrade, or is this okay to use with the scanner?

Dave Griffin
ireflyfish@aol.com

DAVE:
Dave, I think what we have here is "a failure to communicate."

First off, I'm not sure why the salesperson sold you a USB - Universal Serial Bus - product for a PC that does not have a USB "port" or connection. USB is the newest and latest way to hook up peripherals into your computer. It's actually been around awhile on the PC side tho it took Apple and the iMac to make it more of a standard. But the fact is, it is a great way to hook up everything from scanners to electronic cameras, printers and many other devices (and I mean many - daisy chained) quickly and easily to your computer. They're "hot swapable" too - which means you can plug a USB device in - and unplug it - as you desire without worrying if your computer is going to blow up (just joking - but you never want to try this with non-USB

devices as it could hurt your computer.)

That said, it looks like you have some choices to make. First off, your current PC can not use the scanner you bought. You can get a USB card to plug into a slot in your computer so that you can use the scanner. That would, however mean an additional cost for you. A better answer I think would be to take it back and exchange the HP for another scanner that can connect to your parallel port. USB devices communicate faster with a computer than do parallel devices, but in the case of a scanner, I don't think you're going to get much of a performance jump.

One other thing - I think you will be very disappointed in your scanner if you don't upgrade your memory. 16 megs is just not enough when you are scanning in pictures. I suspect you'll also see a performance boost with Windows as well. Buy as much as you can afford. Your hard drive is OK but you may also find a need to purchase a Zip or other external drive to add capacity. Those picture files can really take up a lot of space. By the way, the HP web site - at www.hp.com - offers a tremendous amount of information about the scanner you purchased and others in the same family. That includes information on installation, compatibility, etc.

Derek, I'm hoping you can give Dave some additional insite on this issue and how he can deal with upgrading Windows 95 to make sure the scanner will work with its bundled software. Can you even run Windows 95 with only 16 megs of memory?

DEREK: Well Dave, I agree with er..Dave. To answer your questions directly, you should return the scanner and get a parallel port version. (For the record, COM2 is a serial port not a par-

allel port.) You want the parallel port version. Make sure it has a *printer pass-through* to allow you to connect a printer at the same time so you don*t have to swap cables. You don*t want USB, because you would need to upgrade your Windows which brings me to your second question.

There are several different versions of Windows. You have the original one. You can get a free upgrade by applying the latest service patch, but if it isn*t broke... For more information on the different versions of Windows 95 see the October 12, 1998 issue of DoubleClick.

Question: I have Quick View Plus on my home and work pc and like it very much. My parents have a new Mac (8.5 OS) and I would like to get them the equivalent Mac program. Can you help me? Thanks - Steve

DAVE:
I did a little reseach to find out that Quick View Plus is a PC utility program that lets you open, look at, work with and convert more than 200 different file types - both PC and Mac text, graphics, spreadsheet, database and other files. Actually quite impressive just reading the information at www.inso.com. The latest version is 5.0.

Given everything you're looking for, I would recommend a couple of programs. First is a commercial program called MacLink Plus Deluxe. I mentioned this product in an earlier column. Now at version 10.0, this is a Mac program that will let your parents look at just about any type of file and manipulate it as they wish. Very important when trying to see attachments sent by email over the Internet. Check out the DataViz web site at www.dataviz.com for more information but you'll find it's capabilities are comparable to those of Quick View Plus. It's easy to use so I don't think you're parents would have much trouble with it, Steve. MacLink Plus is a commercial product so be sure to

check prices as they can vary a bit from catalog to your local computer store.

The second program that deals only with graphics is a mainstay in the Mac community. It's called Graphics Converter and is a long-time shareware product. Shareware is not commercial but you are asked to pay the author a "fee" for using the program. In any case, this is a great graphics-only program that will let you see literally any computer graphic format - Mac or PC - and convert it to any other. It can do much, much more but that's really the bottom line. Check out www.lemkesoft.de for more info if you're interested.

DEREK: Having a viewer program is really a great timesaver. Especially when it comes to E-mail attachments. A good viewer will let you know the format of an E-mail attachment even if the file extension is not the *correct* one. I*ve used the DataViz product and like it. If we could just get our operating systems to have this functionality that updates the viewers automatically via the Internet like antivirus programs do, we*d really be smokin. ∎

DoubleClick is reprinted by permission of the Journal Newspapers Dave Ottalini is on the Board of Directors of Washington Apple Pi, the Apple/Mac user group based in Rockville, Md.

Derek Rowan is president of HLP Asociates Inc. (www.hlp.net), a full-service computer network and Internet firm serving businesses, headquartered in Falls Church, Va., and with offices in Washington, Baltimore and New York City.

Dave and Derek can be reached by e-mail at doubleclick@jrnl.com; by snail mail in care of The Journal, 6408 Edsall Road, Alexandria, Va. 22312; or by fax at (703)-846-8366. While all questions and comments are welcome, we cannot promise individual responses.

More DoubleClick

Dear Dave and Derek:

WE ARE ABOUT to buy a new computer for our family, and I am looking for advice about what to do with our existing machine, which we plan to keep on using. It is a 1994 Micron P66 with 32M RAM, 1G HD, 14X CD-ROM, and 33.6 modem. We are running MS-DOS and Windows 3.11. The hardware works fine; the software would probably benefit from a HD reformat and reload. We would like to use this computer for light office functions and Internet access.

Can I make this old machine run Windows 95 or 98 acceptably? If so, what do I need to do to it? Will our old hardware be recognized by the new Windows? I would appreciate any insights or recommendations you can provide.

W. Michael Bentley, Springfield, Virginia

DAVE:
It sounds to me like your P66 is providing good, solid service for you right now and can continue to do so in the future. It's pretty slow by today's standards but then how quickly to you need to type or do other "office functions" that are keyboard intensive?

In order to make it more internet friendly, I would recommend increasing the memory to 64 MBs or more and getting a faster modem (or try a cable modem or other service if available and you can afford it). The CD ROM can be upgraded too but I really don't think it's worth the expense (put it into memory instead). If you want to save files off the internet, you might consider getting a larger internal drive or better get a Zip or iMation drive -which can also be used with your new machine. They come in parallel, scsi and usb versions now (your old machine likely only has a parallel port).

If I remember right, Derek, even with 32 MBs of memory, Mike should still be able to run Windows 95 or 98 -but like any modern OS, more memory will make everything run a little better.

DEREK: You sure can run Windows 95 with only 32MB RAM. In fact, my laptop until last week had only 24MB of RAM and I used it for everything on the road including fairly graphic intensive Powerpoint presentations with my traveling seminars. Last week I upgraded it (It is a Pentium 100) to 40MB RAM. It also has only a 1GB Hard Drive and does everything that I want including play a descent (although not steller) game of Flight Simulator. To further illustrate the point, when you walk into our office the first thing you will notice is a large television running a slide show. The PC that runs this slide show is a Pentium 75 with only 8MB of RAM, Windows 95. The slide show is a Powerpoint 97 presentation.

To answer your questions, since you mention you are getting another machine, my advice is to do nothing to the hardware. I would recommend getting Windows 95 instead of 98. In our experience, 98 is a little more picky with older hardware. If you think the 33.6 modem is fast enough for you great, otherwise, I would recommend changing that out. My recommendation is a US Robotics 56K v.90 modem. But Dave is right when it comes to memory. The 32MB will work, but 64MB will definitely help. But changing too much of this PC generally isn't worth it. In the real world, upgrading older PCs doesn't often work well because sometimes the new component won't play well with the other stuff.

Dave and Derek:
Just had a question about the new OS 8.5 for the Macintosh. I have a

Power Computing PowerTower 150 with their third party Hard Drive-a 2 Gigabyte drive. Because of the large individual file sizes, in the beginning I partitioned the drive into four 500MB partitions with the "A" section being my boot drive. As usually happens with hard drives, over time this drive has filled to near full-definitely not enough room to install even a stripped-down version of 8.5. My "C" and "D" partitions are almost empty. Can 8.5 be installed on one of these other partitions *SAFELY*? What about the new HFS+ in only one or two of the partitions or does that formatting need to be done to the whole drive? (I know, I need to back up my files.) :-) The new Sherlock really sounds exciting. Thanks in advance for the help.   —Bill Miller

DAVE:

Bill -I've faced similar problems with my Performa 6400/180. Partitioning a large hard drive is a great idea, since it allows you to allocate different sections for different purposes. Placing your system software into one of these partitions alone helps speed up the boot process. But, as I've found over time, certain programs need to be in the partition with the system software. Scanning software, like the Vistascan program that came with my UMAX S-6E is a case in point -and it also saves scanned pictures into a folder in that partition. Things can fill up quickly.

In fact, I had to move my system folder and associated files from one partition to another at one point exactly because the original partition I'd set up was too small (I did not partition my hard drive equally as you did).

As with most questions of this sort, there are a number of answers. First off, you need to clean out the partition holding your current system folder and get it leaner and meaner. What extensions and control panels are you not using? Can you clean out your preferences folder? If you're using Netscape and you have its cache feature enabled, you may have a huge folder full of web sites you've visited (Netscape "caches" these pages to speed up your surfing

experience -but depending on how large the cache, you may have a bloated folder taking up valuable space in your system folder/hard drive partition).

If you need help with this, try Spring Cleaning by Aladdin Systems (www.aladdinsys.com/). It's a program that will take a look at your hard drive and let you clean out the unwanted/unneeded stuff in there. Some programs also offer a deinstall feature as part of the installer program. You didn't say what else you had in that partition, but see what can be moved out.

That said, you can install System 8.5 on another partition and use that as your "boot" drive. Just use the "Startup Disk" Control Panel to designate that partition as the one you want your Mac to startup from. If you install OS 8.5, make sure you also update to 8.5.1 - that's a freebie you can download from Apple's web site (www.apple.com) and many other Mac-centric download sites (Washington Apple Pi members can grab it off our Internet site or our BBS system).

HFS+ (which Apple calls "Mac OS Extended Format") is a new way to format drives to squeeze more space out of it. Introduced with System 8.1, Apple really designed it for those folks using large hard drives or arrays of drives who want to store huge numbers of files as efficiently as possible (like professionals using Macs for video editing, etc.).

You can format using HFS+ on individual partitions, but I frankly don't think it would be worth it for you on your system. I've read of problems involving HFS+ files not handling daylight saving time properly for example (there are workarounds). There are various shareware and commercial products that can also help - Plusmaker by Alsoft is one such product. Check recent Mac mags and Mac web sites online for more background and information before taking this step.

As for Sherlock and 8.5 -I think you'll be in for a real treat. Sherlock uses a new search engine developed by Apple that can seach local disks and on the internet. You don't need your browser either until you decide to visit

one of the found sites. It's fast and easy to use. The downside is that Apple has worked out deals with various sites to download their banner ads as part of the search. There's always something. But Sherlock is a wonderful addition to the Mac OS, along with more native PowerPC code and other enhancements. OS 8.5 is one of the last upgrades for us non G-3 Power PC owners (8.6 will and should be here this Spring). OS X (Ten) will require a G3 or faster PowerPC machine.

Derek: A couple of additional thoughts here. First, Apple does not support 8.5 on any clones. Even the Power Computing ones in which it had "pledged support." Second, according to the trade press there have been a few (but if you are one of the few...) data corruption problems with upgrading to 8.5 especially on older Macs and clones.

Your question brings up a good point about disk partitioning. For those not familiar, disk partitioning allows you to "split" up your hard drive into multple parts. It is like taking a drawer in your filing cabinet and addition folder partitions. It makes it easier to separate items. And like you, the computer can find things faster if it is partitioned. Another major benefit of partitioning is that you may actually use less hard drive space. Huh? Well, with some operating systems the map that the computer uses to look up files causes the files themselves to be a certain minmum size. This is because the map is only so big, so there can only be so many spaces to store files. Other operating systems (such as Apples HFS+ and Windows NT NTFS) minimize this. The extreme example of efficient file systems is Novell's Storage Services that can have billions of files on a terabyte size volumes.

Before you upgrade to Mac OS 8.5, check out http://www.macintouch.com/m85_diskdamage.html for some tips.■

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FileMaker Pro 4 Bible

by Paul Gerstenbluth (ARIEfound@aol.com)

Dr. Steven A. Schwartz and David Plotkin, *FileMaker Pro 4 Bible*
IDG Books Worldwide, Inc., Foster City, CA
Level: Beginning to Advanced
Cost: $39.99 (718 pages)
CD-ROM: Packed with 100+ templates, demos and utilities
Phone: 1-800-762-2974

Solving the Mysteries of FileMaker

FileMaker Pro 4 Bible is a quick way for getting the answers to the mysteries of the *FileMaker Pro* program. For both Mac and PC users, Dr. Schwartz takes you by the hand into the light of knowledge in using *FileMaker Pro 4*.

Book's Features

Friendly, step-by-step techniques focuses on *FileMaker Pro* timesaving relational files features. Dr. Schwartz shows you how to use *FileMaker Pro*. He shows you how to design your own company and home databases. Dr. Schwartz illustrates how to connect data from table to table with ease.

Whatever level you're at from beginner to advance user, this is the book to use. Schwartz guides you to mastering *FileMaker Pro* program. When it comes to building databases, Dr. Schwartz has the right answers.

Contents at a Glance

Part I: The Fundamentals, covers what is a database, *FileMaker Pro* basic operations and what's new in *FileMaker Pro 4*.

Part II: Database Design Basics, covers creating your first database, an address book, defining fields, layouts and setting preferences.

Part III: Working with Databases, covers using browse mode for viewing, entering, editing and deleting records,

and how to search for and selecting subsets of records. In addition, working with databases shows how to sort records, using the Spelling Checker, reports and printing functions.

Part IV: Putting *FileMaker Pro* to Work, covers calculations and computations, automating *FileMaker Pro*, and exchanging data. Also, Putting *FileMaker Pro* to Work includes creating and using *FileMaker Pro* templates, and documenting and designing help systems for your databases.

Part V: Mastering *FileMaker Pro*, covers linking databases: relationships and lookups. Also, Mastering *FileMaker Pro* includes sharing and protecting data, and developing databases for others.

Part IV: Appendixes, contain how to use the book's CD-ROM, keyboard shortcuts, resources and glossary.

What does the FileMaker Pro 4 Bible CD-ROM contain?

The CD-ROM contains over a hundred database templates that allow you to plug in your own information for address books, annual expenditures and scheduling, and more.

Author's Profile

Dr. Schwartz bought his costly, new Apple II+ computer in 1978. Determined to find a way to make money with his Apple computer, he began to write software reviews, BASIC programs, and user tips for *Nibble* magazine.

Currently, Dr. Steven A. Schwartz is author of more than 35 books ranging from *ClarisWorks 2.0* to *4.0* and *FileMaker Pro 2.0* to *4.0*. Dr. Schwartz has more than 18 years experience writing for magazines, including *Multimedia World* and *Software Digest*.

Pro

This book is an update for *MacWorld FileMaker Pro 3 Bible* that covers using the Web. It is a needed book for Wintel PC computer users. *FileMaker Pro 4 Bible* is a must have book if you work with PCs and Macs on a network. *FileMaker Pro 4 Bible* has an excellent layout, complete with "Contents at a Glance," Table of Contents and an extensive index. It contains valuable screen shots of pop-up menus, sidebar of tables and gray scale illustrations. In addition, the book has extensive encyclopedia-style index with cross-references and the end of the chapter summaries. Author's writing level is at the 12th grade to college level.

Explained in detail are informative sections on how to extract and add words to a custom dictionary. There is an excellent chapter on linking databases. Dr. Schwartz points out the importance of adding a single record to your template before giving it to your business associates. This makes the database simpler to use.

Con

This 718-page book could be divided into two books (for example, Beginning to Intermediate and Intermediate to Advanced levels). The book needs more illustrations for setting up additional databases like the author's Address Book on the companion disk.

There are no workbooks for trainers and college instructors to use for their student's courses. The companion work CD-ROM needs added business templates that people would use at their workplace.

Final Comments

This outstanding book gives credence to the author's reputation. Dr. Schwartz give us tips on how to effectively use *FileMaker Pro 4*. Finally, I enjoyed the approach and the completeness of the book's contents in *FileMaker Pro 4 Bible*. ∎

Paul Gerstenbluth is President of ARIE Foundation that provides hobby materials and computers to VA Hospital patients. (Donated Apple and Macintosh computers help hospitalized veterans in their stay and recovery.)

Bundle Shareware With Every New Mac

by Phil Shapiro

> "Apple should be doing what Iomega does with their Jaz drives, which is to use the shipping Jaz media as a tool for delivering promotional and useful information. What could be more promotional of the Mac than a gigabyte of shareware?"

LET'S START out first with the 100,000 hours of unpaid work. Over 1,000 Macintosh programmers have spent over 100 hours each creating shareware programs for the Mac. Many of those programs are immensely useful. But the only way new Macintosh users would find out about them is to read about them in magazines or hear about them from friends, and then download them from the Internet. Given that most new Macintosh users take a year or two to download their first program from the net, it's imperative for Apple to include the best Mac shareware with every new Mac sold.

Few would dispute the fact that shareware (and freeware) programmers have played a very large role in the Mac's success. And now that hard drives are large enough, Apple should be shipping a gigabyte (or more) of shareware on new Macs. It's a crime to ship Macs with three or more gigabytes of free hard-drive space when that space could be equally well used for shareware and freeware programs.

How come Apple has not taken that step yet? Shipping shareware with new Macs would in some ways be an endorsement of the shareware. And if the shareware didn't work in some way, customers might naturally blame Apple for the problem.

Easy remedy. Create a vivid disclaimer explaining that the shareware included with the Mac is delivered "as is," and that tech support for individual programs needs to be obtained directly from the creator of the programs.

Shipping the best of Mac shareware on new Macs would also induce shareware programmers to create new programs and enhance existing programs. To gain a place on the coveted Mac hard drive, the shareware would have to be exemplary, particularly innovative or indispensable. I can think of several dozen Mac shareware programs that fit into those categories. And there are probably a couple hundred more outstanding Mac shareware programs I've yet to hear of.

Time is money. The time spent downloading shareware programs is time that could be spent learning to use the programs. A gigabyte of shareware would take over 50 hours to download using a 56.6 modem. Let's give a gift of those 50 hours to all new Mac users.

Truth is, hard drive sizes will be reaching 50 to 100 gigabytes within the next year. Shipping a new Mac with 20 or more gigabytes of hard-drive space on it would be a crime, given the Mac's outstanding multimedia capabilities. Apple should be doing what Iomega does with their Jaz drives, which is to use the shipping Jaz media as a tool for delivering promotional and useful information. What could be more promotional of the Mac than a gigabyte of shareware?

Shipping shareware with every new Mac would also be a low-cost way for Apple to say thanks to the committed shareware programmers who have supported the Mac over the years. Those persons often work late into the night with few rewards or recognitions for their work. What better way to recognize their commitment than to include the best of their work on shipping Macs?

Along those same lines, Apple might choose to give some of the best Mac shareware programmers 50 to 100 megs of space for QuickTime self-intros. Doing so would give a face to shareware programmers, who so often are faceless.

It doesn't take a doctorate in economics to realize that shipping Macs with large amounts of free hard drive space is not doing customers, or shareware programmers, any good. By including the best of Mac shareware on shipping Macs, Apple would be taking a bold step forward. Making the wealth of Mac shareware visible to new users would bring benefits to all. ∎

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3D Architectural Drawings
Artifice DesignWorks

by David Wilkins

DESIGNED FOR 3D from the ground up, rather than bolted on to a 2D drafting package later on, DesignWorks from Artifice Design provides some surprisingly usable and elegant 3D construction tools.

Tools for 3D

How can someone using a two-dimensional screen and a two-dimensional mouse readily maneuver through three-dimensional space? DesignWorks provides an elegant, quickly-learned solution. Much as a 2-D designer has a crosshair consisting of two lines to pinpoint a location, the DesignWorks user has a crosshair consisting of three lines; the third line shows how high you are above the ground. Move the mouse around and you move the location of the two crosshairs that show your location relative to the ground. Do the same while holding the option key down and you move up and down using the third crosshair line.

A Sense of Place

To give you a firm sense of place, you see a backdrop of a grid much like three sides of a box: a "floor" and two sides, along with a northward pointing arrow. You can click on an eye tool to change your point of view, moving around, above and the like, with the north arrow helping you regain your orientation should you forget just where you have gone.

DesignWorks provides another essential tool: a simple way to select a
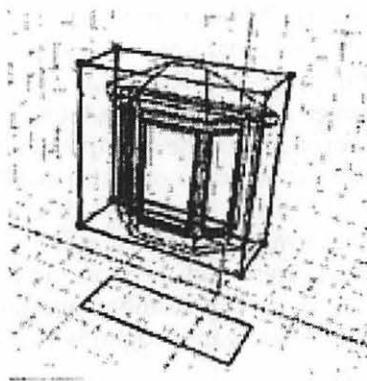
Fig-1: A wireframe picture of a bay window. You see the projection of the bay window along the floor of the diagram.

vertex or handle on a 3-D object. Click on a 3-D object with the arrow selection tool familiar to anyone who has used a drawing program, then move your cursor so that it is close to one of the selection "handles" then press the space bar. The cursor jumps directly to the handle; you have space-selected the handle.

Following instructions in the tutorial, I space-selected a handle on a block sitting atop another block, then shoved the handle towards the middle of the top block, creating a sloping edge. It felt like pushing a cardboard box around.

Usable Advanced Features

Does the product sound a little simple? Not so. It starts out with straightforward fundamentals, then builds on that solid, elegant starting point.

Explore the View menu and you

find that a simple click on a menu item will eliminate hidden lines; another click on the same menu will shade the model home you are building, yet another menu choice and you have added shadows. Explore the menus a bit and you will find options to change the day of the year and time of day used to create the shadows.

Unlike many products on the market, the features all seemed designed to support each other in a natural progression. Explore the Edit menu and you will find a way to turn a block into a structure built of walls—the unforgettably named "Wallify" command. Click, "how thick do you want the walls?" and you have turned a slab into a structure of uniform wall thickness. Similarly, a tool that looks like a thin cube with a rectangular hole in it lets you carve out windows and doorways.

Three Sizes, Three Prices

You can start with the "Lite" version, available free for download. Remember to download the tutorial too. For those who don't care for a couple of medium-large downloads, you can get a $20 Lite CD with DesignWorks Lite, the tutorial, user guide and a number of DesignWorks models all included. The Lite version allows full capabilities of design, shading, shadows, saving and use in general. An Artifice spokesman even told of one local designer who used the Lite version for two years until he finally needed to do a project beyond the limits of the Lite version.
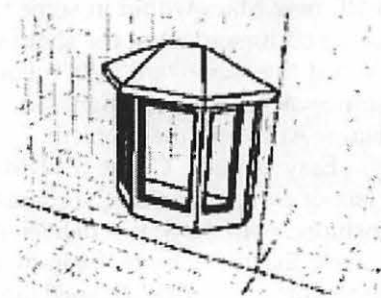
Fig-2: Removing hidden lines gives a solid view of the bay window.
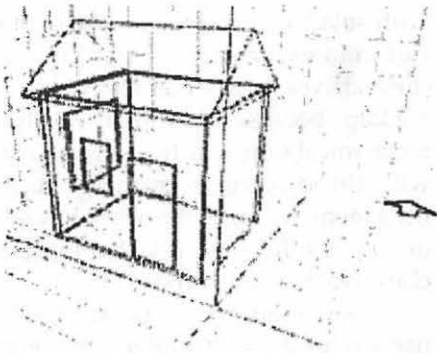
Fig-3: A simple house, built from just two rectangular chunks. Pushing the edges of the top block together forms the shed roof. Edit "wallify" created walls from the bottom chunk. Cutouts form windows and a doorway.

DesignWorks Classic runs a modest $99. It comes on CD and adds features. Chiefly, you can create far more complex projects with more objects and more choice of textures. The Lite version will not save a project with more than 100 objects, but the Classic version will save those with up to 1000 objects. You also get a year's tech support as well as "Anti-Aliased" drawings (smooth out jagged lines and features).

DesignWorks Professional runs $495 and also comes on a CD. It features projects of unlimited complexity and adds a lot of textures and building samples.

No Upgrade Penalty

When you choose to upgrade from, say, the $20 Lite CD to the $99 Classic, you pay only the difference in price, so you can start modestly and build up from there.

DesignWorks brings substantial, and useful, power to bear on architectural drawings, that let you preview a building, both inside and out, before you finance and build. Not only the building, but the lot as well. We glanced quickly at an online guide noting with approval that it allowed use of contour lines that you can use to define the slope of the ground on your hillside site, to place your building in a realistic context.

For Both Macs and PCs

Shops that use a mix of Macs and PCs will find Design Works supports almost, but not quite, all features on both styles of computers. You will need a Mac with your Professional edition to produce QuickTime movies of a walkthrough of your building, for example.

To Contact Artifice

Web: http://www.artifice.com
Email: artifice@artifice.com
Mail: 1342 High Street, Eugene, OR
Sales: 800-203-8324
Voice: 541-345-7421
Fax: 541-345-7438

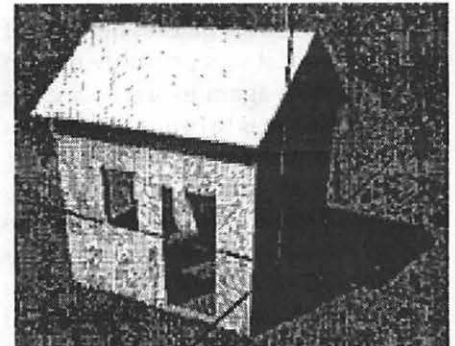From the December 1998 *MacNews*, monthly newsmagazine of the Eugene (OR) MUG.

Fig-4: The same beginner's house shown shaded, with shadows. I have used an option-drag to elevate the 3D crosshairs. Going from wireframe to shadowed pictures involves only making one View menu choice.

Bruce Bittle on the "HAL Hat"

by Bruce Bittle

IT WILL COME as no surprise to you to learn that the people in the digital world use dog calendars. In other words, just like dogs, a year in the normal world is the equivalent of seven in the digital world. This means each year is 52.1 days long and each month is just 4.3 days. Given the speed with which digital things are changing, that seems to me to be just about right.

Uncanny Resemblance: Computers and Dogs

Come to think about it, the "dog" analogy can go even farther. I've owned just about as many computers as dogs, and my instant observation has to be that the dogs were a helluva lot more user friendly. They were less expensive to own, but from experience I've found that the word processing capability of the average dog is somewhat limited.

Sometimes computers simply refuse to do what you know they can do—ditto dogs. Lap tops sleep a lot—ditto dogs. Playing games is something computers do best—ditto dogs. The older the computer the slower it is—ditto dogs. If your computer randomizes its system heap you've got problems to clean up—dogs leave little system heaps randomly about that you have to clean up. Your Mac will tell you to "Insert Disk A," whirrrr, click, "Insert Disk B," whirrrr, click, "Insert Disk A," whirrrr, click—dogs chase their tails too. Arrrrrrgh! Enough of this.

I Dream of a Wearable Computer

No doubt about it, the digital industry is continuing to change faster than we've ever seen any other industrial sector change before. Because of this I thought it was probably time to check in once again to see how close this technology is to being able to supply me with my ultimate computer, my dream machine, if you please. As long-time readers may remember, I've written about this hypothetical machine on several occasions. I refer to my ultimate machine as my "Hal Hat." I dream of the day I can have a computer with the processing capability of the computer Hal in the movie 2001 A Space Odyssey, and I want it to be contained in a normal appearing baseball cap and a pair of sunglasses.

When I first wrote about this dream machine ten years ago, I was talking pure Key Lime pie-in-the-sky fantasy, but with the accelerated rate of component miniaturization, my dream is coming closer to reality faster than I ever would have believed possible just a couple of years ago.

My goal is to have a wearable computer that above all is durable, comfortable and the technology contained therein has to be user friendly both on and in my head, and completely invisible. I don't want my friends, or for that matter strangers on the street, to think I'm some kind of techno-geek walking around like a Borg from Star Trek. I want my image of an aging redneck curmudgeon to remain unsullied while access to the entire library of congress is just one spoken word away.

"Do you hear me Hal?"
"Yes, Bruce."

Solar Power

In addition to complete visual anonymity my Hal Hat must have a totally self contained power supply, real-time responsiveness, and with an infallible, individually specific, security system. I'm more convinced now than ever that all of this is just around the technological corner.

Solar panels that look like fabric have been available for several years. This can take care of the daytime power supply. At night that little one-size-fits-all snap strip on the back of the hat, (front, if you are under thirty), has been hot wired in the last two holes for connecting through a transformer to a standard wall outlet.

Leave it plugged in on the bed stand at night and Hal becomes your nighttime household security system while downloading your morning newspapers.

The Eyes Have It

Security to keep anyone else from stealing my Hal Hat could be maintained through a unit recently announced by a company in Washington state. This outfit will soon market a unit that projects a TV like image on the retina of the eye. To a user it looks like a twenty seven inch TV screen, five feet away in the lower left of the field of vision, but doesn't block distant vision. Hal will use this to show me graphics, photos and other visual data.

It would seem to me a simple step to use this same technology to have it scan my retina as a security measure. Eye scans for credit card identification are already being used by Neiman Marcus and other upscale retailers. This technology will probably beat out voice or fingerprints as the identification process of the future. Eye scans work even if you are wearing glasses or contacts. Incorporating this in my Hal Hat would make it fruitless for anyone to steal it.

IBM's research group recently announced a new product called a MicroDrive. This is a hard drive measuring one inch in diameter, about the size of a quarter, with a 600 MB storage capacity. The Post Office has issued stamps larger than this unit! This little HD runs on juice from a single AA battery, which means powering it

with solar panels is a real possibility. But from experience I'll want two of these drives in my Hal Hat (one for backup) because it's still an electro/mechanical unit which, I'm guessing, will still be prone to crashing. These little teeny weenie drives will have to do until solid state Flash Memory chips reach one gigabyte capacity.

Flash memory chips are being used in most of the digital cameras in production today, so it's only a matter of time (how many dog years?) before they emerge ready for other uses.

Voice Recognition

The key for making my Hal Hat a reality is voice recognition software. A couple of years ago this seemed like the most far out of all technology needed for my hat's success. Yet today there are several voice activated word processors on the market which are receiving good reviews for ease of use and accuracy. I haven't personally seen or used any of them, but we are told that you ... don't ... have ... to ... speak ... like ... Robbie ... the ... robot ... to ... make ... them ... work.

Internet, GPS

Global positioning will be included in my hat with a continuous satellite link for access to the Internet. Current hand held GPS units are shrinking in size and cost simultaneously as are most things digital, so this can easily be adapted for inclusion in my hat.

A microphone built into an earphone was already on the market the last time I wrote about this dream machine. Supposedly the mic picked up voice from the resonance of sound in the bones of your head. I'll just place a mic on the front edge of the bill of my Hal Hat which will put it within six inches of the normal source.

Placing a miniature earphone in the temple piece of the pair of sunglasses is old technology. In fact if I want I can put an AM-FM radio in the temple piece on the other side. When

my voice actuates Hal, a cutoff switch will temporarily interrupt the radio and make communication clean and clear.

Now it's time to address the females in the audience who might not be oriented toward being seen in public wearing, as I have been known to call them, a "Dumb" hat. I call baseball caps dumb-hats for a reason that you can easily prove to your own satisfaction. The next time someone does something really stupid in front of you, on the road or otherwise, check them out. I'll bet you ninety percent of the time they'll be wearing a baseball cap. Dogbert would say that dumb hats are worn by "In-DUH-viduals." The reason I wear one is so when I pull something stupid, I'm covered. Maybe if Hal Hats catch on, this will reduce the in-DUH-vidual stupidity happening around us. After all, wouldn't Hal keep us from making fools of ourselves?

"That's right Bruce, and in your case I really have to work at it."

"Thanks Hal."

Okay, back to the female version of the Hal Hat... the Hallie Hat. I really see no reason why all of this high/mini/tech couldn't be incorporated into a hat of any style. After all a baseball cap is pretty minimal to begin with so, ladies, choose your style, and wear it intelligently. If you don't do hats, you can always carry a purse, so I see no difficulty in incorporating Hal capability into apparel for all genders.

So, there you have the latest report on the most recent technological progress toward making my Hal Hat a reality. In *The Road Ahead*, Bill Gates wrote that he thinks personal, wearable, technology will first appear in the form of a (really dumb) wallet. That certainly identifies for us where his personal interest lies, doesn't it?

"Bruce."

"Yes Hal."

"Gates' road ahead has been pretty well paved."

"So? Am I going to get to drive on it Hal?"

"No way, Bruce."
"Gee, thanks Hal. Hey Hal!"
"Yes Bruce."
"Read my lips!"

———

"That's not very nice Bruce!" ∎

Bargain Hunting on the Web for New and Used Mac Stuff

by Bryan Marten

HOW DO YOU buy *new* Macintosh computers and equipment today? Do you start by sifting through your pile of catalogs? Do you drive to stores which carry products in your area? Or do you look in the back of magazines for the ads? What if you could tap into services which compare current prices and availability for you?

What about *used* Macintosh computers and equipment? Besides talking to people you know (like MacNJ members) about selling their stuff, there really aren't many local or printed sources of used Mac gear. What if you could find services that search for exactly what you want nationwide?

At the meeting I'll show you resources on the web which allow you to do these things.

I learned about what's available for new and used Mac stuff on the web recently when I went looking for a complete Macintosh system for my wife's sister, Laura, who is a musician on a shoestring budget. Laura wanted a Mac-based setup primarily to surf the web, send email, and do basic word processing. She could spend at most a few hundred dollars. Maybe you know friends or family members who could use a system like this. You might be looking for equipment for your school, business, or a second computer for home. Whether you want the latest greatest gear or models from yesteryear, you can find a plentiful source of it on the web.

I'll start out by asking people for a couple things that they are currently in the market to buy. We'll compare prices on those and some others of general interest, including older Macintosh CPUs. After some initial online research into what we want, we will bargain hunt at large commercial web sites which provide the most consumer security by selling new items under full warranty and proceed to delve deeper into cheaper alternatives.

For the initial research, three good sites which give specs and discuss upgrade paths where applicable are: For all Apple products new and old: (support.info.apple.com/ info.apple.com/ applespec/ applespec.taf) MacAddict magazine's excellent series called This Old Mac: (www.macaddict.com/oldmac/ oldmac.html) The Low End Mac web site: (www.mactimes.com/lowend/ forsale.html)

We will also visit the web sites already familiar to most of us for buying new equipment. These include Apple's build-to-order store (www.apple.com) and the web sites of several popular mailorder catalogs

(www.maczone.com, www.macwarehouse.com, etc.). The web sites of the mail order catalogs offer the ability to search for specific products and the assurance of finding the latest price and availability information.

Comparison sites allow you to search for specific products and list the lowest prices available from a number of web vendors. Two of these I find to be particularly good:

www.shopper.com for all kinds of computer and electronics gear and MacCentral's new PricePulse (**www.pricepulse.com**) for Mac-specific products. There are also web pages which track the lowest prices for Mac RAM (**www.macseek.com**). The day I told a friend of mine about the shopper.com website, he found a place selling WebTVs for $50 cheaper than what he was about to pay after his own thorough search.

The web also has much to offer if what you want has been discontinued or if the item as new is too expensive. The world of used and refurbished goods carries all of the usual caveats. As you might expect, it's safer to buy used equipment from stores than from individuals. Stores which deal in used equipment offer a level of security in delivery of the goods and often have a limited warranty. You pay a little for that, but these stores can still be a good compromise between rock-bottom prices and peace of mind. Two such stores I've come across are Timco (**timco-computers.com**) and McComputer (**home.earthlink.net/~mccomputer/list.html**). Another, which seems to have consistently higher prices but which you may know since it started as a store in Flemington, is Hawke Systems (**www.machawke.com**).

The last site we'll visit is **www.uBid.com**, one of a growing number of auction sites. uBid caters primarily to manufacturers who need to get rid of overstocked and discontinued items. There are also used/refurbished items. Two good things

about uBid are that there is usually a fairly large quantity of each item available and that the sellers are generally companies, not individuals. To place a bid on an item, you must first register with a credit card number to get your own account with a username and password. Without registering, you can still view auctions in progress. The seller specifies for how long an item is for sale (usually about a week), the minimum bid, the bid increment, and other terms of the sale.

Sites that sell to individuals include an auction site (**www.haggle.com** which has a buyers and sellers rating system to help gauge each other's reliability), and sites akin to classified ads (www.dejanews.com, **computers.classifieds. yahoo.com**, and **www.insanely-great.com/classifieds**). DejaNews is actually a web interface to Usenet, a huge database of people's posts on all kinds of topics (e.g. philosophy, jokes, computers). So, unlike the other sales-oriented web sites, we'll have to take extra steps to ensure we're searching only for sales.

As for Laura, I initially checked out used Macs at online stores. Based on their prices, I thought she would have to settle for a 68030-based Mac like a IIsi. But then I discovered the auction and classified sites and ended up buying at haggle.com a next-generation Centris 610 with 12MB of RAM, a 230MB HD, keyboard and mouse for $125 (including shipping and handling)! Family members donated an old modem and monitor. So far all of the equipment has been trouble-free and she's thrilled. I hope this shopping tour will give you a flavor for the variety of what's out there online the next time you're in the market for Mac goods.

Happy hunting!
Bryan Marten

From the October 1998 issue of *MacNJ Window*, newsletter of the Macintosh Association of Central New Jersey:

Review

3D Railroad: Concept and Design

by W. Fred Coleman, Jr. and Charles A. Bryan

Rating: 5 toots on the whistle for the accomplished modeler, 3.5 for the novice railroader!

Category: Simulation

Minimum Requirements: Power Macintosh or compatible computer running Mac OS 7.5 or higher. Minimum of 32 MB of memory (more is better). Display monitor running 256 colors or more. Hard disk drive with a minimum of 80 MB of free space. A double (or higher) speed CD-ROM disk drive.

Version Reviewed: 1.0

Manufacturer: Abracadata (800-451-4871) http:// www.abracadata.com (Download a demo from their web site.)

Price: $99.99

Comments: Installation was very quick and easy, provided your Macintosh has ample memory. In order to load 3D for this preview, it was necessary to change some of the Virtual Memory settings. (Under Apple icon on the

menu bar, select control, then memory, then turn virtual memory to on and change setting in order to temporarily increase memory enough to run the program.)

THIS PROGRAM IS not for everyone! It is complete and fantastic to load & use for the serious scale modeler. It is overwhelming for the casual rail enthusiast and too complicated for the occasional rail fan! Be advised, if you are an experienced craftsperson seeking high quality process, this is it! If you are just starting, there are easier ways to get into the hobby.

Now the fun (work) begins.

The sample test layout, as described in the support manual, was very informative of a fair portion of the capabilities of this program. Going though step by step, as instructed, was relatively easy and directions were clearly given. 3D Railroad is a fascinating program which allows you to construct, change, lengthen, shorten, rotate, reform, invert, cheat up or down, etc. It is possible to then run a test train to check your track design for proper connections, radius, and/ or other malfunctions. However the support manual didn't provide information at this point as to what to do if the layout was not properly constructed and the train stopped. It wasn't until 48 pages later that the information was given on how to move the train out of the way in order to repair the track. The adding of sidings to form a yard with crossovers was a snap. If something doesn't work out the way you had thought, you can stretch or shrink the length of the track sections, close an arc down or open it up to make a proper fit with the use of a big hammer, pliers, or other road working tools.

Being able to add buildings, trees and other natural and man-made scenics is fun and easy. The structures available in the library are a great help

in getting a real view of the space requirements of a particular layout and in determining whether a certain type of building would crowd or overpower a scene or another portion of the layout. There are several choices of backdrops, patterns, textures, etc. to choose from in the various libraries included. These put you right at the edge of YOUR layout for a realistic impression of the layout once constructed. The possibilities are almost unlimited for size, shape, color, and/or create-your-own.

The capabilities of working up to seven layers in one layout is very interesting; it is possible using 3D Railroad to go from one tier to another and/or to make independent loops. The support manual was incorrect in the instructions for this section. The icon needed to begin this function was stated as being located at the top right of the screen; in reality the proper location was top left of the screen under two other icons.

For the most part 3D Railroad: Concept and Design is an interesting and exciting program, particularly if you are a model railroad hobbyist. The program will have a lesser appeal to the general audience.

Program previewed on Power Macintosh 5400/180. Nov. 12-16, 1998
by W. Fred Coleman, Jr., colemanr@mindspring.com

Model Railroading is a worldwide excitement and there are at least four popular widths of track; therefore sizes of equipment can range from tiny (Z scale at a ratio of 1/200 or 18'4" to an inch) up to G scale (1/22.5 or 1'10.5" to an inch) and even a few folks who work 1/1 or real live steam engines. "3D" carries them all! The program display can be enlarged/reduced to most any ratio thus giving exact set of measurements for construction of the benchwork needed and an accurate view of your dream!

Once your design is finished,

> "3D Railroad is a fascinating program which allows you to construct, change, lengthen, shorten, rotate, reform, invert, cheat up or down, etc. It is possible to then run a test train to check your track design..."

buildings in place, hills, mountains, lakes, streams, bridges, you are able to put together and run a full train and view from 'ground level' what you have created. You can run a number of trains at the same time and, yes, they can CRASH!

This program is huge with alternatives—run under the Christmas tree, fill the garage from wall to wall, design a statewide system, an intercoastal empire, a highly detailed "short Line" representing an historical logging operation that went out of business 100 years ago!

The only real limitation is the clock. You do have to turn the program off occasionally for meals, sleep, and other frivolous intrusions into your life (<G>).

Abracadata has done a terrific job in providing us with literally 'all the bells and whistles' possible to run a circle around the Christmas Tree or design AND operate the most complex replication of any railroad in the world or that could possibly exist in your mind. End of track

Blessing+ Charlie Asheville aka Charles A. Bryan, The Rev., Ret'd■

How to Identify Your IIC'S Model

by Stephen Buggie

FOUR MODELS of Apple IIc were made from mid-1984 through 1989. Some models can be identified by the color of the external plastic casing but mainly they are distinguished by special features.

ORIGINAL IIC: (1984-85) White casing; does NOT operate an external Unidisk drive; has NO internal self-test. Most numerous type made. Has 16K of internal ROM. ROM code: 255 This model has a defective timing crystal, which limits modem use to the slower baud speeds (300 baud, or, if lucky, 1200 baud).

FREE MOTHERBOARD UPGRADE of the original IIc has been available for many years at Apple dealers (Linzmayer, 1989). The free motherboard upgrade is definitely worthwhile! The keyboard was made by Atlanta Photocircuits Co.; its keys are prone to "stickiness" which slows typing speed. An improved keyboard was introduced for the Unidisk 3.5 IIc.

UNIDISK 3.5 IIC: (March to Sept 1986) White casing; Has 5.25" internal disk drive; visually, it appears to be identical to the ORIGINAL IIc. Can operate and external 800K Unidisk 3.5 from drive port; can also operate faster modem speeds (2400 baud; possibly faster). Has built-in SELF-TEST:

Hold down both Apple keys firmly, then turn on power switch; checker-board display pattern fluctuates for two minutes, then displays SYSTEM OK in center of screen. (Any defective ICs will be identified by a displayed code.)

Has 32K of ROM. ROM code: 0 If PR#7 <return> is typed on this model, then the screen message, "APPLETALK OFFLINE will be generated in response.

MEMORY EXPANSION IIC: (1986-87) Platinum grey plastic casing; has all features of the Unidisk IIc, plus special feature that there is a motherboard RAM-connector socket so that a one megabyte RAM memory board can easily be installed (Pre-owned Electronics (MA) offers these Apple ram board for $39. Two subversions of the Memory Expansion IIc were made: ROM 03 and ROM 04. There are no important differences in performance between ROM 03 and ROM 04; the shift to ROM 04 was done to repair an arcane bug in the ROM firmware of ROM 03. Most users will not notice the difference between ROM 03 and ROM 04. NOTE: RAM memory boards can be installed in the Original IIc or in the Unidisk 3.5 IIc, but installation is complicated. Fitting extra RAM in either of the two earlier IIc models requires removal and reinstallation of two large 40-pin IC chips: the 65C02 microprocessor and the MMU memory management unit. The socket-connector inside the Memory Expansion platinum IIc is much more convenient (Statt, 1987).

APPLE IIC+: (1987-89) This was the last version of the IIc family. It is easily identified externally: platinum grey plastic casing; power supply is fully internalized in the computer (i.e., no "brick on a rope" power supply as in all earlier models); internal 3.5" 800K

disk drive (5.25" external drive can be connected as an option); built-in 4 MHz accelerator (all earlier IIc computers operate at the standard Apple][speed of 1 MHz). Speaker volume control moved to top panel, above the keyboard. Back panel serial port connectors were changed from the 5-pin DIN sockets used on previous IIc models to the mini-8 connector used on the IIgs or the Imagerwriter II printer.

Most IIc models can be identified by external appearance: The external plastic casings of the Original IIc or the Unidisk 3.5 IIc are white, while the casings of the Memory Expansion IIc or the IIc+ are platinum grey. The IIc+ is the ONLY IIc model with the 3.5" disk drive built into the casing.

The only two models that are externally IDENTICAL in appearance are the Original IIc and the Unidisk 3.5 IIc. The quickest way to identify which model you have is to activate the "self-test": Hold down the two Apple keys, then turn on the power. If you get wavy lines scrolling downward, then you have the Original IIc (too bad!); but if the checker-board pattern of the "self-test" appears, then you have the Unidisk IIc! (The free motherboard upgrade for the original IIc will enable the computer to do the self-test.)

IDENTIFYING THE IIC MODELS VIA ROM TESTS:

These are two simple keyboard tests by which the motherboard type is identified conclusively by checking its "identification byte" at ROM location 64447, known also as location $FBBF in hexidecimal notation. You type in the following coded messages, then note the computer's response. The response tells you the model of IIc you have. Either test is sufficient; both tests will give identification results that match. (ROM identifier tests are unnecessary with the IIc+ because the IIc+ differs noticeably in external

appearance from all IIc models.)

(1) First, get the "Basic Prompt" symbol,], by holding down and releasing these two keys: <CONTROL> <RESET>. At the Basic Prompt], type PRINT PEEK (64447) followed by <return>. How does the computer respond? If it responds with "255", then you have the Original IIc; if it responds with "0", then you have the Unidisk 3.5 model; if it responds with "3" or "4", then you have the memory expansion IIc.

(2) The second ROM identifier test is similar to the first. Again, get the Basic prompt by holding down and then releasing the <CONTROL> and <RESET> keys. Then type CALL -151 followed by <RETURN>. The computer will respond with an asterisk *, indicating that you are in the "system monitor." Then type FBBF followed by <RETURN>. If the computer responds with FBBF- FF then you have the Original IIc; if it responds with FBBF- 00 then you have the Unidisk 3.5 version, and if it responds with FBBF-03 or FBBF-04, then you have the memory expansion version.

References
APPLE IIC TECHNICAL REFERENCE MANUAL. Reading, MA: Addison-Wesley, 1986. The Apple IIc family xxiii; Identifying your Apple IIc xxiii-xxv. [hardcover volume, not to be confused with Apple Corp. IIc Technical Manual (1984), a two volume red paper cover spiral-bound set]

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Apple /// Q & A

Q1. I HAVE APPLEWRITER, Quickfile, & Visicalc running under Catalyst. What is the advantages of buying /// Easy Pieces instead.

A1. 3EZPieces is a very useful program, because it can exchange files between its "database", spreadsheet, and word processor. 3EZ Pieces is available in the WAP Apple /// PD Library - disk 3APP-07. The newer BOS3 is a better bet for managing your files on a hard drive. Call the WAP office for availability.

Q2. Is there a way to run a spelling checker with 3EZPieces?

A2. You can print an ASCII file to disk and load it into AppleWriter and use Applespeller or load it into Word Juggler and use Lexicheck on it. However, before doing that it would be easier to use AW or WJ to create the document to begin with. An Australian program called StemSpeller was the only stand-alone spellchecker for the /// that could work with 3EZ Pieces. It's word processing companion, StemWriter is in the WAP PD - disk 3WDP-07. We'll see if we can put StemSpeller into the PD as well.

Q3. Does anyone know a reliable & cheap way to get an Apple /// repaired? Specifically, repairs at the chip level, rather than at the board level.

A3. The cheapest way is to Do-It-Yourself. The WAP PD and library has the Apple /// Diagonistics disks and the Technical Service Manual for you do it yourselfers, but these will not always guarantee an answer. The WAP PD has a number of disks that can help with repair problems. But it's also a good bet to have an extra machine around just in case. Jameco carries many of the chips that you would need to do repairs you are thinking about.

QUESTION: How do I connect my video camera to my Apple ///?

ANSWER: The Apple /// can be connected to a video camera, and charts and graphics can be recorded on videotape and replayed at will! That opens up tremendous possibilities for business presentations!
    The information is in Appendix I of the Draw On /// manual:
    "The NTSC signal that comes out of the Apple /// is the same type used

by video cassette recorders (VCR). In fact, you can directly record the video output of the Apple /// to a VCR. If you are short on cash [to buy a color monitor], but have a VCR, you may connect the Apple /// to the video-input jack on the VCR, and use your standard TV set. If you go this route, the picture quality may be somewhat poorer than using a high-quality monitor directly...

Connecting an NTSC monitor to your Apple /// is a rather simple procedure. Buried in Appendix C, pages 132-135, of the Apple /// Owner's Guide is most of the information you need. The rest of this section will show you how to do this.

To connect an NTSC monitor, the general idea is to add a socket similar to the one which you use to hook up your B/W monitor to the ///. On the back of your Apple /// is a 15 pin D-type connector (socket) which is the video port. You will need to find a 15 pin D connector (plug). At your local electronics supply store you should also be able to find a 1 foot long coax audio extension cable. This is the same type of plug found on the back of stereo receivers, cassette decks, etc. Find one with a female socket on one end and a male socket on the other end.

Use a wire stripper to cut off the male (pronged) plug out of the cable and throw the plug away. Now, carefully strip about one inch off the outermost insulation from the plugless end. Unbraid (a tack or pin is helpful in separating the wires) the braided shielding wires from the inner insulation as far as possible. Now, gently twist them into a rope like bundle. Strip the insulation from the inner wire for about 1/9 of an inch and solder the center wire to pin 12 of the 15 pin D plug.

Soldering will be easier if you gently clamp the plug in a vice, prong side down, and melt a tiny bit of solder into the hole of each pin that you are going to connect a wire to. Then take the wire in one hand, reheat the pin with the other, and insert the wire,

holding it steady until the solder cools. Solder the tip of the twisted shielding wires to pin 13, being careful to not let the inner wire and shielding short out anywhere. A bit of heat shrinkable insulation on the braided wires prior to installation is a good idea.

You can get hear shrink insulation at most electronic supply stores. Use the side of your soldering iron, a match, hair dryer, etc. to shrink the insulation tubing over the exposed wire. You should use a low temperature soldering iron with a fine tip. Never use a soldering gun or you will melt or

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"Connecting an NTSC monitor to your Apple /// is a rather simple procedure. Buried in Appendix C, pages 132-135, of the Apple /// Owner's Guide is most of the information you need."

---

damage everything in sight when working with electronic components. Put the plastic shields onto the plug (if you purchased them), and gently lock down the strain relief (if there is one) onto the coax cable where it exits from the shield. Test the resistance between pins 12 and 13, and all the other pins with a multitester (if you have one) to verify that there are no electrical shorts. Plug the 15-pin D connector into the color video port on the back of the Apple ///.

You may now hook up most any NTSC monitor, VCR or TV using the same kind of male-male coax cable that you are using to connect your Monitor /// to the B/W video socket. Simply plug it into the female plug coming out of the 15 pin D connector

which you have just built."

Q4. Is there a way to get the A/// to run programs written for the //e or //c?

A4. If you can get ahold of the set of Titan ///+2e cards (hard to come by but usually sold with Apple /// systems) you can run just about any Apple //e or //c program. Update the Apple /// CPU chip to a 65c02 and you can run some of the later Apple II programs as well.

Q5. After installing Business Graphics under Catalyst, I get "stack overflow" when it tries to load, then "SYSTEM FAILURE 0F". What is the fix?

A5. Remove the AIIFORMAT.CODE from your Pascal system and reduce the number of drivers in your SOS.DRIVER file to the necessary ones.

Q6. Does anyone have Business Graphics printing on an Epson RX-80? A6. Business Graphics typically requires a PIK disk modification of your boot disk to support different printers. Most (all?) dealers do not have this disk from BPS anymore. Does anyone know of a dealer with this disk or have access to one?

Q7. Need an interface for connecting an A/// to a Fisher PC-210 RGB digital TV. Anyone experienced in this? Monitor input requirements are available.

A7. OnThree published the A /// RGB specs with the DrawOn3 package (see the WAP Library for this manual).

Q8. Is there a telecommunications program for the /// that supports XMODEM?

A8. XModem /// in the WAP PD Library will support XMODEM protocals. It's disk 3TEL-05.

Q9. How do I boot from .d2 (the external drive)?

A9. You'll have to unplug the .D1 (internal drive) cable from the A /// mother board and plug in the cable from the external (.D2) drive. This means opening up the /// and snaking the .d2 cable through the back of the /// so it can reach the mother board.

It's more of a quick swap of drives than a true boot from drive 2 - but helpful in trying to diagnose an Apple /// which otherwise refuses to boot.

Q10: Is the Apple /// Y2K Compliant?

A10. The Apple /// is NOT Y2K compliant. This has the most impact on file marking - you will not get the correct date you saved a file. BUT the /// will continue to work fine after the year 2000 if you desire to do so (it will just think its 1900!). ■

Computer Camp information on page 46. Call office for brochure with full description of program.

Vote in the upcoming WAP election.

Computer Show & Sale date is June 5th.

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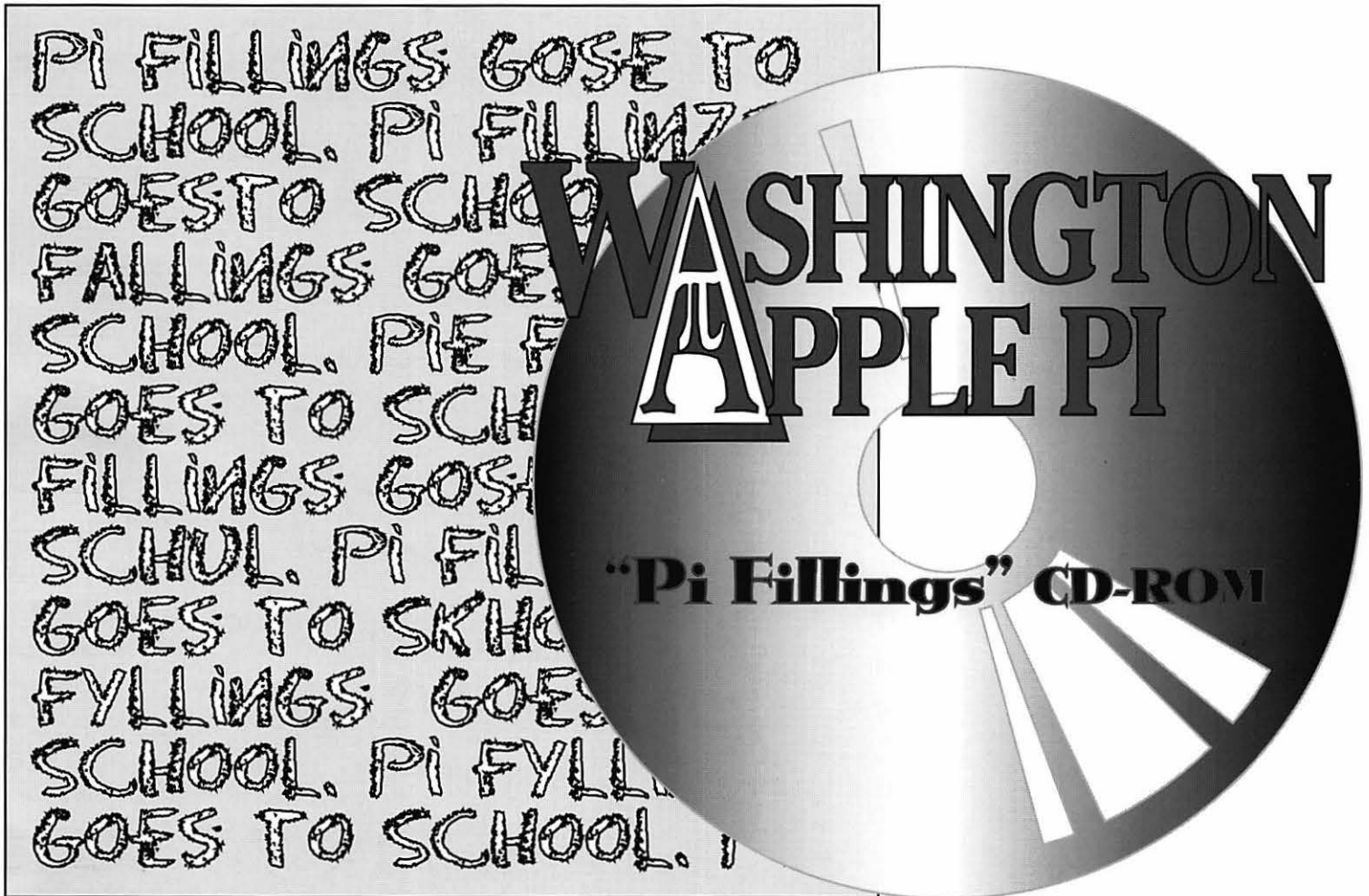- ☐ Mac 800 k
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