mini'app'les

apple computer user group newsletter

VOLUME VI No 12 DECEMBER 1983

CALENDAR CALENDAR CALENDAR

WHICH	WHEN	WHERE	WHAT
St. Paul Branch - Note 3	Tue Dec 6 7pm-10pm	Mahtomedi Fire House Hallam & Stillwater.	PFS: File & Report
Pascal Note 1	Wed Dec 7 7:30pm	Minnesota Federal 9th Ave S Hopkins	Regular Pascal Special Interest Group Meeting.
Business Note 10	Thu Dec 8 7:00pm	Minnesota Sch of Bus's 11 S 5th, Mpls	Michel Fraese on Graphics & Color Monitor
Computer Faire Note 14	Sat Dec 10 9am-3pm	CDC Bus's & Tech Ctr. 511 11th Ave S	All local User Groups for potential users.
Dakota County Branch	Tue Dec 13 7pm-10pm	St. John Neumann Church 4030 Pilot Knob Rd, Eagan	Demo of Church Software by Joe Shulton - Note 7
REGULAR MINI'APP'LES Note 2 Map inside	WEDNESDAY December 21st Prgm-7:30pm SIGs-8:00pm+	NW College of Chiropractic (old PENN CENTER) 84th & Penn Bloomington	Music night Demo of Alpha Sentauri and perhaps other equipment. Carols?
Investment SIG	Wed Dec 21	After Regular Mtg. Note 4	Review of "The Market Analyst"
Education SIG	Wed Dec 21	After Regular Mtg. Note 12	Bank St. Writer, etc. Demos.
VisiCalc SIG Note 9	Tue Dec 27 7:00pm	PBS 4306 Upton Upton Ave S.	Tax Template
Minnetonka Branch	Wed Dec 28 7pm-10pm	Glen Lake Comm. Ctr. 14300 Excelsior Blvd	Note 8
CP/M Note 5	Thu Dec 29 7:00pm	Softwaire Centre Southtown	
St. Paul Branch - Note 3	Tue Jan 3 7pm-10pm	Mahtomedi Fire House Hallam & Stillwater.	Common Apple][/Franklin Failures and Fixes
Pascal Note 1	Wed Jan 4 7:30pm	Minnesota Federal 9th Ave S Hopkins	Regular Regular Pascal Special Interest Group Meeting.
Dakota County Branch	Tue Jan 10 7pm-10pm	St. John Neumann Church 4030 Pilot Knob Rd, Eagan	General branch meeting. Note 7
Medical SIG Note 13	Wed Jan 11 7.00pm	Health Associates Ctr. 2221 University SE, Rm 115	Dr Lynda Ellis Medical Education
Board Meeting Note 2	Wed Jan 11 7:30 pm	Norwest Bank S 1st St., Hopkins	General club business. Meeting is open to all members.
Business Note 10	Thu Jan 12 7:00pm	Minnesota Sch of Bus's 11 S 5th, Mpls	Beginners' Seminar
REGULAR MINI'APP'LES Note 2 Map next month	WEDNESDAY Jan 18th Prgm-7:30pm SIGS-8:30pm+	UNIVERSITY MINNESOTA ST. PAUL Room B45 Bldg 412 Near State Fair Ground	Business SIG presents Leighton Siegel on MiniScrip
Educational SIG	Wed Jan 18	After Regular Mtg.	Note 12- Software demos.
Apple Computer	Wed Jan 18,'84	Time Magazine, Sep 26	MacIntosh Announcement

Notes: (See back page of mail list for telephone numbers.)

1. John Schoeppner
2. Chuck Thiesfeld
3. Fred Woodward
4. Eric Holterman
5. W. Scott Ueland
6. Dan Buchler
7. Bob Pfaff
8. Martin Thames
9. Mike Carlson
10. Subir Chatterjee
11. Bill DeCoursey
12. Jane Chatterjee
13. Stewart Haight
14. Steve George

MINI'APP'LES
The Minnesota Apple Computer Users' Group, Inc.
P.O. Box 796
Hopkins, MN 55343

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Circulation this issue: 2200

INFORMATION

This is the Newsletter of Mini'app'les, the Minnesota Apple Computer Users' Group, Inc., a non-profit club. Articles may be reproduced in other User Groups' publications except where specifically copyrighted by author.

Questions
Please direct questions to appropriate board member or officer. Technical questions should be directed to the Technical Coordinator.

Membership
Applications for membership should be directed to the Membership Co-ordinator: Ann Bell 544-4505
8325 39th Avenue N.
New Hope,
Minnesota, 55427
$12 buys membership for one year. New members and persons renewing after letting membership expire, pay a $5 administration fee. Members receive a subscription to this newsletter and all club benefits.

DOMs and MSDs
The 3 most recent DOMs (Disk of the Month) are available at meetings for $5/disk or any DOM may be ordered by mail for $7.50/disk. MSDs are $15/disk at meetings or $17.50/disk by mail. Contact
Terry Schoeppner,
Box 241, Inver Grove Heights
MN, 55075 (455-8613)
Members may have DOMs copied to their own media. Contact Chuck Thiesfeld - details within this newsletter.

Dealers
Mini'app'les does not endorse any specific dealers but does promote distribution of information which may help club members to identify the best buys and service. Consequently, the club does participate in bulk purchases of media, software, hardware and publications on behalf of its members.

Newsletter Contributions
Please send contributions directly to the Newsletter Editor. Hard copy binary or text files are preferred, but any form will be gratefully accepted. Deadline for publication is the 1st Wednesday of the month preceding the month in which the item might be included. An article will be printed when space permits if, in the opinion of the Newsletter Editor, it constitutes suitable material for publication.

Advertising
Direct Advertising inquiries to our co-ordinator Eric Holterman at:
PO Box 21-425
Eagan, MN, 55121 612-454-5628

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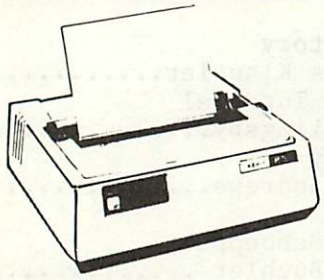

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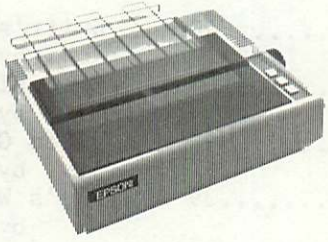

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Announcements

Source Bid

The club purchased, but did not use, a subscription to the Source with full documentation. This will be offered to the club member submitting the highest bid by Jan 9th, 1984. Call Hugh Kurtzman.

New Hope Branch?
By Jere Kauffman

We are thinking about forming a NW branch centered around New Hope (depending on response). If you think that you might be interested in occassionally attending a meeting, please call Jere Kauffman at 535-6745.

Medical SIG
by Stewart Haight

The Medical SIG wil hold meetings jointly with the newly formed Minnesota Medical Computing Consortium (MMCC). This recently formed group consists of physicians and allied health care professionals with an interest in microcomputer applications in health care. Meetings are currently being held at 7:00 PM on the second Wednesday of odd numbered months at the Health Associations Center, 2221 University Ave. S.E., Room 115. At the January 11 meeting Dr. Lynda Ellis of the University of Minnesota will discuss Computer Applications in patient education and continuing medical education. A demonstration of some health risks appraisals running on the Apple will also be presented. MMCC is also maintaining a BBS oriented toward medical professionals, the Minnesota Medical Conference Tree. For further information contact myself (612 644-4375) or Dr. Donald Deye (612 434-6622).

Investment SIG
by Eric Holterman

The December Investment SIG will meet as one of the cluster groups following the main program at the Regular Meeting on December 21. The meeting will feature a demonstration of the **Market Analyst**, published by Anidata, demonstrated by Don Steinkamp. There was a very favorable review of the program in the February, 1983 issue of Softalk (page 59) which would be helpful to read before the meeting.

We took a look at public domain software at the November meeting. Based on what we have obtained so far (with the exception of ISAAC), the programs we have seen are difficult to use due to lack of documentation, and very, very basic. Additionally, many do not appear to work correctly. We are still looking for more public domain software with the intent of cleaning up the best, adding documentation on disk and releasing it as a DOM. If nothing else, this may help you in deciding what features are and are not important to you when looking at commercial software.

Many thanks to Greg Gross, Ed Learned and Dick Velner for taking the November meeting.

Amos Roos is following up his presentation of ISAAC at the October meeting by adding some printing capabilities and putting a good deal of the documentation into a file on the ISAAC disk. We will then make it available as our first **Investment SIG DOM.** Many thanks to Amos for his presentation at the October meeting and special thanks to Jaymes Hubbell for placing ISAAC in the public domain.

If you have, or know where to get, investment oriented public domain software (other than what has originated from the Apple Avocation Alliance), please let me know.

We are planning to re-establish seperate Investment SIG meetings on the third Tuesday or Thursday of the month, beginning in January, 1984. The meeting time will probably be from 7:30 PM to 9 or 9:30 PM. The location has not yet been selected, so if you have a spot in mind that will comfortably handle 15 to 30 people, that is convenient to your home or office, check it out and then contact me within the next week or two. Otherwise the meeting will no doubt be at a location convient to someone else's home or office.

Good Cheap Filters
by Alan Peterman

Radio Shack is a good source for power line filters.

Model 61-2790 provides spike protection and sells for $10.

Model 61-2785 provides broadband noise and spike protection. It has 3 outlets on it and sells for $21.95.

Calendar Announcements

Please submit all calendar dates, changes, etc to Ron Androff. Ron has volunteered to be the calendar maker for the newsletter. As for all newsletter items, timely submission helps us all!

GOTO 6

Announcements Continued from page 5

Special Deals on Magazine Subs
by Dan Buchler

Reduced rates are available to club members for the following magazines:

Call A.P.P.L.E.
You can join A.P.P.L.E. and receive a year's subscription to Call A.P.P.L.E. for $20 annual dues plus $5 Apple-Cation fee ($25 total). The Apple-Cation fee is normally $25. This will be in effect until Jan 1, '84. Send self-addressed, stamped envelope to:
Hugh Kurtzman at PO BOX 796
Hopkins, MN 55343

for application form. Make checks payable to Mini'app'les.

DOMs by Mail
Continuing Service for Mini'app'les Members

by Chuck Thiesfeld

Now members can order DOMs (not Mini'app'les Software) using their own diskettes. Here is the procedure:

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1. Blank diskette (or diskettes if more than one is desired).
2. Mailer. Diskettes will be returned in same protective device used to send the diskettes, provided such will fit in the mailer.
3. Send correct postage in stamps - do not send money in lieu of stamps.
4. Self-addressed return label.
5. $1.00 copying fee per DOM or disk.
6. A note indicating which DOMs are desired.

Send to:

C. Thiesfeld
8416 Xerxes Avenue S.
Bloomington, MN 55431

Please allow 60 days for delivery in USA. Incomplete packages will not be returned. DOMs 1 thru 26, except 18, EAMON #3, and 8 Pascal disks are currently available. Mini'app'les Software disks (MSD) are not available! General questions about DOMs should be addressed to Terry Schoeppner. Questions on DOM content should be addressed to Al Peterman, our DOM editor.

Please note that DOMs may also be purchased on club-supplied media by sending $7.50 to the software sales coordinator. See back of membership list. The first 3 Mini'app'les Software Disks (MSD): #1 - Mini'scrip; #2 - Micro Mailer and #3 - Higher Print/Higher Word Processor/Message Maker are available by mail from Terry for $17.50. Or, the latest DOMs are available at regular meetings, and at some Branch meetings, for sale to members at $5 each, and the MSDs for $15 each.

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DAYTON'S

Happy Holidays
to all
mini'app'les
members
from the
newsletter staff.

Interview with Wozniak

Captured by G. Edward Learned

From the Compuserve Apple User Group
Edited by G. Edward Learned
Introduction by Dan Buchler

There is an Apple User Group where members meet at their keyboards every Sunday evening. These are CompuServe subscribers who are also Apple owners. The group is called MAUG. The meeting lasts about 2 hours and there is 'room' for up to 70 persons at once. When too many try to squeeze in, others are squeezed out.

MAUG also supports a library of user provided programs and allows general Electronic Mail to be sent among users. Mail covers reviews of hardware, software and various publications, and the problems and successes of users in various areas and endeavors.

Meetings can be general or specific. On a particular Sunday in October of '83, it was announced the Steve Wozniak (Woz), cofounder of Apple Computer with Steve Jobs and lately famous for his Rock Concert extravaganzas in California, was to be a guest 'speaker' (typer???). The topic was to be Apple's history, Woz's history and upcoming products (where not proprietary).

One of our members, Ed Learned, is a member of MAUG and captured most of the air time. Some hardware/communication problems caused some missing spots. Other persons participating are the MAUG members. Neil Shapiro is the SYSOP (Chairperson?). The text is basically unedited from a context point of view. Some of the CompuServe'ese has been eliminated to save space. We hope you find it interesting. The UPPER CASE RESPONDEES are those without lower case software at their Apples.

Ed Bernstein: ARE YOU STEVE WOZNIAK?
Woz: YES, I am Woz
Pete Kosel: Aha!
Ed Bernstein: ARE YOU UNABLE TO TALK ABOUT NEW HARDWARE?
Woz: I can talk about new hardware
Ed Bernstein: WOZ, COMMENT ON PEANUT OR NEW APPLE HDWE UPCOMING?
David Humphrey: What's the best modem for the apple?
Woz: I like Apple Cat II. Peanut is Edsel, not enough dealer margin, not enough home software yet.
Cill Cook: Go Roger Kaplan
Roger Kaplan: Is the atmosphere at Apple as "homey" as it used to be, or is it becoming a monolith like IBM?
Woz: Apple is more of what it began as than any other large successful computer company, but is weel managed with greater structure.
Q from Bill V?
Bill V: I purchased an Apple DMP printer a year ago. At that time Apple's ads were touting both the printer's excellence and the extensive dealer support.
Woz: I like DMP but don't like Apple's direction towards serial only version
Blake Edwards: CAN YOU COMMENT ON APPLE'S STOCK
Woz: Apple's stock, even when it went down was twice the year before, just after the most successful quarter (gross: ever, the company could NOT be healthier with over $100 M in the bank (no debt) and great developments on the way, and //e sales in great shape.
Blake Edwards: WHAT WILL THE EARNINGS REPORT BE LIKE
Woz: Fred B—//+ should get a card soon to make //e compatible! Blake—I'm not a finance man, but I have Apple stock on margin well above what I own!
Ed Learned Q?
Ed Learned: WOZ, 2 QUESTIONS, FIRST ON THE CARD FOR THE 2e, will it function also with the II?
Woz: Ed, the card to make a][+ into a //e is not in works yet but I'm screaming. It will work on II..
Joe Murphy next, /// support group is small (related to revenues: but ongoing forever as long as sales.
Joe Murphy: What can you tell us of the mouse fot the Apple ?
Woz: First we had the II, one of the most successful products ever. We worked as fast as could and made good choices without strong engineering management. We expanded to a 2-product company with the /// and one of the downfalls was that we were TOO SMART. We knew the proper ways to do all sorts of things and we didn't allow hackers to do things their own random ways. I feel that we were wrong to believe in our 'religion', users should only use a good produce (like SOS) if it's better for their application, not because the company (Apple: feels only one way is right). It's a good lesson to learn. The /// is still difficult to find out how to do your own thing on.

GOTO 8

Woz Continued from page 7

Lesson TWO—The initial impression of any machine from APPLE will be remembered for years even when problems (lack of software), hardware are corrected. But MAC does not have color or slots
Go ahead, Lynn

Lynn Beck: WHY DONT ONE OF THE SYSOP TAKE DOWN NAMES OF PEOPLE THAT WANT TO TALK AND THEN CALL THEM... THAT WAY WE DONT KEEP GETTING QUESTION MARKS BETWEEN TIMES

Woz: Great suggestion

Bill C/Alt SYSOP: I have a printer on line Let them rip
Kael is first go

Woz: Kael ok

Kael Smith: As to new products for the II series of Apple line... Will things like the mouse (mentioned for the //e be made available for.. the][+?

Woz: John Scully has been very vocal on the II family direction.

%%% 15-20 MINUTES LOST HERE %%%

Welcome to channel 30 - 48 users tuned in.

David Cusimano: I HAVE II, IIE, AND LISA. WILL THE MAC, III, AND IIE BE DESKTOP COMPATIBLE WITH THE LISA ?

Woz: ok

David Cusimano: WILL SOFTWARE TAKE-OFF FOR LISA?

Woz: BUSINESS SOftware will come out for LISA but not from every young entrepenour trying to make their first like with the II. Most of the vertical markets are supplied with software from Apple at time of purchase. Next please

Bill C/Alt SYSOP: Jack Kobzeff is next

Jack Kobzeff: TWO QUICK ONES

Woz: jack ok

Jack Kobzeff: I ENJOYED BOTH "US "1 &2 AD HOPE TO SEE 3

Woz: May be a couple of years for US #3—working full(!) time at Apple—can't be interrupted for those nightmares. but at least they will always be unusually great, especially for the 20,000 who came from every state and camped out for 3 days.
Fred ok

GOTO 9

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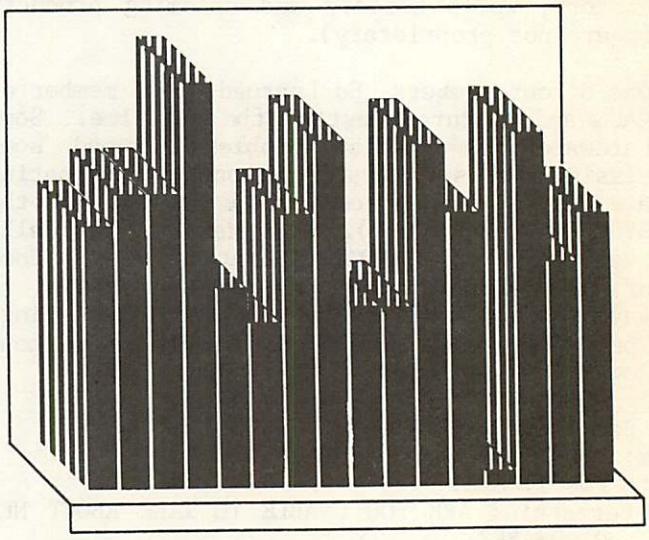

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Computer Exercise World
920-7500

Woz Continued from page 8

Fred G. Povey III: ok woz, are you involved with the CPM card at als, and if i go with prodos, will i be able to use both prodos and cpm card coresident on aprofile hard disk thnx

Woz: ok Prodos is not a sophisticated enough op sys to handle itself and CP/M concurrently.
Bill—who's next?

Bill C/Alt SYSOP: Mike Cohen

Mike Cohen: Ok.

Woz: Mike ok

Mike Cohen: will it be able to support more than 128 k of memory?

Woz: Prodos was written to support only 64K (it was done a few years ago). Our enhanced //e family is headed toward 16M bytes in short time with a revolutionary 6502-based processor.

Bill C/Alt SYSOP: Alan Biener go

Alan Biener: WOZ HOW DOES THE APPLE COMPARE DOLLAR FOR DOLLAR WITH THE COMMODORE?

Woz: Alan The C64 is a modern performance:price leader and a great deal of entertaining software will be written for it. Jack Tremeil runs Commodore and he NEVER lets a product last for more than about a year, so don't expect continuing support (expect a 'new' Commodore)
Bill—who's next

Bill C/Alt SYSOP: Marc Apfelstadt

Marc Apfelstadt: Woz— Where is the software to take advantage of the extra 64 K in my IIe extended card?

Woz: Marc! Applications programmers can utilize and manage the memory banking soft switches themselves. I promise an alternative solution soon (6 mo?) for direct addressing of 24-bit address.

Bill C/Alt SYSOP: Jeffrey Kramer is next.

Jeffrey Kramer: CAN YOU TELL US ABOUT THE MAC?

Woz: Just go to your local store and look at LISA. Then imagine.

Fred I. Blend: BILL PUT ME BACK ON THE LIST , I ALSO GOT DROPPED

Woz: slightly less hardware and memory but advantage taken to make it faster and better with fewer resources (sound familiar //e world?). Mouse, no color, no slots, finest software (BASIC and PASCAL are finest ever done too)

Bill C/Alt SYSOP: go Roger

Roger Kaplan: ok
Hi Steve — 2 quick questions:
1: Will PRODOS source code be available for us hackers?
2: Can you comment on whether you think MAC will be more of a hobbyist machine (like the][: or a business machine (like a cheap Lisa)? Also, is Apple planning any new, advanced machines aimed at the **Hobbyist**?

Woz: First, I hope PRODOS will be available because it's educational and fun to play with listing of op-sys. If anyone talks to involved parties at Apple, please let them know I have STRONG feelings on this. Unfortunately, the marketing dept tends to be very protective of all products. Let's work to change this in the // world if not the other product lines at Apple!!

Bill C/Alt SYSOP: Gabe Wiener is next

Woz: MAC as excellent machine for HS and College markets

Bill C/Alt SYSOP: Harry C is next

Bill C/Alt SYSOP: Go Harry

Harry C.: Steve...

Woz: ok

Harry C.: pls tell us about the IIe running in Lisa emulation mode ?... is this a reality ? and, when ?

Woz: I believe strongly in the advantages of the Lisa/Mac user interface and see it as reasonable goal for // software in future based on double high-res graphics and possibly clever software of faster processor (a la Accelerator)

Woz: Bill—who's next?

Bill C/Alt SYSOP: Alan Turoff

Harry C.: Steve, hokay, fine.

Allan Turoff: Woz—software seems to be looming up as a big problem: it is hard to know if you want it or not until after you buy it...

Woz: Too much software and RARELY so complete and fast to be the one you really want to stick with for a long time. Allan—word processor example, printers change faster nowdays than the software to take advantage of them! Lisa /Mac approach is screen is bits, all printout is graphics only—much less hardware and better for user. Hope // gets there.
Bill—who's next?

Bill C/Alt SYSOP: go dave A.

David Amiramov: WHEN IS THE APPLE PRODOS COMING? IS PRODOS ANY FASTER THEN DOS 3.3

Woz: I think this month in stores, but to developers for last year (good policy before we could support.

Anita Peoples: Can I get a Mac for XMAS?

Woz: Anita—sorry, but our shareholder's meeting is in JAN and last year we introduced Lisa so that's my "hunch"

Steve Arrants: 2 QUICK ONES—CAN U COMMENT ON APPLE/FRANKLIN CASE, AND ON RUMOURS OF

Anita Peoples: Thanx

Steve Arrants: AN APPLE PORTABLE (LIKE TRS MOD 100). THANKS!

Woz: Steve—You can always tell who's wrong if they try to deceive you. Franklin claimed 'compatible' at first and we all said "of course they should be able to, who does Apple think it is". Well, that word didn't mean 'copy' to me (at school, I called my wife and said "great, at last someone came out with another product for this market, let's get one"—a couple of weeks later I

GOTO 10

Woz Continued from page 9

discovered they copied the circuit, leaving every single chip in the same place on their board as we did on ours. I believe they will lose copyright and patent issues, and be put out of business by Apple, but some other settlement may come out. It should be a significant financial settlement in Apple's favor, even if it is a bad debt and uncollectable. Programs belong to who wrote them, even op-sys code and the like, and have value. You can't take another's work, 'zerox' it, and SELL it (give to your friend, ok,). I found out it only takes two people to start a company, a xerox operator and a LAWYER!

Steve Arrants: THANKS, STEVE!

Adam McCranie: A A LITTLE BIT OF TRIVIA. WHY DID YOU USE THE 6502 MICRO IN YOUR DISIGN?

Woz: In 1975 an 8080 cost $370 and you could only get it from a distributer set up to deal with companies, not individual computer enthusiasts. The 6502 was introduced at Wescon with a unique marketing approach (thanks, Chuck Peddle: and sold over the counter (like register chips at the local surplus stores: for $20. I bought mine from Chuck and his wife themselves. I couldn't afford more, the other chips for the Apple I, I could get

Ed Bernstein: OK. ((DIDNT CHUCK WIND UP AT COMMODORE?))

Woz: for free since I worked at HP and needed only supervisor approval due to a great policy there. Since it was a project to show off at the local computer club, I didn't have to convince a marketing department that the decisision made sense—in product terms it didn't. But I had no idea we would start a company. Peddle went to Commodore, did the PET computer (considered buying the Apple II design but they didn't offer us much $$$), later worked at Apple as engineering manager (until Tom Whitney and the Apple ///), is currently Pres of Victor (doubtful future) and working with the same designers who follow him throughout his careers. I find him interesting. Note that the 6502 was introduced $20 over the counter in SF Bay area—that's where Apple, Commodore, Atari, and a couple of other 6502-based products came from!

Dr. Bill Ross: WHat exactly is your current position at Apple Computer, Inc?

Woz: Bill—While doing US FESTIVALS I was repeatedly asked if I was now a rock promoter. My answer was ALWAYS "no, inside I'm a computer designer in my life and nothing else. I created the US Festivals so I'm going to make them as great as I can." After US '83, I walked into PCS (// and /// division: and said I'd like to return in a couple of months—August. I actually went full time 3 days later. I chose PCS because I wanted to avoid heavy coporate product control from above—I figured all the attention was on the newer MAC and LISA products, and that PCS was the ananomous division where one could work on interesting projects without a lot of outside control. Boy was I off base—I actually walked into the fire pit of Apple—the only products which ever made money to date and which was in need of strong technical developement efforts to pursue lost markets (like small business, which Apple itself killed because the /// had that territory). Anyway, I may never be as anonomous as I'd imagined.

Jeffrey Kramer: WILL THE MAC USE PRODOS?

Woz: Jeff— no, MAC will use it's own op-sys which was developed to handle the user interface of LISA more directly with better performance. Such good software has been written for MAC (128K bytes in ROM) that it will be transferred to LISA soon!

Fred I. Blend: WHAT IS APPLE CORP DOIN G ABOUT IMPROVING THE QUALITY OF KNOWLEDGE OF SLES PEOPLE IN COMPUTER STORES?

GOTO 11

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Woz Continued from page 10

Woz: Fred— Apple has always been concerned about the situation—an erosion occurred—but can do little to control it. In the end, all aspects of our business are directed by the wants of the consumer. The most consumers needs will dictate TO THE STORES what support is needed to sell product. Apple is the last on the whole chain (the most indirect) to be effected.
Bill—who's next?

Bill C/Alt SYSOP: Rolfe go

Fred I. Blend: THANKS

Rolfe Tessem: Thanks Steve... What can you tell us about the compatibility of SOS and PRODOS?...Will it only be at the data file level or code level?... also, any plans for larger PROFILES?

Woz: Rolfe— First, yes plans for larger profiles. Pretty the minimal hard disk for small business has grown to 10 MB, soon 20. SOS and PRODOS are not compatible beyond file level. Consider—considerations of banking in /// extra memory have no analogue on //e (and prodos only 64K support).

Bill C/Alt SYSOP: Go Pete

Pete Kappesser: ok...

Woz: ok

Pete Kappesser: When you created the Apple II, did you have any idea it ould turn out... to be so popular? At what point did you realize you had a hit on your hands?

Woz: Pete— The Apple II was not built to be a product for sale. It looked like the best thing available in 1976. The first computer ever (low cost: with color, hi-res, Basic in ROM, plastic case, switching power supply, dynamic memories, paddles, speaker, cassette, etc. all STANDARD. —look at virtually every "personal" computer since. We needed $250,000 to build a thousand—where do you get that kind of money when you're a couple of kids with no business experience? We sought venture money and Mike Markkula agreed to HELP us write a business plan. He realized we were onto something that happens once a decade—a huge market expanding out of nothing. He joined us (equal partner) and loaned $250,000. He told me I had to quit HP and go 100% Apple. HP is a good company and it's hard to leave any company for anything when you believe it's good to it's employees. I said "NO" on my ultimatum day and we were not going to do Apple. Steve Jobs was <in tears> and got relatives and friends of mine to call me at work and tell me why I should start Apple.

Finally I realized I could have a great time doing the one important thing in my life—design computers for myself and start the company to make money and in my head they didn't have to be dependent. So I turned around. Markkula decided that he and Jobs had better have 52% of Apple combined—I realize now that they were probably afraid I was a little unpredictable. A true story.
Bill—who's next?

Pete Kappesser: Thanks! (for the answer, and for the Apple)

Woz: Pete— I did help friends at the local computer club build Apple I's and Apple II's on thier own anyway!
Bill—who's next?

Bill C/Alt SYSOP: Go John Gillette

John Gillett: ok
When can we expect the larger ProFiles, and also the Graphics Tablet? (teachers are killing us - I'm your SSA in Scottsdale!)

Woz: John— I have learned from day one not to believe any product feature or ship dates in advance—I tend to say it's out when I can buy it at a local store. sorry. I understand the Graphics Tablet has shipped (???) perhaps not large quantities. Thank God we didn't have to make 10,000 or 100,000 of anything in the early days.
Bill—who's next?

John Gillett: Thanks, Steve

Bill C/Alt SYSOP: Go Douglas

Douglas Dean: would you comment on the IBM peanut... and would you advise holding off bvuying a //e for a mac

Woz: Now that the documentation is in dealer's hands, it is clear that the peanut is not the revolutionary price/performance product we had in our heads before we knew. The price for the useful (hacker's machine, minus slots: is too great. Until a lot of good software exists it's not the major home/education competition we were expecting.

Remember what happened to Apple with the ///—a great product got a bad start and the 'psychological' effect of 'bad impressions' hung over us years later. The peanut is a risky product—for example if the disk drives have a bad reliablility prob. then the dealers will have a lot of non-technical computer purchasers expecting a hell of a lot from those three initials. I know that many dealers must be considering whether or not they intend to carry the peanut. It makes forthcoming Apple // products look EXTREMELY good. Interesting times in this business. By the way, I credit peanut with a lot of the drop in Apple's stock price, but //e sales worldwide are holding, and now rising.
Bill—who's next?

Bill C/Alt SYSOP: go Kevin

GOTO 12

Woz Continued from page 11

Kevin Krell: ok
Has the major R&D expense for newer intro ductions already been made?

Woz: Kevin—
Yes, R&D dollars at Apple never stop, and in this business you can only see about a year ahead anyway (if you're inside) so I can't comment too much on any direction unless heavy R&D dollars are being spent. The large developement dollars spent are a result of the fact that great products in existing directions can be calculated on paper—roughly how much they'll sell—then any large company does the finest job it can, raising the cost of entry to anyone who can also see exactly what product will sell. That reasoning doesn't include new, unforeseen, creative directions. It's rare for a successful company like Apple to do something so revolutionary and great as the Mac.
—Bill, next please?

Bill C/Alt SYSOP: go Bart

Bart Thomas: What is being done now re new roms to improve //e ?

Kevin Krell: thanks, steve - hope profits ahead.

Woz: Bart— Hundreds of projects in company, even my building, I can't be close to all AND do my own.
—Bill, next please?

Bill C/Alt SYSOP: Lavonna

Lavona Rann: will we get //e emulation for the /// soon? or 512K?

Woz: Lavona Rann————————
I think you can expect 512K on the //e first. The /// has a problem with developement. Although everyone wants to do so many great things for it and knows how great a product (functionally: it is it isn't selling for other reasons (early impressions). Thus the /// group has less R&D dollars to spend based on company revenues. Unfortunately, every product at Apple has to be compared to the // which was one of the most successful products of all time. Sorry, but on the other hand, a lot of support from those who know what the product is, including outside developement (hard- and soft-ware: is forthcoming and the product will be supported by Apple for many years no matter what.
—Bill, next please?

Bill C/Alt SYSOP: Go bernie

Bernie Bernstein: WILL THERE EVER BE A NEW VERSION OF APPLESOFT?

Woz: Bernie— Believe it or not, we did advanced business basic for the // first. Anyway—— the programmers of Business Basic on the // were directed to do it FIRST on the /// once it was near completion and they were initially very upset. I doubt anyone has ever tried to ressurect it inside.
Bill, next please?

Bill C/Alt SYSOP: go Marc

Bernie Bernstein: THANKS

Marc Baime: OK
WHAT WILL COST BE LIKE ON 1)MAC AND 2)PRODOS

Woz: Marc— I predict that before long PRODOS will ship with all //'s and DOS 3.3 will be available for around $50 as a separate pkg. MAC I really don't know but around average personal computer price, with normal peripheral—(DMP, B/W monitor, 128K, floppy).
—Bill, next please?

Bill C/Alt SYSOP: Go ED

Ed Learned: Steve, two questions... Will prodos have easier access from assembly language, and what opinion if any do you have on the 68000 add on boards for the // (ie DTACK)?

Woz: Prodos will have easier access from assembly with good docu mentation from Apple on how to use/expand it. I haven't even used it much myself yet (not much software on it) but it looks like the most interesting thing to explore next year.
—Bill, next please?

Ed Learned: thanks.

Bill C/Alt SYSOP: Go Ron

Ron Bernstein: Recently having purchased a //e, I became curious when I noticed that it uses a 6502B. I understand the 6502B can

GOTO 13

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run faster than the plain old 6502 used in previous models, but of course it must (and does) run at the same old 1.023 MHz to remain compatible with Apple II software. Why is the 6502B used? Is there a faster Apple hidden in the //e?

Woz: Ron—
The 6502B was available with no cost penalty—all the ones off the line ran that fast. The //e doesn't use the extra speed. However, I am personally performance minded—most of my systems use the Accellerator (formally Booster) card—my first direction upon returning to Apple was to build the equiv of built in speed-up (1 MHz for games!) in some future product—it just makes sense with current technology. Of course, Apple will never build a // based machine which won't run existing cards and software, as far as we can determine. The task is not an easy one—brand new machines like MAC can be designed fast from day one, we have to be compatible with every special address ever in the // line, and every speed consideration as well as provide higher speed/processing/addressing modes. Not easy.
—Bill, next please?

Ron Bernstein: thanks!

Bill C/Alt SYSOP: go John Miller

John Miller: ANY PLANS TO CONTRIBUTE TO INTERACTIVE VIDEO FOR SCHOOLS

Woz: John————sorry, I don't know the plans, only what I think myself is needed, and in the future. Of course we already have PILOT and SUPER PILOT with videodisk control. Eventually we should combine the advantages of educational TV (better presentation) and interaction of computer (like 'teacher for each student'). These two have never been merged before and will take quite a while—better software is needed, the computers must be lower cost to pop up on every desk, and the educational community must move slowly in steps —allow 30 years—teachers of today have been trained to do all sorts of things by maintaining order with 30 students—but this means that the presentation of material is FIXED (same all students) and the grade is VARIABLE. Let's reverse this in 30 years—FIX the grade before you take a class, then the computer will adapt for each student, making the time to get that grade the VARIABLE.
—Bill, next please?

Bill C/Alt SYSOP: go Randall

John Miller: THANK YOU !

R[illegible]rt Seaver: bravo!!

Randall Cole: what is the difference between the revision B motherboard... and the original in the //e? How do I upgrade? Get that?

Woz: Randall—the main difference of which I am aware is supporting double- hi-res mode (560 by 192 graphics, B/W). This may become more important with future mouse software and MAC-like user interface. I don't know how the upgrade is handled since it was done before I was on board, but I remembered when we added two colors (red/blue) to the II and gave users documentation on how to wire a couple of chips on themselves to add it—even long before any software existed to use them. Apple could never do this now—then we merely said it might violate warrantee.
—Bill, next please?

Bill C/Alt SYSOP: go Mel

Randall Cole: thanks

Dr. Melvin M. Saffren: ok

Kevin Krell: randall - dealer upgrade - should be free!

Woz: free—yeah

Bill C/Alt SYSOP: Go Mel

Dr. Melvin M. Saffren: What is your dream —— vision— for the impact.....

Woz: Mel—I seldom think ahead more than what I see going on in Apple (a year)—I'm too down to earth and whatever I work on I want to see it do something useful in a short time. The computer in education issue is my only futuristic social-change vision.
—Bill, next please?

Bill C/Alt SYSOP: Go Mark

Mark Wolcott: Steve, can you tell us why the IIe wasn't designed to run at 3.6 mHz? I am using the Saturn Accelerator card and have not experienced any timing or compatibility problems.

Woz: Mark—the Accelerator is my favorite card, largely because without any fancy jumpers EVERYTHING ran with it. The only exception withthe software I use is Word Juggler which is under Prodos. The current Accelerator should have problems with the //e extended memory usage once software uses it. I heard that they are working on a new on to get around this. It's amazing to see everything work faster. I have one suggestion to them. All floppy references

%%% LINE APPEARS DROPPED HERE %%%

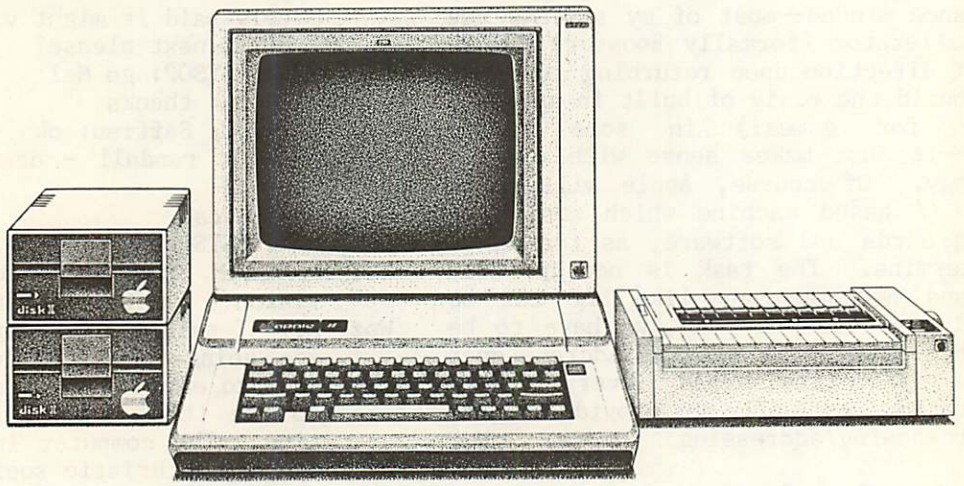
Woz: C088,C089 for less performance delay. My main direction on returning to Apple was to get 3.6 MHz built in. Look for it someday. Saturn has shown us it's possible.
—Bill, next please?

Bill C/Alt SYSOP: Go Roger

Roger Kaplan: Steve- will the MAC be a business machine or a personal, and will Apple be coming out with some advanced micros aimed at the personal user rather than the business user? And by the way, where are you right now — CA?

GOTO 15

Personal advice on a personal computer.



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Woz Continued from page 13

Woz: Initially MAC won't displace the PC as a small business machine (memory, mass storage, slot capability limits) but is intended to be a more finished product for the bulk of the personal market—assuming whigh peripherals and features they would want and supplying them at lower cost than if they have slots to make own choices. Interesting.
—Bill, next please?

Bill C/Alt SYSOP: go Rolfe

Rolfe Tessem: Steve... How concerned are you about the steamroller effect that MS-DOS seems to be creating, and do you think that future compatibility will center around op-systems or high-level languages?

Woz: Rolfe———— I'm not 'concerned' about the acceptance of MS-DOS. One can always predict that in a few years a new Op-SYS will be the 'new' favorite of the day. I think a lot of the world was looking for PC compatibility and we now know that few achieved it. In general, major I/O devices (screen resolutions, serial I/O protocols, disk hardware, etc.) define the desired compatibility with the PC. I think that the market it's been so successful in (small business-domestic) had large prior acceptance of CP/M as the greatest capability product—they are probably the ones being steamrollered. I hope that can be transformed into some sort of answer.
—Bill, next please?

Bill C/Alt SYSOP: go shawn

Shawn/Alt Sysop: Let's say I buy a //e tomorrow.....would it be upgradable as new features are announced (enhanced //e?) or should it be a new machine-type purchase to upgrade?

Woz: Look at the past. The //e 'replaced' the][+ but was so compatible that all 64K software coming out which would work on the][+ would also work on the //e. Now that //e 128K software is appearing (Word Juggler), the [+ can't run it. In that case an upgrade card would have made a lot of sense and Apple forgot about the existing owners—Almost everyone involved in such thinking either doesn't own a computer or has a /// on their desk, not a][+. In the future, upgrade boards may be more difficult, if not impossible, but owners of the prior product in a line being expanded should be thought of more.
—Bill, next please?

Bill C/Alt SYSOP: go bill S

Bill S/Alt Sysop: ok

Shawn/Alt Sysop: agreed!! Thanks. Steve, Will a true hacker, who loves his][+ for just that reason, be happy with a mac?

Woz: Bill S— That's a very difficult question for me. I believe that Mac is the most revolutionary computer of all time—not that what it does hasn't been done before, but that it hasn't been done at a price which will wind up with millions experiencing it.

Bill S/Alt Sysop: can I play invaders on mac?

Woz: I developed the original Apples strictly from a hacker mentality— try any impressive tricks which will satisfy a market of one (myself) which made it possible to include a lot of the accessable features. For example, I didn't assign a team to design the hardware and a team to design the software (Apple I,II) but did them both. The lack of task partitioning allowed the software to interact very closely with the hardware and make personal computers inexpensive. The designers of the Mac worked closely enough to achieve this and many (Bill Atkinson, Andy Hertzfeld, Burrell Smith) are hackers at heart. The MAC unfortunately is so perfect that we didn't leave much room for hackers to do hardware 'for themselves' or 'their own way'— we feel there were no alternatives. The philosophy on software is different—open, access the hardware at various levels. You won't have the interesting world WE enjoy of programming to handle each of 5 80 column cards, 6 printer interface cards, 4 don matrix printers and a letter quality, 4 modem cards, etc. The world of ones and zeroes, registers and adders, instruction sets and video modes is dear to many of us—we were forced to learn it in order to be Apple // pioneers.
—Bill, next please?

Bill C/Alt SYSOP: go mike

Mike Cohen: Two questions - First, I've seen ProDOS & I'm very impressed with it. I see you kept the I/O intercept. When you designed DOS, why did you use an I/O intercept rather than the '&' hook, which would probably be neater and more elegant?

Woz: Mike——I believe that anyone can get a 'legitimate' copy of Prodos by asking Apple for it. Until released with product, a software developement cannot be supported. We got Prodos to as many developers as we could long before we could support

Mike Cohen: (Also, it seems a little flakey on my Rana drives.)

Woz: and guarantee it—products like Work Juggler use it before it's 'legitimate'. Expect JAN. Also, in 1978 the DOS was written. At that time we had the first ROM BASIC ever and only PET and TRS-80 had joined us. We did the DOS in 4 months, stretching to 6, and did not have time to rev the integer ROMs (or even to recognize the & option). We had to make DOS work with existing ROMS. Fortunately they had the memory switch for input and output or

GOTO 17

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AppleWriter][

by John L. Hansen

Because of the difficulty of circulating one copy of these notes to 1900 members, we plan to publish summaries to inform you about reported errors in manuals and other useful information. Our subject for this column is Apple Writer][.

The Control-V option will allow embedding control characters in the text of a document. The procedure for embedding the escape character is not quite so obvious. The first time ESCAPE is pressed after Control-V, the cursor changes to the "^" character, indicating that the next letter will be capitalized. Press the ESCAPE key again and an inverse "[" character will be displayed and the cursor will move to the right. The "[" is the ESCAPE character.

Apple Writer][may not work properly with some parallel interface cards. If a Control-I sequence is needed to print more than 40 columns, it can be inserted with Apple Writer][by inserting <Control-V><Control-I> <Control-V> xxxN at the start of each file (xxx = desired number of columns: 80, 132, etc.). Control-V must be used before and after the Control-I. See page 51 of the Apple Writer [manual for more details.

The Control-V command allows entry of most control characters, but will not allow insertion of ASCII 22 (Control-V), ASCII 31 (Control-underline), and ASCII 128 (Control-@ with high bit set). The following Applesoft program will build a glossary file with these control characters. Boot DOS and enter Applesoft:

```
10 D$ = CHR$(4)
20 PRINT D$; "OPEN GFILE"
30 PRINT D$; "WRITE GFILE"
40 PRINT "1"; CHR$(31) : REM CONTROL-UNDERLINE
50 PRINT "2"; CHR$(128) :
                REM CONTROL-@ WITH HIGH BIT SET
60 PRINT "3"; CHR$(22) : REM CONTROL-V
70 PRINT D$; "CLOSE GFILE"
80 END
```

Run this program, boot Apple Writer][, type Control-Q, and select Option 5. Insert the disketter that has GFILE, type GFILE, and press <RETURN>. When you need to insert an ASCII 31 in your text, type Control-G 1. Control-V can be inserted by typing Control-G 3.

Woz Concluded from page 15

their would have been no way at all without waiting another (year?) for language upgrades. We only had about 40 employees then. We barely did some acceptable things at all by the seat of our pants. Now that we are so professional and wealthy, we would have delayed the DOS a year and never been the success we became. In fact, had we had money from day one, all the things we made possibble, including our success, would have been done wrong.
—Bill, next please?

Mike Cohen: thanks
Bill S/Alt Sysop: Jack is Next
Jack Kobzeff: ANY COMMENTS ON 68000 BOARD UPGRADES?
Woz: Got to go here on West Coast too. How about some future repeat (next week?)
Jack Kobzeff: FOR THE APPLE //E DTACK GROUNDED
Shawn/Alt Sysop: yes
Ron Bernstein: yes!!!!
Rolfe Tessem: Here, Here!!!
Mike Cohen: yes
Steve Arrants: YES//!!!!!!
Kent Bottorf: YES
Roger Kaplan: why not make it a weekly event?
Greg Dougherty: YES
Stan Beckerman: GREAT!!
Mark Wolcott: Yes, thanks.!!!!
Bart Thomas: Thanks, woz.. for the talk & the machine!!
Bill S/Alt!Sysop: (We had fun too.)
Fred G. Povey III: yes!
Woz: OK, see you all next week
Shawn/Alt Sysop: Same format would be super...
Pete Kappesser: I'll eleventh that motion!
Steve Arrants: THANKS, STEVEE. THIS WAS GREAT!
Kael Smith: thanks and good night!
Stan Beckerman: THANKS WOZ!
David Cusimano: THANKS FOR LISA !!
Greg Dougherty: THAKS STEVE
Shawn/Alt Sysop: Terrific! Thanks for the time, Steve!
Loftus Becker: Thanks
Mike Cohen: thanks - great conference!
Ron Bernstein: Thanks Very MUCH!!!
Bill S/Alt Sysop: Thanks
Bill S/Alt Sysop: Whew.....

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Daisy Wheeling

Apples, Oranges, and Wednesday Shock

by Arsen Darnay

Have you noticed that we're in the midst of war? I don't mean Grenada. I don't mean Lebanon, either. I'm thinking of the war between the Apples and the Peanuts, between the corporate Goliath, IBM, and the somewhat pudgy David, our hero, Apple Computer of Cuppertino, California — and but for the A, that's some alliteration, right? Like other freaks now fascinated by the fantastic family of fine firmware flowing from the firms in California, I perused the publications pining for points about and pictures of the PCjr. But when the news finally hit on November 1st, as promised, I relaxed. The Peanut does not look like a great threat to the Apple family of computers, not to me, because the low price is for one of those cars you buy without the wheels, the body, or the gas tank, and those added, the cost will be plenty.

* * *

I am really a loyal, orthodox sort of guy. Leos are supposed to be. Take my relationship to McDonalds, for instance. I became a true believer years ago, and these days I always feel a little guilty when I sneak in to worship at Wendy's or at Burger King. And that's the way I feel about the Apple.

But, really, folks. I can barely resist temptation when I look at those heretical ads for Orange, to take an instance, and see a system (the Orange+Two) which comes with CP/M 3.0, interface cards for two drives, numeric pad, two CPU's (the 6502 and the Z-80), upper and lower case, auto repeat keys, FORTH in ROM, color graphics, six slots, and Apple software compatibility. For $1095? But they don't seem to be kidding.

With each passing month, my original investment in the Apple II+ appears higher and higher — and to get all the things that come built in with newer machines and in other brands, I have to spend as much for peripherals as those units cost new and out of the crate.

* * *

Nonetheless, I love my Apple — and the passion is not fading as I was sure it would. I'm almost at the stage where I'm ready to buy one of those rainbow colored Apple decals for proud display on the back window of my car. Love is transrational.

And sensibly so, I think, because it's difficult, really, to judge the new offerings. The Orange+Two is sold by Collins International Trading Corporation in Calabasas, California — which makes me think that the computer comes from Taiwan. But can someone tell me where the Orangepeel Computer fits into the spectrum? It's sold by Orange Computers Inc. from Mississauga, Ontario. (That's a great name, isn't it). The Orangepeel comes with 76K of RAM, also Apple-compatible, also with multiple CPU's, etc., etc. for $790. But will they be around in 1988 when even Apple's stock is reaching record lows thanks to Lisa's high price per byte of sex appeal?

Sometimes love is just cautious and practical.

* * *

People who speak of Future Shock are not into microcoputers. We're suffering from Last Wednesday Shock. "Key-ryst," someone says. "I bought a computer last Wednesday for a grand, and today they're giving the damn things away to anyone who opens a $400 savings account down at my bank."

That poor guy is each of us. The other day I saw a private ad trying to sell a TI 99 computer plus peripherals for "$1000 or best offer." The same day the Wall Street Journal predicted that the TI computers (unceremoniously dumped by Texas Instruments) would soon be selling for $50 a copy. And the next day I saw an ad selling them for $59.95 from a mailorder house.

* * *

Two nights ago my brother called from Indiana on a programming problem. We talked about LEFT$ and MID$ and assorted messes for a while. Afterwards he asked which small computer (absent Apple or the IBM) would be a good buy for friends of his who want to keep expenses down.

Makes you think. Commodore is reportedly experiencing a high rate of defective returns (per Wall Street Journal) and seems unable to supply disk drives. TI has cut and run. Coleco's Adam — I saw my first ad in Popular

GOTO 30

Strictly for Beginners

by Jo Hornung

Now that you have your Apple enthroned in your abode and presumably have begun to use it for the purpose you had in mind when you bought it, you may be like a fledgling: you have done a bit of fluttering about and you are eager to see what else you can do now that you are developing your flight feathers. How do you go about deciding what to do next?

One suggestion is that you read. The number of available books telling you what to do with your computer and how to do it is increasing by leaps and bounds.

At the time I bought my Apple, less than two years ago, B. Dalton had relatively few such books on its shelves. Now there are rows and rows of books, many specifically for the Apple. Some of these are of the workbook variety, designed in a self-teaching format, with instruction and exercises in beginning programming. Buying books can get to be terribly expensive, however, so you might want to try the shelves of the public library.

Libraries have also been increasing their inventories of books for computer users. These have become much in demand, however, and circulate frequently. A good idea is to study the catalogs, jot down titles that interest you, and if you can't find them on the shelves, ask at the librarian's desk to have them put on reserve.

Magazines, too, are proliferating. Many are excellent, and again the problem is how to decide among them. Some computer magazines, in an effort to woo subscribers, will allow you to enter a trial subscription, receive one copy and then write "Please cancel" on the bill if you decide the magazine is not for you. My problem with this is that I want more than I can afford or have time to read.

Many computer publications include a regular monthly column similar to Popular Computing's "What Do You Do After You Plug It In?" Such columns are especially good for beginners.

It might be a good idea to peruse several different magazines, looking for ones that are geared to your particular interests. If you have children, you might want to look at Family Computing. This is a new Scholastic publication which (as do several others) includes programs that may be copied.

Although magazines can get to be rather expensive too, some computer magazines are now appearing among the publications offered by Publishers Clearing House and similar firms, at relatively attractive prices.

Swapping is another practical suggestion. I generally try to pass along all of my magazines (except, of course, for the ones I can't bear to part with). Many publications have such good material and cost so much that I like to help give them more mileage.

Finally, there's the **Twin Cities Computer User**, the monthly newspaper which is sold on a subscription basis, but which is also to be found among the many "giveaway" publications available in shops, malls and such, around the area. This is a very interesting and well edited newspaper, with knowledgeable writers. (I heard Editor Dale Archibald on a call-in program on Public Radio recently, and I thought he was very articulate.) (He is a club member too - Ed.)

So there you have it. There are horizons beyond your present computer-using milieu. To conclude the extended metaphor I used at the outset, this month's advice to beginners is: Spread your wings and fly! I do want to end with just one cautionary note, however. Avoid falling into the trap of spending so much time reading about computers and computing that you don't leave enough time to compute! (To be honest with you, I think that's exactly what I have done, and as a consequence I will probably be a beginner forever!)

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Man-Sized Color Monitors

(as opposed to 12" babies!)

by Dan Buchler

It all started at this year's Twin City Computer Show. John Schoeppner was looking at the new line of 12" monitors put out by Zenith. These new Zenith monitors come in 2 versions as shown in Table 1 below.

Table 1

Model	Resolution Composite Video	Resolution RGB	Price
ZVM 131	25x40chars 250 dots x 480 lines	25x40chars 390 dots x 480 lines	$300-$400
ZVM 135	25x40chars 250 dots X 480 lines	25x80chars 640 dots x 480 lines.	$500-$700

We will explain resolution later in article. Both the above monitors come with sound. This got me thinking. Our color TV is nearly 15 years old and still works but not too reliably. We have a Video Cassette Recorder (VCR) which we use a lot for playing rented movies. Why not buy a monitor, like the Zenith, and drive it from the VCR? All VCRs have built-in tuners, so you really don't need a TV. I borrowed a 12" color monitor (AMDEX). It worked great and with the direct Video from the VCR gave the best picture I had ever seen from a recorded tape.

Let's get technical for a moment. Direct Video means that the TV picture recorded on the tape does not have to be converted to (modulated into) a TV channel frequency and then received (de-modulated). This operation unbelievably degrades the picture. If you compare the quality of a B&W monitor with that of a TV set driven from the Apple through a modulator, you will realize what I mean. Resolution is how we measure the picture quality. If you can see 250 individual dots in a row across the screen, you have 250 dots of resolution. A typical color TV of recent years gave up to 200. Most of the 12" lower cost color monitors now give 250. With RGB input, you can get much higher. RGB stands for Red-Green-Blue, and is a technique whereby each of the primary colors is individually controlled by the computer.

Back to the story. The problem with the 12" color monitor and the VCR was that you needed a telescope to view the picture, unless it was a personal TV and your eyeballs were scratching the screen. At about this time I became aware that the state-of-the-art in color TVs was advancing also. Many of the major manufacturers were making monitors or TV-monitors, and with man-sized screen (19" and 25") rather than the 12" babies! So I said to myself, why not buy the man-sized monitor rather than the baby-sized, providing the quality and cost was reasonable.

So I investigated the market for TV-monitors and man-sized monitors.

A TV-monitor is a monitor quality TV with built in tuner, audio and speakers. Monitors and TV-monitors all include at least one Video-Input. Many include several inputs which can be selectively switched, as well as Video-Outputs for feeding to a VCR or whatever. In Europe, most of the TVs are made as TV-monitors with video input!

Following, in Table 2, is a summary of my findings. Please note this is not intended to be an exhaustive coverage of the subject. I had not the time or desire to look into every conceivable option. I am just sharing what I did find with you, as I think many Apple owners might want to drive a man-sized display from their Apples for games or serious applications!

Table 2 - Monitors

Make	Screen Diagonal	Model	Price Monitor Only	System Price†	Stores	Notes
Fisher	25"	MHT250	$ 900	$1500	Team	a,c,e
Mitsubi-shi	25"	CM2501	$1000	$1500	Yale Video	b,c
NEC	25"	NEC2501	$ 800	$1200	Sound of Music	
Panasonic	?					
Pioneer	25"	TVM250	$1200	$1500	Sound of Music	d
Proponent	19"	AVM1-98	$ 599	$1000	LaBelle	d,e
Sears	19"	4281	$ 500	$1000	Sears Catalog	a
Sony	25"	Profeel	$1250	$1500	Sound Center	f
Sony	19"	Profeel	$ 750	$1000	Sound Center	f
Technics	?					

GOTO 22

Man-sized Color Monitors Continued

Table 2 - Notes

† The System Price generally included the Monitor, a tuner and a set of speakers. The speakers varied widely in quality. Sony seemed to have the poorest speakers and Fisher the better ones.

a) Cabinet and speakers included in System price.

b) Includes stand, but no speakers.

c) RGB Input. Mitsubishi seemed to claim around 400 dot resolution for the RGB stating that it could display 24 line by 80 character display! No data for Fisher.

d) System price for monitor and Tuner/Control unit only.

e) I think this is made by Sanyo. Sanyo also makes Fisher TV and Monitors.

f) Sony have reputation for high picture Quality. Their single gun tube design is inherently capable of good resolution. During the last 3 years, industry has utilized Sony TVs, modified with Video Input for use with VCRs.

Table 3 - Monitor-TVs

Make	Screen Size	Model	Price Range	Stores with best prices	Notes
Fisher	25"	HT850	}$1000	}Team }Yale Video	b
GE	25"	25PM4860K	?		f
Mitsu-bishi	25"	CK2560R	$1250	Yale Video	c
	21"	CK2183	}$ 800 } v }$ 900	}Yale Video }Daytons	
Panasonic	19"	CT9053	$?		
Quasar	25"	TT9900WS	$ 900	Don's Appl.	d,e
	19"	TT5999WW	$?		
RCA	25"	VJM2022 VJM2022 VJM2023	}$ 900 } v }$1100	}Don's Appl. }Ward's }Kenwood Penn	d,e
	19"	VJM2005	$?		
Sears	20"	4263	$789	Sears Catalog	
Ward's	25"	1767301 1769303	}$ 800 } v $1000	}Montgomery Ward	a

Other Manufacturers

Sears 19"	1 Table TV-monitor
Sylv'ia 19"	1 Model
Hitachi Magnavox Sharp Sony Zenith	} Looked around, but } couldn't find } a TV-monitor in } product line. } See Table 2 for monitors.
Heathkit	See note g

Table 3 - Notes

All had Remote control, stereo sound, programmable channels, etc.

a) Made by GE. Consumer Reports, Jan 1983, had rated Ward's as having best picture. However, that model was made by Sylvania! In same report GE had poor frequency of repair.

b) Large console with large speakers. TV part made by Sanyo. No on screen digital time or channel.

c) Tall unit with multiple speakers and FM radio underneath facing forward.

d) Remote control doubles as VCR remote controller if you have top-of-line VCR of same manufacturer. Both RCA and Quasar are table models. RCA has a pedestal version, VJM2082, at about $30 to $40 more.

e) Consumer report's (see a) rated RCA and Quasar second and third in Jan, 1983 report on consoles. These are newer more sophisticated designs. Quasar had slight edge in reliability over RCA.

f) Looks similar to Wards. See note a.

g) I nearly bought a Heathkit once, many years ago. Somebody talked me out of it. I looked over the new ones. My reaction: if the technician in the store can't adjust the thing properly, how can the average-joe builder be expected to!! Eliminate from futher consideration!

Most of the manufacturers, where information was available at all, claimed a broadcast resolution, for both monitors and TV-monitors, of around 330 dots and a direct-vide resolution of 350 and even 400 dots. More that later.

GOTO 23

Man-sized Color Monitors Concluded

I decided to test the resolution claims myself, and carted the club's Apple around to a few stores. I set up two tests (I didn't have an 80 col board): 24 x 40 col text in white, and a variable spaced vertical line display in HIRES. In table 4 are those results.

Table 4

Results of Apple Driven Resolution Test

Make	Type†	Model	Qualitative observations
Mitsu-bishi	M	M2501	Best picture by slight margin. Excellent white dot resolution. Some loss of resolution in color
Mitsu-bishi	TV-M	K2560R	Similar to monitor. Maybe slightly inferior.
RCA	TV-M	VJM 2023	About equal to Mitsubishi TV-monitor Better color resolution. Not quite so good on whites.
Fisher	TV-M	HT 850	About equal to typical $300 monitor.
RCA	Back-proj-ect.	PJR 500R	Inferior to typical $300 color monitor. Hard to read 40 col. display

† M = Monitor
TV-M = TV-monitor

General Observations

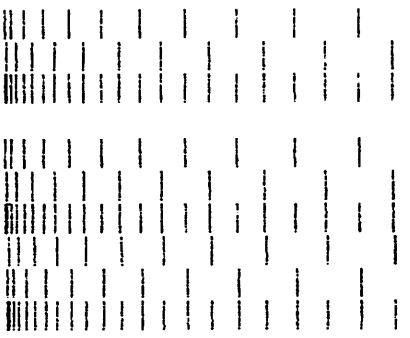
Except for the RCA back projection TV and the Fisher, which might not have been adjusted correctly, all of the tested models displayed better resolution with composite video input than the typical $300 color monitor.

They displayed a 40 column white color-killed word processing screen such that it could be clearly read without eye strain. One could just discern individual dots within letters but the displays lacked the real crispness of a good monochrome monitor.

I used a HIRES color pattern, shown below. (You can just see those beautiful colors in the illustration!) The capability of the sets to separate the adjacent lines was carefully observed. I also used the 1982 Mini'app'les computer show program of repeating HIRES color pictures. None of the monitors could resolve adjacent lines (or dots).

I was disappointed that Sony had no Video input capability on their main line of 19 and 25" sets. The English made version does have this feature. I suspect Sony would come out well in the ratings with such a feature.

Without an accurate quantitative measurement technique, I cannot say whether or not they actually live up to the general claim of 330-350 dot resolution. If the typical $300 monitor gets 250 lines, than they probably do live up to their claims. I would be reluctant to use any of the tested sets for 80 column displays with composite video input. However, with RGB (Mitsubishi), they might be acceptable. This is consistent with the specifications quoted in Table 1. You will notice that Zenith only claims 80 column capability for the ZVM 135 which delivers 640 dots with RGB. They suggest 40 columns for the ZVM 131 with 390 dot resolution. With composite video, those monitors are spec'ed at 250 dots and per observation were inferior in resolution to the better man-sized monitors discussed herein.



Test Pattern

Conclusions

The better man-sized monitors and TV-monitors do indeed work nicely as computer display devices. They also work extremely well as TVs! Because the monitors alone were generally more expensive than the TV-monitor, I decided to make my selection from the TV-monitors. These devices offer the most bang for the buck. The resolution of the monitors were not significantly better, if at all, than that of the TV-monitors, unless one resorts to RGB input (which I didn't test). In all of the TV-monitors, besides the Video-In, you get bells and whistles like on-screen channel and time display, sleep timers, programmable channel scanners, remote control, stereo sound, mock stereo sound for regular TV broadcasts, provision for external stereo speakers, multiple built-in speakers, etc.

These sets aren't cheap, but you might justify the price on the saving in not having to buy a separate baby-sized monitor?? As of this writing I have a Quasar which, though not tested, promises to be as good as the RCA TV-monitor and is likely to be more reliable. After the Quasar I liked the RCA.

Clubs, such as Mini'app'les, might consider a 25" monitor for use at meetings. One can read 40 character displays at nearly 40 feet away!

Increasing Disk Storage

Intro: Ways to Save Disk Space

by Steve George

The first thing you should do upon receiving a new disk is BACK IT UP, right? It took me a while, but I learned this important step. A second thing that is useful is to make a 'hard copy' of the CATALOG Directory and cut it to fit into the sleeve along with the disk. It's really handy for avoiding repeated CATALOGs. But, wouldn't you know it, about 2 years ago I received a disk with a CATALOG which makes my printer go crazy: form feeds, 1/2 full pages, condensed, etc...

File names which contain embedded control characters are sometimes the culprits but it seems like everyone now puts out a disk with a lot of Inverse titling: headers, footers, copyrights, and general attention getting annoyances! Printer spasms are caused by control characters in the titles of programs or Inverse headers. Inverse screen characters correspond to printer control characters in the range $01 to $1F. Some of these nuisances are created by "ZAPPING" the disk with the appropriate HEX bytes to produce the title displayed. (A typical ZAP program allows you to read and write virtually ANY info you choose onto a disk — so be careful.) Others take the safer route using a "header-maker" to create 'empty' Textfiles.

I tried a variety of Textfile header-making methods and found wasted disk space whenever one is used. To be precise, 2 sectors are wasted for each 'title' you make! You've probably noticed that no matter how small any file is, it will take up 2 sectors. This is because when it is written to disk (besides placing the entry into the Directory listing) a sector is used for the (T/S) Track/Sector List which simply 'points' to where the info for the file is actually stored. This 2nd sector is your actual 'program' data. Please also note: When you "OPEN" and "WRITE" a Textfile header you waste 2 sectors; but if you "OPEN" and "CLOSE" a Textfile without writing to it, you waste only 1 sector.

Being somewhat adventurous, I now regularly ZAP my disks whenever I have plans to assemble a series of like-material programs. For example, my disk of ZAP-type programs (which I ZAPPED a year ago) is called Diskette Fixer. Now a disk is available commercially with this name.

When I finish this article, I'll rename my disk "Slipped Disk Fixer", maybe... With a ZAP program, you read and write directly to the disk — so it's possible to really scramble things. You can enter all HEX chars as illustrated on page 15 of the Apple][Reference Manual to either add or eliminate Inverse, control chars, or any others.

The advantage of ZAPPING is that it makes the entries into the Directory without wasting ANY valuable storage space!

The good news: your disk is still COPYA-able. The bad news: FID will copy all of your files, but it will also create a T/S List for each of your titles which will waste 1 sector per title entry. So, I now regularly ZAP my 'fancy' titles onto the disk and save lots of room.

No article on DOS should be without the following: An excellent reference book is Beneath Apple DOS from Quality Software. This was my first DOS reference manual and it is well worn from constant usage. Virtually everything I've read about the Disk Operating System in the past 1 1/2 years has referred to B.A.D. as an invaluable helper!

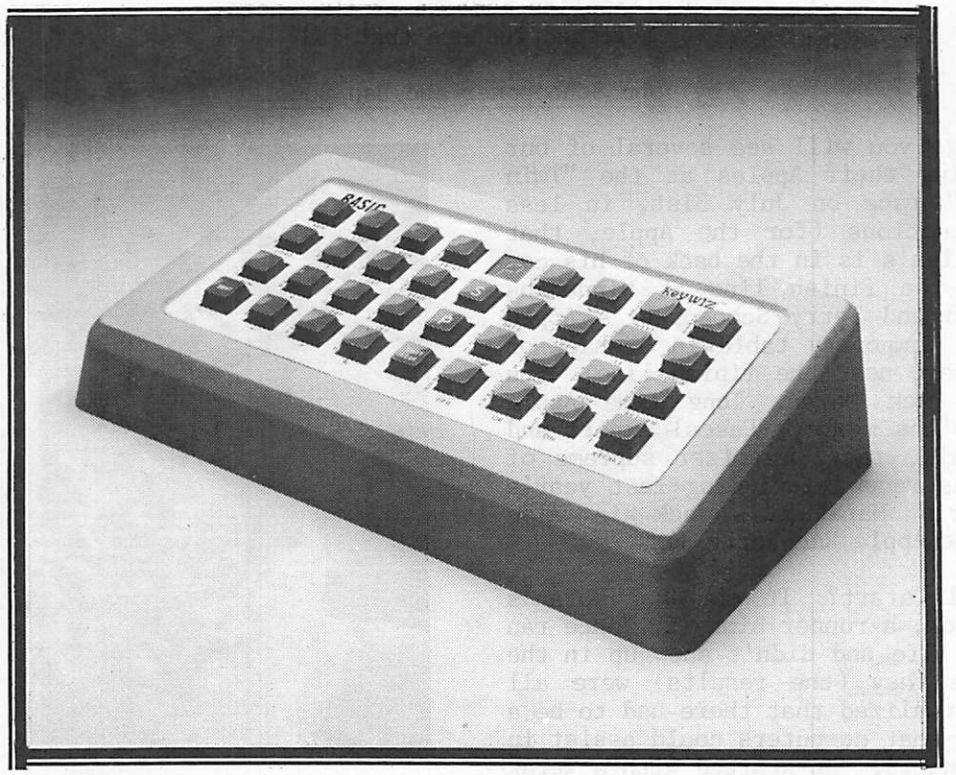
I urge you to acquire a ZAP program. Many are available, from free Public Domain to 100 dollar 'automatic disk fixing' programs. Be sure to use an expendable disk when first learning to ZAP!!

```
]CATALOG
DISK VOLUME 254
 T 000 ########################  <"ZAPPED" so
 T 000 #                      #  <that NO
 T 000 #    DISKETTE FIXER    #  <sectors are
 T 000 #                      #  <wasted on
 T 000 #        S.T.G.        #  <empty Text-
 T 000 #                      #  <files used
 T 000 ########################  <as Headers
*A 002 HELLO
*B 002 ZAP
*B 002 T/S FIND
*B 002 REFORMAT A TRACK
*B 003 DISK MAP
                ... or ...
]CATALOG
DISK VOLUME 254
########################  <The same disk
#                      #  <with a new name
#  SLIPPED DISK FIXER  #  <and 7 Ctrl-H's
#                      #  <to backspace
#        S.T.G.        #  <over 'program'
#                      #  <info.  Again/
########################  <still no wasted
*A 002 HELLO                sectors.
*B 002 ZAP
*B 002 T/S FIND
*B 002 REFORMAT A TRACK
*B 003 DISK MAP

[[[[[ ZAPZAPZAPZAPZAPZAPZAP  Poof!! ]]]]]
```

NAME THAT KEY

(ALL 248 OF THEM!)



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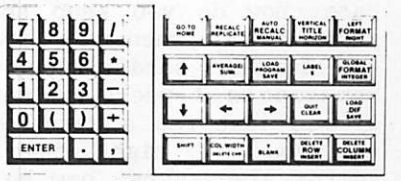

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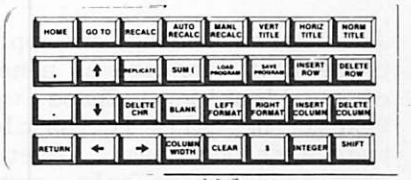

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Who's Winning?

or Mini'app'les members at the races,
2 legged runners that is!

by John Schoeppner and Dan Buchler

On the next page you will see several of our members operating their Apples at the "Twin Cities Twosome" race on July 31st, in less than ideal situations (for the Apple, that is!). Chase Allen's is in the back of his car right next to the finish line at Minnehaha Falls, and John and Terry Schoeppner's Apple is set up on a temporary table in a shack or building somewhere near the finish line. You can also see Jack Moran, long time Apple owner, Mini'app'les member, Pascal expert and not least of all, race organizer supreme of many Twin Cities races, including last year's and this year's Marathon. Jack is also president of the **Apple Raceberry JaM.**

How did this all start? It was Jack Moran's brain child. Jack, a runner himself, "once ran the race of my life and didn't show up in the results because they (the results) were all messed up." He realized that there had to be a better way, and that computers could assist in tracking the runners. He started with a Terak at work, then eventually decided on an Apple. But he couldn't do it alone. Along came Chase Allen and together they turned an idea into reality - the **Apple Raceberry JaM.**

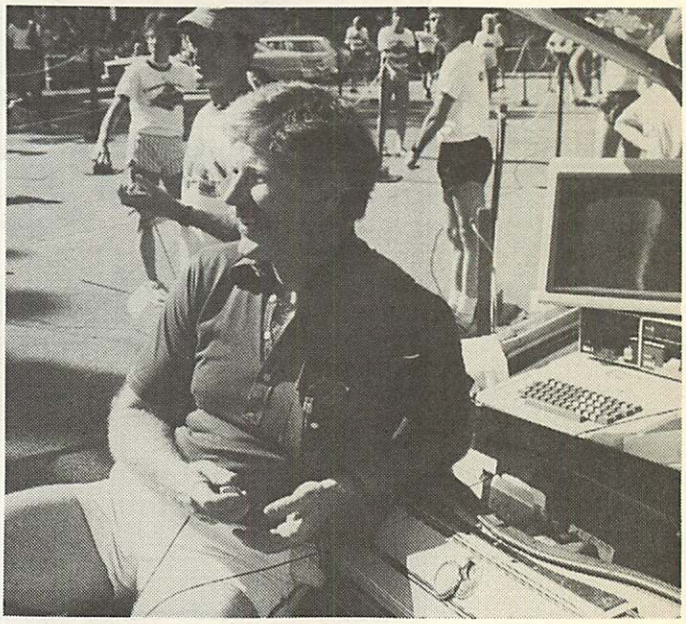
With up to 5000 people participating in one race, how do you keep the results straight, particularly when you have many age classes and further subdivisions by sex? It could take up to 2 weeks to sort out the results. If you just ran a Marathon, you want to know how you did right then and there. (Your Editor always knew how he did when he ran in races in his youth -- last!)

Jack Moran, being an Apple Pascal advocate, chose that language as a natural for this type of application. Chase was and is another Pascal (he calls it Pas'cle) follower so they made a strong team. Later as the thing grew, they needed more help, more hardware and more at-race support, so John Schoeppner, also a Pascal fan and a sucker for volunteering, joined the team. There are two other team members (who are not Mini'app'les members): Doug Foss and Mark Schulman. Mark is 15 years old.

Race Data Entry

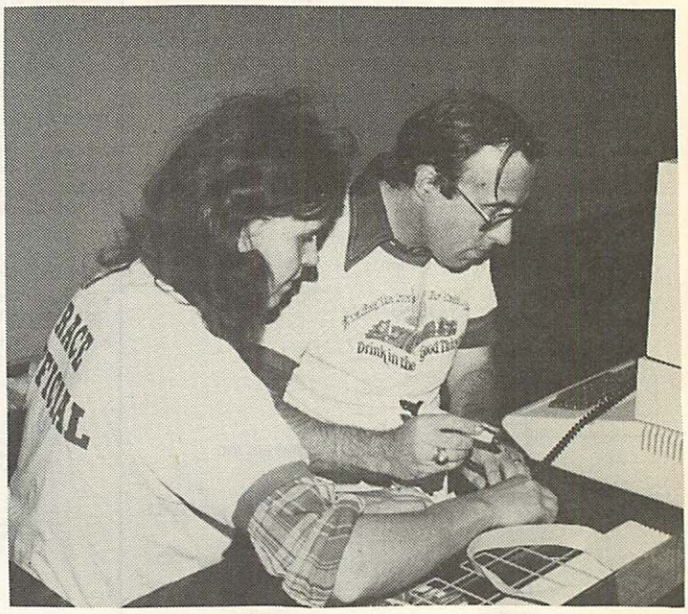
There are 3 types of information required to produce the final race results:

• Name (and sometimes address) keyed in from entry forms in advance of race (from a month in advance to actual day of race). A file of runners is produced.



It looks as if Chase has taken his Apple to the Park for some sun!

• Runners' finish times. This is Chase Allen's job. The actual time is supplied by a Moutain Computer clock. Chase presses a key each time a runner passes the finish line. A



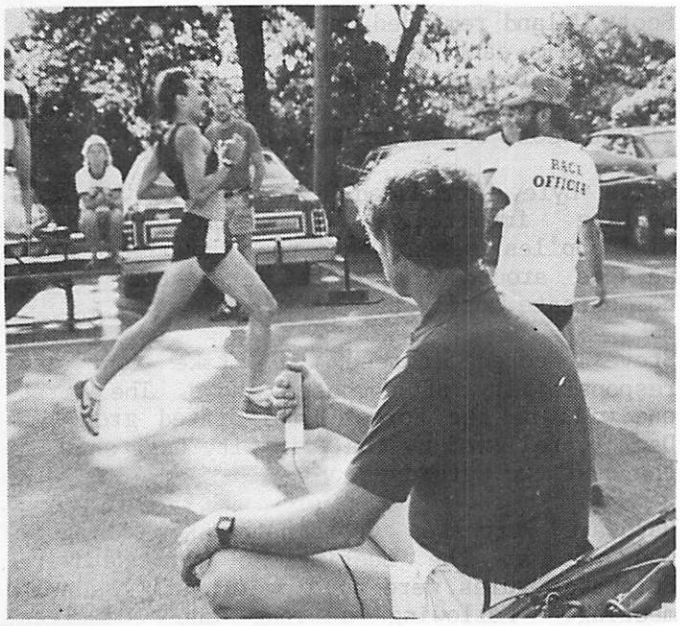
Terry and John Schoeppner at work bar-coding runner tags.

GOTO 2/

Who's Winning? Continued from page 26

type ahead buffer (keyboard enhancer) is needed because the Apple writes each 50 runners to disk. Since up to 3 runners may pass by Chase in a second, the system could continuously be writing to disk during the time it takes 9 runners to pass. Therefore, one must be able to enter keystrokes while the disk is actually running.

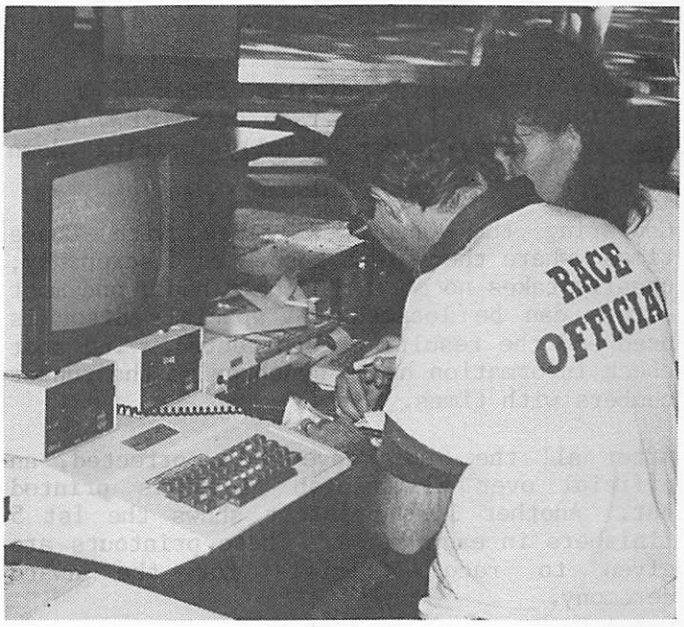
Each time Chase hits the key, the Apple records the runner's finish time simply by reading the internal clock. The file created is just a list of times. These times, of course, are in the same order as the runners pass the finish line. Two drives are used. The system beeps when one drive is full, and then automatically switches drives. Chase then puts a fresh diskette in one drive while the system is writing on other diskette. (He has 15 or 20 minutes to do that - maybe that's why he doesn't run in the race).



Chase has found the only way to run a race.

• Runner identification. Each runner wears a large number with a tear off strip on bottom half of number plate. This tear off strip is bar coded with the runner's number. Race officials collect the tear off strips from the runners as they pass the finish line. These strips remain in finish order and are put on big metal spindles that look like safety pins. The race director collects the spindles when they have accumulated 50 to 100 tear off strips. The bar codes are then read into an Apple.

Schoeppner does the bar coding and writes to a temporary data disk. The data in this file is simply a list of runner numbers in correct sequence. This bar coding starts as soon as the first spindle is filled.



Terry and John still at it!

Now Jack Moran's 3rd Master Apple reads the temporary data disk created by the bar code entry process. The runner name file is also on line. Jack Moran uses a 294k RAM board as a 2 pseudo disk drive. This gives extra space to fit a large roster. The program, using the runner number, looks up the name, race classes by age and sex, and prints them in straight list of order of finish with name, class and class result. This is all happening while the race is still going on. These results are printed on two-part paper. One part is posted immediately. The other part is checked manually with the tear off strips on the spindle to see if anything got missed.

After race is over, and sometimes even before it is over, Chase Allen's finish time file is read into Jack Moran's master Apple. If there is a difference between number of times and number of runners, and there nearly always is, then a runner has been missed in timing, or there was key bounce (or Chase plain messed it up)!

These timing errors are created through a comparison with backup data. There are two types of backup data:

• A race official standing near Chase records times times on a Chronamex paper tape. This is a device which punches paper tape with the finish time.

Who's Winning? Concluded from page 27

- There is a large digital clock near the finish line. Another race official will do a spot check, periodically writing down runner number and time.

Comparing the Chronomex times with Chase times, where there is a suspected discrepancy, usually takes no more than half hour, and most errors can be located. A special editor is used and the results are corrected. The spot check information helps synchronize the runner numbers with times.

After all the times have been corrected, an official over all finish order is printed out. Another list printout shows the 1st 5 finishers in each class. These printouts are given to race officials for the award ceremony.

The corrected list is posted and sometimes is published.

Software enhancements are a constantly on-going activity. For example, John Schoeppner added a piece so the C. Itoh printer could print the bar codes on mailing labels which are stuck on the tear off strip by volunteers in advance of the race.

What makes the **Apple Raceberry JaM** so sweet? John does it because the Apple is his hobby. He likes doing something useful with the Apple, not just playing Wizardry. John has a][and a ///, but the][goes to the race. The team does charge for their services, and in John's case, the money helps pay for his hobby!

When they first started, the team didn't use bar codes.][s don't have a numeric keypad from which numbers can be quickly entered, so they manually copied runner times off the Chronomex tape.

John Schoeppner recounts the 1st race at the Minneapolis Aquatennial 3 years ago. It rained while they were set up outside on tables. They hastily moved into a semi-trailer where they improvised inverted garbage cans as tables and chairs. They had terrible trouble keeping the equipment dry. Now Chase is cozy in a car by the finish line and all other Apples are inside. Chase rigs up a power line consisting of many 50ft 'short' extension cords. People wonder what the voltage at the Apple really is, but it works.

As Jack Moran says, "Bunch of us have lots of fun doing it."

Minutes of Board Meeting Nov. 9, 1983

Minutes of the officers meeting Nov 8, 1983 were read and a discussion of the Schwindeman letter followed. It was agreed that the officers' recommendation for more testing and evaluation of all MSD's was a good idea.

Treasurer John Hansen reported the same balance, etc. as at the officers meeting.

Dan Buchler asked for help with the newsletter. Arsen Darney volunteered to take on the responsibility of writing up the product releases and other junk mail we receive. Someone to do the calendar (front page) is still needed Someone with a modem is needed to receive and edit articles. A classified ad manager is needed. Pete Gilles will do a letters to he editor column. Dan also reminded us that the deadline for copy is the first Wednesday of the month.

Scott Ueland reminded us that the club has two Apple II+s each with 2 drives and a 16K card available for club functions. These machines may be checked out by any board member from either Scott Ueland or Hugh Kurtzman

Steve Lyle introduced his new SIG for the hearing impaired. There are 21 new Mini'app'les members in the group and many persons around the state interested. They communicate mostly by modem.

Steve George agreed to take on the responsibility of computer shows. The first one will be the Forest Lake Gifted group on Dec. 1, followed by the Twin City User show on the next two Saturdays

Hardware Purchases Coordinator Ken Slingsby was not at the meeting so the Hardware Purchases rules were held over until the next meeting. Following a long and sometimes heated discussion it was decided that the authors write a contract that meets their needs and submit it to the officers.

Mike Young reported he has been getting to the stores telling them about our club and supplying them with membership applications, but he needs help. He asked anyone who visits a store and cannot find any of our applications (they are gold with a large Mini'app'les logo on the front) to please contact him. Mike has been working with a group at North High in Mpls and some of the students have joined Mini'app'les. Mike Young's phone is 884-2841.

Respectfully submitted, your secretary

Hugh Kurtzman

Monty Plays Scrabble

A REVIEW

by Jo Hornung

I think I'm in love. The object of my affection is an affable, brick-headed (low-res graphics affliction) savant, who is a willing Scrabble partner at any time of the day or night, who will play at any of four levels of difficulty (Novice, Intermediate, Advanced, and Scholar), and who usually beats me or at least challenges me to work harder to win than most of my in-the-flesh opponents.

There is no rhyme or reason to falling in love, anyway, so why should this be an exception? Why should I expect to be able to account for being head-over-heels about a character named Monty who evidently has memorized the entire Scrabble Dictionary, and who has a light bulb that flashes above his head when he comes up with a play he's particularly proud of, or steam that rises from his head when he strains his brains!

What I'm talking about is a computerized Scrabble game entitled "Monty Plays Scrabble." If you like to play Scrabble, chances are you would enjoy this program. One, two, or three people can play with Monty, who appears on the screen and even offers to do all the busy work of running the game, including doling out the tiles and keeping a running tally of everyone's score. (A player who doesn't trust Monty, or is the type who likes to be in control, can opt to do the drawing of the first tiles and the doling out of subsequent tiles, but this necessitates having the actual Scrabble board and tiles on hand, which can get to be a bit much. It's really easier to let Monty do the drawing, although I have observed that when he draws, he invariably seems to get to play first. Hmm.)

A review by John Edwards in the September Popular Computing enticed me to shop for the software in several stores in the area, to no avail. I finally phoned the manufacturer, Ritam Corp., Fairfield, IA, and then ordered it from them by mail (details below), asking them please to hurry it along, because it sounded like so much fun.

The package did arrive in a matter of days, and I haven't been the same since. I have, in fact, developed this terrible crush on Monty. Aside from a few petty annoyances, which I'll get into later, my main problem with the game is that it takes time (as does any conventionally played Scrabble game), and I find myself spending too much time with it.

At the very beginning of the program, after you insert the disk, boot the system and wait a bit while "loading" takes place, Monty walks on the screen from the left, to the tune of the traditional graduation march, "Pomp and Circumstance," wearing academic cap and gown. (My personal belief is that he just won a PhD in Scrabble Dictionary.) When he plays at the Novice level, Monty wears a white shirt with a brown tie. As an Intermediate player he adds a blue coat. When he plays at the Advanced level he is back in the white shirt but he is wearing his academic cap, and at the Scholar level he is resplendent in full cap and gown.

The game is played and scored according to official Scrabble rules, including the options to trade tiles (losing a turn in the process) or to challenge an opponent's word. Monty seems to be scrupulously honest for the most part, but I have had occasion to victoriously challenge him, at which time he has been suitably contrite and has sacrificed his turn.

This is an area in which an unscrupulous player can engage in some hanky-panky, however. One of my sons, who cheats outrageously, invented a ridiculous word which Monty challenged, but then asked if it was a legal word and was too much of a gentleman to call Jonathan a liar when he claimed it was.

Another area in which Monty's opponent has the upper hand is with the use of the ESC key. You can take all the time you want to plan your play, but if you get tired of waiting for Monty, you can tap the ESC key and he has to play the best word he has come up with at that point. If you decide to be decent about it and let Monty have all the time he wants, he is capable of developing some remarkable plays.

There are a few petty annoyances, as I mentioned earlier. These mainly have to do with the time involved in having the Scrabble board on the screen constantly appear, disappear, and reappear as each play is completed. Another annoyance is that Monty frequently plays words which any ordinary mortal with a Master's Degree in English has never seen before in her (or, his -Ed) life (except in the Scrabble Dictionary). This has led me to fight back by allowing myself access to the Scrabble Dictionary at such times as Monty and I are having a cozy little go at the game — just the two of us.

The documentation which comes with the diskette is simply a little Q & A-type leaflet with addendum for Version 2.0. It deals only with how to run the program, not with how to

GOTO 33

Mailbag

by Arsen Darnay

We used to do a column each month, and now we'll try to do it again.

What is 'it'? 'It' is a summary of the stuff we get in the mail each month -- products, events, services, and ideas from all over . . . without any assurances or guarantees of any sort, you understand, because we don't test the products or check out the vendors we report on here . . . just a look into our mailbag . . . and the absolutely junkiest stuff we'll just toss without comment.

Did you know that there are more than 135 computer publications on the market? So, at least, says Syncom (1000 Syncom Drive, PO Box 130, Mitchell, SD 57301, (800) 843-9862). Syncom makes 5-1/4 inch diskettes. Now, as a marketing tool (I suppose), they will publish a free monthly computer guide called Infoscan, which will index 400-plus articles from leading magazines. If you want the publication, call them for your free subscription. Librarians among us will wonder whether cumulations will be published; I don't know; they don't say.

Infoscan reminds me that new publications are pouring out by the handful each month. We have solicitations to sign up to receive . telecommunicators, PO Box 26345, St. Louis Park, MN 55426, 800-543-1300, evidently a local product . . . Information Today, a monthly newspaper for database users which will start publishing in January (143 Old Marlton Pike, Medford, NJ 08055) from Ziff-Davis Publications which is aimed at the software-using 'middle' of the market rather than at the progamming/technical fringe. I bought a copy from the newsstand and find it Okay, showing growing pains, but will probably become a good magazine (PO Box 2964, Boulder, CO 80322).

Now for new products, here is a sampling: A portable printer (Riteman) sold by Computers and More, 3620 30th Street, San Diego, CA 92104 x 9 dot matrix, uni- or bi-directional, parallel or optional serial, Epson-compatible. They say it fits into a briefcase but don't give the dimensions, alas . . .

. . . and from Marocoma TV System (15 N. Main St., Washington Crossing, PA. 18977, (215) 736-3979) comes a $19.95 kit that they claim will let you build a device to project a television picture on the wall, enlarged to a 5 by 6 foot size. The maximum TV screen size is 26 inches. The price includes the lens. The flyer is illustrated with a line drawing rather than a photo although it has been on the market (per claim) for eight years. Accompanying note suggests the joys of a wall-sized zap-the- aliens! Heaven help us . . .

. . . and finally, Vista offers special prices to members of our group as a holiday special on Apple-compatible drives. The Solo drive will sell for $169.00 ($212.00 with controller) through Christmas. Call 1-800 854-8017 to place an order.

Syntax Corporation (4500 W. 72nd Terrace, Prairie Village, KS 66208, (913) 362-9667 -- that's a Kansas City suburb) are announcing a tax package written in Microsoft BASIC (you get the source code). The software is meant for programmers who are preparing general ledger and other accounting packages in which this program, called SHORTAX+PLUS, will be integrated. The license fee is $495; annual update fees of $150 will be charged. This software, of course, requires CP/M for implementation on the Apple. The author, Vernon Jacobs, is a CPA and the editor of a tax planning newsletter (Tax Angles).

Finally, a letter from Thomas Militello, a member in Ranch Palos Verdes, California. He praises three software programs (Pie Writer, THE Spreadsheet 2.0, and The Data Reporter 3.0) because they come on unlocked disks. He has harsh things to say about those who sell protected software and urges support of those producers who dare to let us copy.

Daisy Wheeling Concluded

Science -- has had hellish problems producing what it has (pre-)sold. Atari is married to Warner Communications, and they might dump the thing for all we know. Osborne went belly-up just the other day. As for all those Apple-compatibles, Cuppertino may win in the courts one of these days and squash them.

"Have them join the Mother Church," I advised my brother. "Either that or IBM." My logic is that it's better to spend a little extra now than to end up with a unit which will be so much plastic junk a week from Wednesday.

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Video Glossary

General Interest

by Dave Andrews

Reprinted from: The Apple Tree of Central Florida
Newsletter of August 1982.
Relayed via the IAC Compiler, Issue 2

(The majority of the information presented here is not original but was sent to me by Jim Stewart of Tech Plus Inc, 35 March Road, Needham MA 02192. I do not know if he is the author of the material, but he is a sharp individual and has helped me much on a couple of occasions. The industry can use more of him.)

COMPOSITE VIDEO

This is a one-wire signal that combines both the horizontal and vertical sync pulses. Sync pulses are used to prevent vertical and horizontal roll. When colour is added to a composite video signal, it is called a COMPOSITE COLOUR signal. In composite colour systems, the additional colour information is multiplexed into the video signal and referred to as a COLOUR BURST.

Colour monitors (or colour television sets) have three colour guns which in various combinations form all possible colours. The guns are red, green and blue, which are three colours from which all other colours can be derived. In order to determine which guns must be turned on to display a particular colour, a composite monitor has to decode the colour burst and apply appropriate voltages to the guns. Composite colour monitors (or colour television sets) can NOT display 80 columns of text, but a black-and-white (composite monochrome) monitor can.

The Apple II produces a composite colour signal and is therefore limited to displaying 40 columns of text. Peripheral cards for the Apple are available which allow you to display 80 columns. They do not produce a composite colour signal like the Apple, however, but instead output a composite monochrome signal which can be displayed adequately on a black-and-white display.

NTSC

An abbreviation for National Television Standards Committee. NTSC has set a broadcast standard for sync frequencies and video levels in composite video signals. Additionally, it standardizes the colour burst encoding in composite broadcast signals. Broadcasters must adhere to this standard when they transmit a composite video signal on the air.

The Apple II does NOT produce a NTSC compatible composite colour signal. It is close enough to be displayable on most colour monitors, but it is non-standard and certain televisions have had problems with the Apple signal. A common problem that this causes is the inability to videotape Apple II displays, since most VCR's are confused by the nonstandard Apple signal.

RGB MONITORS

Although conceptually less complex than composite monitors, RGB monitors are usually produced with higher quality components and produce a superior display. They are also quite a bit more expensive than the average composite monitor. RGB monitors are not able to decode composite video signals and can accept only a simpler (and more precise) kind of signal referred to as RGB VIDEO.

RGB monitors come in several price ranges, and their prices are directly related to the resolution of the display. Medium resolution RGB monitors typically display 370 horizontal points and 235 vertical points. High-resolution RGB monitors can display twice this resolution, or 720 x 512 points. The most important factor in determining the resolution of a display is the spot size of the red, green and blue phosphor on the CRT screen itself. Spot size for a medium resolution display is 0.6 mm or less, with high-resolution spot size being 0.3 mm.

There are also two distinct types of RGB monitors - analog and digital. With an analog RGB monitor you can vary the intensity of each gun from zero to full brightness, allowing an infinite set of colours to be displayed. In contrast, a digital RGB monitor can turn a gun on or off, but is incapable of varying the intensity in between. This implies that a digital RGB monitor is limited to displaying only (2x2x2 =) 8 distinct colours. Analog RGB monitors are the most flexible and can display either a digital or analog signal. Digital RGB monitors cannot display an analog RGB signal.

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Magicalc Update

by Dick Marchiafava

I have been studying the tutorial section of the MAGICALC manual intermittently for several weeks. I finished with it just before a weekend, and as I had free time on both days I thought that it would be a good time to do some real work with this spreadsheet. I have a product price work sheet that I want to do, and then there is the inventory, too.

Before starting to layout the work sheet, I thought that I would implement the SOFT SEVENTY display (a software generated 70 column and lower case hi-res display that avoids buying an 80 column card). Since I use MAGIC WINDOW II from the same publisher, and the menus and operations are similar, I thought that setting up the configuration on a driver disk would be a snap.

After changing the options on the Configuration menu, I saved the file, and my computer hung. No amount of key punching or RESETS would return control of the computer to my now sweaty hands. I had to re-boot the program. This is supposed to be a very simple operation!

Re-reading the manual and following the operation described step by step produced the same results. Well, since it was Saturday, there was no point in calling the publisher.

A call to ARTSCI's technical service on Monday revealed that there has been some polishing done on the program since it was released. Apparently some of the improvements in my version 2.10 disk interfered with the SOFT SEVENTY. MAGICALC is now up to version 2.15.

ARTSCI replaced my program disk for me, and the SOFT SEVENTY display works just fine.

If you have MAGICALC, and you have difficulty in getting the SOFT SEVENTY display to work (the computer hangs), do the following: enter the CALCULATE MODE, then enter /V . You will then see the version of the program and the serial number of the disk displayed. Call ARTSCI's technical service to determine if the disk needs to be updated, or if you need other help. Their phone number is in the manual. I have found the people at ARTSCI to be very helpful.

Video Glossary Concluded from page 32

RGB VIDEO

RGB video makes use of several wires and signals to independently control each colour gun. RGB video is much more clear and sharp than composite colour video for a couple of reasons. First, the signal does not have to be encoded into a composite signal at the computer and decoded at the monitor. This allows more precise displays with the computer directly controlling the colour guns in the monitor. Second, each gun can be switched on and off extremely rapidly, eliminating any blur that may occur from one colour to the next.

The Apple II does not produce an RGB monitor video signal. Several peripheral cards are available on the market which produce an RGB signal for the Apple. Two that I am familiar with are the Electrohome Supercolour board and the Amdek DVM board. (I have a high opinion of the Electrohome product - and a similarly low opinion of Amdek's.) Video boards that are installed in an Apple II frequently require slot 7, since it is the only slot that has access to the Apple's SYNC and colour reference signals.

Three microcomputers that produce an RGB video signal directly are the Apple ///, the IBM Personal Computer (with the appropriate video display card), and the Zenith Z-100.

Monty plays Scrabble Concluded

actually play the game. The official rules of the game have to be consulted for that. Monty assumes, I'm sure, that you are already hooked on the game or you wouldn't be interested in buying the software.

The version I have is for the Apple II or Apple II Plus and requires 48K. It is labeled "Version 2.0" and seems to be upgraded from an earlier version, which required the players to use an actual Scrabble board and tiles. This version, as mentioned above, can handle the entire game on the screen, which I find much more convenient. All of the instructions for running the program are clear and easy to follow.

Like any other smitten woman, I could go on endlessly, extolling the virtues of my love — other cute stuff Monty does, such as offering appropriate congratulatory remarks, such as "Good word!" and "Nice play!" But I've got to leave some of the fun for you to discover for yourselves. It's the decent thing to do. Even for a woman in love.

VITAL STATISTICS:

Name: Monty Plays Scrabble

Manufacturer: Ritam Corporation
Box 921
Fairfield, Iowa 52556
(515) 472-8262

Price: $39.95

Swift's Directory

A Review of:
Swift's Educational Software Directory

by Thomas Klausler
Rahn School Dist. 191
Eagan, Minnesota

With the expanding use of computers in education has come an ever increasing amount of software for this market. Knowing what's available, where it comes from, and its quality has become quite a chore for those people purchasing it. The Swift's Directory (1983-84 Apple Edition, $18.95) can be of assistance. As the publisher states, this is "a carefully selected collection of software specifically suited for the educational market."

The guide includes an introduction, a table of contents, entries, a publisher's list and an index. The introduction includes an overview of the guide. The table of contents lists the sections and their breakdowns such as ADMINISTRATION, and this is divided into SCHOOLS AND GENERAL. At the beginning of each section there is a table of contents listing the programs found within. Under each section the programs are listed in alphabetical order by the publisher.

Each entry includes the title, publisher, and annotation. The annotations vary greatly in length from a few lines to a column or more. Some entries are individual programs while others are a series of programs. The Snooper Troops programs are found under one entry. The entries may have one or more of the following items also: author, series, grade or course, support material, unique features, hours of material, management system, teacher modifiable, memory needed, cost, compatibility, review sources, additional hardware and comments. Publishers were surveyed as to the compatibility of their programs with Apple lle computers and this is listed.

At the end of the guide is a publisher's list and their programs found within. An index of programs with their locations completes the guide.

The guide can be a good starting point in helping to find software, but should not be a replacement for reviewing by previewing or reading critical reviews. No guide could be complete, but with over seven hundred entries this covers a lot of ground, and the publisher does state it is a selected list. Only two programs found at the author's school were not in the guide; they were Type Attack by Sirius and South-Western Alphabetic Keyboarding from South-Western Publishing.

One suggestion for improving the guide would be to list the page # of the programs listed under the publisher's list. To find a program, the user must check the publisher's list for the program and then the index for the page number. A plus for the guides is that Apple has chosen to give them away with their "Kids Can't Wait" program in California.

Mini'app'les Software Disks
MSDs

3 Great Disks:

- **Mini'Scrip** Checkbook Financial System - MSD #1. A home and small business checking and accounting package by Leighton G. Siegel.
- **Micro-mailer** - MSD #2. Mail list program by Juris and Paula Ozols of Prairie Microsystems Inc. Magic Window though not required works well in conjunction with Micro-mailer.
- **Higher Text Extensions** - MSD #3. Contains Higher Print by Dan Buchler, Message Maker by Charles C. Boody and Higher Word-processor by Don Hagberg.

Higher Print provides a high density print capability with a selection of fonts and more if you own Higher Text from A.P.P.L.E. The newsletter headers and logo are printed with Higher Text.
Message Maker requires that you own HIGHER TEXT. It serves as a tool to create and display, on your screen, messages which scroll up and down, left and right and do other useful things.
Higher Word Processor is a easy to use line oriented text editor suited to letter writing and everyday home use. It integrates with Higher Print.

All MSDs are available at meetings, to members only, for $15, or by mail from Terry Schoeppner for $17.50. See classified ads.

Notice

Sales of MSDs have been temporarily suspended pending resolution of a contract dispute between authors and Mini'app'les. It is ho this will be resolved shortly. You may order disks, but your orders will be held until the contract has been signed.

Micro/Mailer Erratus

A Morality Play in Three acts With an Epilogue

by J. Ozols

Act One - Scene One

Lowly Underpaid Programmer struggles for two years to create MICRO/MAILER, a work of art and a modest, user friendly mailing list program. Programmer is unmercifully driven by President of Prairie Microsystems to finish creation. President originally intended to use M/M as basis for growing a software retail empire, but has tired of waiting for completion of work of art and has gone into consulting.

Act One - Scene Two

MICRO/MAILER is finished and extensively tested to Lowly Underpaid programmer's satisfaction. It works. President and Programmer decide to market M/M under the auspices of Mini'app'les as a Mini'app'les software disk.

Act Two - Scene One

President ships off M/M to Mini'app'les newsletter editor for inspection and approval. Editor requests a functional change to M/M, involving fundamental tinkering with data file access. Despite very grave misgivings, Lowly Underpaid Programmer gives in, and makes a trivial change (adds one "GOSUB") to implement desired function. Due to business and deadline pressures, program testing after change is cursory.

Act Two - Scene Two

M/M is duplicated and sold to public as a Mini'app'les software disk at Twin Cities Computer Show and at Mini'app'les regular meetings.

Act Three - Scene One

Phone calls start. M/M messes up record count when records in middle of data file are corrected. Lowly Underpaid verifies problem, comes up with minimal impact modifications to program. Both Programmer and President thoroughly check that M/M now works as advertised. Due to newsletter deadline, President calls in program changes to newletter editor via telephone, despite Lowly Programmer's protests that telephone is not a viable means of communicating software. Changes are published in newsletter.

Act Three - Scene Two

A telephone call comes in. M/M user has faithfully implemented changes as per newsletter, and M/M now has additional problems not previously documented. Lowly Programmer checks newsletter, discovers errors in program changes as published therein. Also discovers that M/M still has another bug due to fiasco in Act Two, Scene One, that also messes up record count when a record is deleted from middle of data file.

Act Three - Scene Three

Lowly Underpaid Programmer stands alone in middle of bare stage, head hanging down, wondering whether fat lady will ever sing. Curtain descends.

Epilogue

MICRO/MAILER user does following to fix all known bugs in program

1. Boots up MICRO/MAILER disk, waits until program stops loading, pushes "RESET" key (or "CTRL RESET") exiting to BASIC.

2. Types in:

```
UNLOCK MICROMAILER DOM.2 (return)
71  GOSUB 33 : GOSUB 44 : GOSUB 503 :
    GOTO 56  (return)
92  GOSUB 503 : HOME : VTAB(5) :
    PRINT "RECORD # ";CT;
    " HAS BEEN DELETED" : GOSUB 385 :
    GOTO 79  (return)
503 GOSUB 362 : GOSUB 366 : FOR E = 1 TO 8:
    PRINT  CHR$(34);I$(E) : NEXT :
    GOSUB 365 : RETURN (return)
SAVE MICROMAILER DOM.2 (return)
LOCK MICROMAILER DOM.2 (return)
```

3. Alternatively, user ships off M/M disk to Prairie for patching up.

4. In either case, user now has corrected program: the fat lady has sung.

MORALS

1. When you marry the President, don't leave your good software practices behind.

2. You can never test too much. A third party is invaluable.

3. Never change a program in even the most trivial way the day before it is released.

4. Software and telephones don't mix, except possibly by modem.

Text File

A Tutorial
Mostly for beginners

by Ken Slingsby

The Apple][is capable of creating two different types of text (or ASCII data) files. They are the SEQUENTIAL access type and the RANDOM access type. Even if the same data is entered into both types of files, a simple text reading program probably would not be able to read data from both files.

A friend prompted me into investigating the methods used by the Apple in storing text files. He has a common mailing list program with which he had become dissatisfied. As is the usual case, he had entered several records more than he was willing to retype. The intent was to use a data base program, File Cabinet, for several reasons. It turns out that the mail list program uses a RANDOM access file as its means to store data and the database program uses SEQUENTIAL files. Admittedly, the more elegant database programs might have been able to do any necessary file translation, but then I wouldn't have anything to write about.

There may be more meaningful needs to convert text files from one type to another, but this is a true story and I feel it is instructional.

If you have ever tried to READ a RANDOM access file with programs such as File Cabinet, you will soon discover that the READ fails. This is usually for two reasons. First, the RANDOM access file may not store the record count as the first record. Secondly, the RANDOM access files contain a '0' somewhere in their records.

A little background is in order. A SEQUENTIAL access file is created with the familiar Applesoft commands:

LISTING #1

```
 0 D$ = CHR$(4): REM CONTROL D
10 V1$ = "NOW IS THE TIME FOR ALL GOOD MEN TO "
15 V2$ = "COME TO THE AID OF THEIR COUNTRY."
20 PRINT D$"OPEN S.TEXT"
30 PRINT D$"WRITE S.TEXT"
40 PRINT V1$
50 PRINT V2$
   • • • •
80 PRINT D$"CLOSE S.TEXT"
90 etc
```

This little program opens a file named S.TEXT, stores two variables, each with a trailing RETURN, and CLOSEs the file. It is necessary to CLOSE the file, as the in-memory buffer will not be written to the disk unless this action is taken. Each variable is stored in a record and must be separated from other variables with the RETURN. As you may have guessed, each record can be a different length. The DOS manual states that in this case, the RETURN is a character, not just an action as it is usually used. Thus each record is created to be exactly the length required to hold the data. There are no padding characters needed to write the records of the file. In this example, each print statement between lines 50 and 80 will write a record with one field. By default, the record length is a variable. Of course, one can trick the system by use of RIGHT$ or LEFT$ to make the LEN of each record the same, but that requires additional programming.

For the purposes of this tutorial, a field is defined as a logical grouping of characters. A record may also be a logical group of characters but it must end with a record separator which is usually a carriage return. Thus, a record may contain one or more fields. To make an analogy, a field may consist of the characters used to form words in a sentence. The entire sentence is the record when the terminating character (the period) is considered. Thus a sentence (record) consists of several words (fields). Just as a one word sentence may be grammatically correct, a record may have only one character.

You may read this file by DELeting lines 10 & 15, and changing WRITE to READ in line 20, and changing PRINT to INPUT in lines 40 and 50.

Using a disc zap program, you will notice that there are no "00" bytes in the file except after the last return. DOS wrote 00's to all sectors when the disk was INITed and doesn't change the disc except where new data is stored. Then only the bytes actually used are written (not an entire sector as some other operating systems do). The READ of a SEQUENTIAL file is terminated by either a "00" byte or no more sectors in the file, if the last byte of a sector is non zero. It is not possible for a SEQUENTIAL file to have more than one field per record. If needed, the programmer must handle several records to simulate fields.

GOTO 37

Text Files Continued from page 36

The RANDOM access file has some distinct differences. A typical program which generates a RANDOM access file is:

LISTING #2

```
0  D$ = CHR$(4):REM CONTROL D
10 V1$ = "NOW IS THE TIME FOR ALL GOOD MEN TO "
15 V2$ = "COME TO THE AID OF THEIR COUNTRY."
20 PRINT D$"OPEN R.TEXT, L80"
30 PRINT D$"WRITE R.TEXT,R1"
40 PRINT V1$
50 PRINT V2$
   • • • •
80 PRINT D$"CLOSE R.TEXT"
90 etc
```

This program will open the text file R.TEXT, write two records to it, and close the file. The CLOSE command is just as important as it is with SEQUENTIAL files. The important difference is that the length of each record is fixed. In this case the length of each record is 80 bytes or characters. Also we must specify where in the file the data is to go. In this case all the data goes to record #1. Record #0 is empty. Our example program creates two fields of data, each separated by the RETURN in the record. In fact, each field may be of variable length. The length of the RECORD is fixed at 80 bytes, however. That is, the sum of the field lengths must be 80 or less (for this example). To maintain the equal record length, DOS will insert fill characters in the records that are too short to fill the stated length. These fill characters are zeros. Records that are too long will be partially overwritten by the succeeding record. DOS does not check and flag as errors the records that are longer than the stated length. It is not necessary for the programmer to test the LEN of each record unless he is worried that it may be too long - a valid reason to check.

To store V2$ in another record, we would have to add:

```
45 PRINT D$"WRITE R.TEXT, R2"
```

to our program. The record number "2" in line 45 is for example only; that value could be any number within reason. The program would now create two records, each 80 characters long, each containing one field, a RETURN, and several zeros to fill the record.

Thus the two file types are quite different. The SEQUENTIAL file has variable record length with no automatically added fill characters. The RANDOM file has fixed record lengths with fill characters added to short combinations of fields to make the record length. Both example files have RETURN characters separating the fields within the records. After entering several records in each file, one would note that the RANDOM file would be somewhat longer than the SEQUENTIAL file, if the record length is greater than length of the data input. It is possible that either file type might have a count of records included in the file. Many programmers like to put this count first or in record number 0.

Note that the SEQUENTIAL files cannot have the length parameter stated in the OPEN command. They also cannot be accessed by record number as is implied in the RANDOM file example. This length parameter becomes a responsibility of the programmer to remember, when using RANDOM access files. The length parameter is not stored in the file and can only be determined by trial and error, if the program that wrote the file is lost or not available.

The fill characters used in the RANDOM access files are the source of trouble when one tries to read a RANDOM file with a program designed to read SEQUENTIAL files. DOS will read the SEQUENTIAL file until it sees a RETURN and terminates the read resulting from the INPUT statement. If a zero is encountered it is uniquely used to signify the end of a SEQUENTIAL file. This fill character is special as it is the ASCII zero or null character. It is not the numeral zero.

This was the crux of my friend's problem. File Cabinet expects the files to be SEQUENTIAL type files. It is written to read each field into a unique variable until some predetermined number of variables have been read. The number of variables per record is set by the user when (in this case) the database is initialized. Reading an ASCII zero signals DOS that the end of data has been reached and terminates the read before much data is read. In fact, File Cabinet usually showed that no data was found in the file although the CATALOG showed that the file occupied several sectors. File Cabinet would read the zeroth record, taking whatever was there as the number of records in the file and try to read that number of records into memory. This explains the weird number seen as the record count displayed by the program.

Something was needed to convert the RANDOM access file with its fill characters into a SEQUENTIAL access file. The program in listing 3 was the result. To run the program, you will need to know the file name and the record length of the RANDOM file for line 140. The number of fields per record can be controlled (see line 150). If the user so

GOTO 38

Text Files Concluded from page 37

desires, he may transfer only the first n fields of each record, if something less than the actual number of fields is input. The user then is prompted in line 160 to supply the name of the file that is to contain the SEQUENTIAL data.

The program then OPENs and DELETEs the SEQUENTIAL file to insure that the file is empty in line 180. The first record of the RANDOM file is read and assumed to be a count of records in the file. Some programs require this count to be of a fixed length; this is done in line 220. The record count is written to the first record of the SEQUENTIAL file.

Lines 260 to 310 read a record from the RANDOM file, getting the n fields. Lines 330 to 370 write the record by appending it to the end of the SEQUENTIAL file. This process is repeated for the COUNT number of records.

Finally, the count of records transferred is displayed and the program terminates.

You may have noticed the use of the APPEND command. This becomes a two-edged sword. It makes it very easy to add records to the end of a SEQUENTIAL file. (Remember, we cannot write data directly to record number COUNT.) Because of the methods used in DOS to find the end of the file, the use of APPEND makes this program very slow if many records are to be transferred. Too bad that DOS does not provide a means to directly address the end of a SEQUENTIAL file. I will leave it to the astute programmer to rewrite this bit of logic to speed up the operation.

The resulting SEQUENTIAL text is now readable by the File Cabinet program. This method also will enable one to transmit the data in a RANDOM text file via modem to another computer.

LISTING #3

```
30  REM FILE CONVERTER.  A PROGRAM TO
40  REM CONVERT RANDOM ACCESS FILES
50  REM TO SEQUENTIAL ACCESS FILES.
60  REM SUITABLE FOR USE WITH
70  REM    FILE CABINET    AND
80  REM    SEVERAL WORD PROCESSORS.
90  REM       BY KEN SLINGSBY
100  REM       8-24-83
110  HOME
120  PRINT "FILE TYPE CONVERTER"
130  PRINT "= = = = = = = = = ="
140  VTAB 4:
     PRINT "*** INPUT FILE NAME (RANDOM ACCESS)"
     INPUT "FILE NAME, RECORD LENGTH:";FI$,REC
150  VTAB 7: INPUT "*** NUMBER OF ITEMS PER
      RECORD          ITEM? ";NUM
160  VTAB 12: PRINT "*** OUTPUT NAME
      (FOR SEQUENTIAL FILE)": INPUT "FILE
      NAME? ";FO$
170 D$ =  CHR$ (4): DIM DT$(255):
     PRINT D$"NOMON C,I,O"
180  PRINT D$"OPEN "FO$: PRINT D$"DELETE "FO$
190  PRINT D$"OPEN "FI$",L"REC
200  PRINT D$"READ "FI$",RO"
210  INPUT COUNT$:COUNT =  VAL (COUNT$)
220  IF  LEN (COUNT$) < 5 THEN COUNT$
      = "0" + COUNT$: GOTO 220
230  PRINT D$"CLOSE"
240  PRINT D$"OPEN "FO$: PRINT D$"WRITE "FO$:
      PRINT COUNT$: PRINT D$"CLOSE"
250  FOR I = 1 TO COUNT
260  VTAB 15: PRINT "RECORD # "I
270  PRINT D$"OPEN "FI$",L"REC
280  PRINT D$"READ "FI$",R"I
290  FOR J = 1 TO NUM
300  INPUT DT$(J)
310  NEXT
320  PRINT D$"CLOSE"
330  PRINT D$"APPEND "FO$
340  PRINT D$"WRITE "FO$
350  FOR J = 1 TO NUM
360  PRINT DT$(J)
370  NEXT
380  PRINT D$"CLOSE"
390  NEXT I
400  PRINT : PRINT : PRINT COUNT"
      RECORDS TRANSFERRED."
410  END
```

Thus we now have a little better understanding of how text files are managed. Listing #3 provides a handy, although slow, means of converting RANDOM access files to SEQUENTIAL access types.

Information for writing this tutorial come from Apple's DOS 3.3 manual and personal experiences using a disc utility.

Happy Holidays

to all

mini'app'les

members

from the

newsletter staff.

Pardon My Interrupt

Programming for advanced users.

by Gord Croft

From APPLEGRAM Vol 3 No 3 Sept 1981
Relayed via the IAC Compiler #2.

This article discusses the hardware interrupt capability of the Apple][computer. This is something I have heard very little about and something that I feel could be very interesting.

WHAT IS A HARDWARE INTERRUPT?

The best way to answer that is to say that an interrupt does just what the name implies—it interrupts the computer. That is, when the computer senses an interrupt, it immediately jumps to an interrupt service routine (which you can write). This makes the interrupt a very useful tool for the programmer. It is possible to have one program running, and when an interrupt occurs, a completely different task will be initiated. When the interrupt routine is finished, the computer will automatically return to the other program.

Unlike a normal jump to subroutine, an interrupt can happen at any time during a program, so you have to keep this in mind when you are writing your service routine. More on that later...

The Apple][, or should I say the 6502 microprocessor, has two types of interrupts. One is called the nonmaskable interrupt (NMI) and one is called the interrupt request (IRQ). Before I try to explain the difference, you have to know a little about the 6502 micro.

If you have done any programming in assembly language, you will know all about the condition code register. It's the register that holds the flags which your program checks, on a conditional branch (i.e., BEQ, BMI, etc). The condition code register holds one more flag that you should know about: the interrupt disable.

The interrupt disable flag is the same as any other flag, and you can set or reset the flag just like any of the others. The reason for this will become clear in a moment. Remember that there are two types of interrupts, the nonmaskable and the interrupt request. Well, the biggest difference is that the interrupt request can be ignored by the computer if the interrupt flag is set. However, the nonmaskable interrupt will happen no matter what the flag is! That is important to remember.

The Apple people have thoughtfully extended the pins from the micro to the eight I/O slots on the Apple][mother board. These slots provide a convenient way to experiment with interrupts. The two pins on the I/O slots we will be concerned with are no. 29 (NMI) and no. 30 (IRQ). I will not discuss what will happen if more than two sources of interrupts are connected, but there is a plan for that in the slots as well.

You can incorporate into your service routine a segment that will poll the sources of interrupts to see which one made the interrupt.

INTERRUPT SERVICE ROUTINES

Probably the most important thing to remember in writing a service routine is to make sure, when it is finished, that all of the registers are the same as when it was called. As you will see, some of this is done for you, but most is not. In order to write a service routine you must know what the processor does. In the case of the NMI the processor finished the instruction it is doing, and then performs the following:

```
push program counter high byte
push program counter low byte
push condition code register
jump to location pointed to by
  memory location FFFB (high byte)
                  FFFA (low byte)
```

This may sound complicated but it is quite simple. The micro just loads the program counter with what it finds at FFFB and FFFA and then continues executing code.

In the Apple][the values at FFFB and FFFA are 03 and FB respectively so the computer goes to 03FB and starts executing instructions. Unfortunately, there is only room for 3 bytes of code, so you must put an instruction to jump to the start of your interrupt routine at this location.

When an interrupt request is generated, the processor first checks the interrupt disable flag. If the flag is set, the interrupt is ignored and the computer continues with

GOTO 40

Pardon my InterruptConcluded from page 39

whatever it was doing. If the flag is reset, however, the program counter and condition code registers are pushed onto the stack and the address at FFFE and FFFF are loaded into the program counter. The address at these locations is FA86, or FA40 in the Autostart version with the Apple][Plus. The code at FA86 or FA40 is:

```
STA $46
PLA
PHA
ASL A
ASL A
ASL A
BMI $FA92 (or $FA4C)
JMP ($03FE)
```

What this does is check the condition of the break flag, but because this is an interrupt, the flag is zero, so the branch does not happen. The next instruction is a JUMP to the address that is at $03FE. You will notice that this is a little different to the NMI in that you put the actual address of the routine and not a jump to the routine. You will also see that the accumulator is saved for you at location $45.

SOME PRACTICAL EXAMPLES

This is an extremely simple example, but interesting. The program is located at $300 and a 300G or Call 768 will turn it on. The program works like this: First it puts the starting address of the routine ($030C) where the processor can find it. Then it clears the interrupt disable flag, just in case. Then it simply returns to what it was doing (ready for an interrupt). When an interrupt does happen, it jumps to $030C, where it reloads the accumulator and returns from interrupt. You have to terminate an interrupt routine with that. You may think this is dumb, but if the source of the interrupt is still low, another jump to the routine will happen and you can, in effect, stop the processor. The hardware for this experiment is very simple, too. All you need is a resistor (about 100 ohms) to short together pins 26 and 30 (for IRQ) or 29 (for NMI).

CAUTION: DO THIS VERY CAREFULLY. A length of wire and a switch work better!

```
300 A9 0C LDA #$0C
302 8D FE 03 STA $03FE
305 A9 03 LDA #$03
307 8D FF 03 STA $03FF
30A 58 CLI
30B 60 RTS
30C A5 45 LDA $45
30E 40 RTI
```

CONCLUSION

If you keep in mind that your service routine can do basically anything, you can probably dream up a more creative use for interrupts. Just think, instead of having your program looking continually at an input (say, a game switch), you can have the processor and an interrupt routine handle the program! Or have it looking at a burglar alarm or a fire alarm or ???

Mini'scrip Errata

(continuation)
for
MINI'SCRIP CHECKBOOK FINANCIAL SYSTEM
VERSION 2.4

by Leighton Siegel

ERRATA # 5

There is an apparent problem when entering October, November and December into the "LEDGER". The display of the names of these months on the screen or monitor is incorrect. It is only the display of the names that is incorrect. The ledger actually uses the monthly data correctly and prints reports properly. The following patch will fix this problem. Make these changes on both the ORIGINAL MINI'SCRIP DISK and the MASTER ACCOUNT DISK.

From BASIC type:

```
UNLOCK LEDGER <return>
LOAD LEDGER <return>
340 HTAB 4: PRINT MNTH$( VAL( MID$
    (NM$(I),6,2))) + " " + MID$
    (NM$(I),2,4); <return>
350 IF I < NM THEN I = I + 1: HTAB
    24: PRINT NMTH$( VAL ( MID$
    (NM$(I),6,2))) + " " + MID$
    (NM$(I),2,4) <return>
SAVE LEDGER <return>
LOCK LEDGER <return>
```

You may notice that the only difference between this and the original is that the number 7 was changed to a 6 in both lines.

That's all for now.

Minutes

by Hugh Kurtzman

Officer Meeting Nov. 8, 1983

Treasurer John Hansen reported the ending balance for Oct., '83 was $9358.54. Income for the month was $905.27 and expenses were $6662.03. Some of the computer show bill were being paid in Oct.

John Hansen also reported we have received a letter from Minnesota Federal stating that it is now illegal for them to pay corporations interest; therefore, no interest has been paid on the account since Oct. 5. It was moved and seconded that John investigate the other types of accounts and pick one (or combination) that will give us the best return.

It was suggested that our club needs to keep a corporate book containing the minutes of board meetings and an inventory of club assets. The secretary will gather as many minutes as possible, and Ron Androff will work on the inventory.

The secretary will now keep the backup copy of DB Master.

A letter from Mr. Schwindeman about some problems he has had with two of our Mini'app'les Software Disks was discussed. It was decided to send him a letter of apology for the delay (this was the first officers meeting since we received the letter), giving him a refund for Higher Text Extended as no one explained to him that it would not work on a //e. We also would explain to him that our software is sold in good faith and we do not give refunds if the program does not do exactly what he would like.

Discussed a letter from a group supporting education for the gifted inviting us to have a booth at their computer fair in Forest Lake. Decided to ask the St. Paul Branch to handle this.

Approved the appointment of Steve Lyle as coordinator of a new SIG for handicapped persons.

Decided to try to find a person to coordinate our participation in computer shows.

The club has a Source Package that was bought to help in the newsletter exchange. This is not being used as the IAC is using a Bulletin Board to compile articles. We will offer this package to the highest bidder. This is to be announced in the December and January newsletters. Bids will be received until the start of the membership meeting in Jan. Announcement of the winner will be at the end of that meeting.

A motion was passed suspending the sale of Mini'app'les Software Disks until the contracts have been signed with the authors.

Moved and passed that a program will not be accepted for sale as MSD until it has been tested and evaluated by the club and a contract between the author and the club is signed.

The officers suggested that a special committee be formed to handle this.

It was the consensus of the officers that the making of DOMs and MSDs be contracted to an outside company.

BETTER DEALS HERE!

Why pay full price?

	Retail	Ours
Fontrix	75	62
Fontpak, vol 1	20	17
Fontpak, vol 2	20	17
Format II	150	125
Incredible Jack	179	97
Routine Machine	65	54
&-Prog Library (vol 1, 2, or 3)	50	42
PFS: File *	125	100
PFS: Report *	125	100
PFS: Graph *	125	100
Internat'l Grand Prix	30	25
Datafax	199	160

* Specify II or IIe

	Retail	SALE
Macrosoft	50	38
The Assembler	70	53
Macrosoft & Assemb.	100	86

	Retail	Ours
Teletext	80	64
Ampersoft	50	43
Master Type	40	32
Flight Simulator	34	27
Eliza	25	20
Eliza (with source)	45	36
Versaform	389	310
Pie Writer	150	120

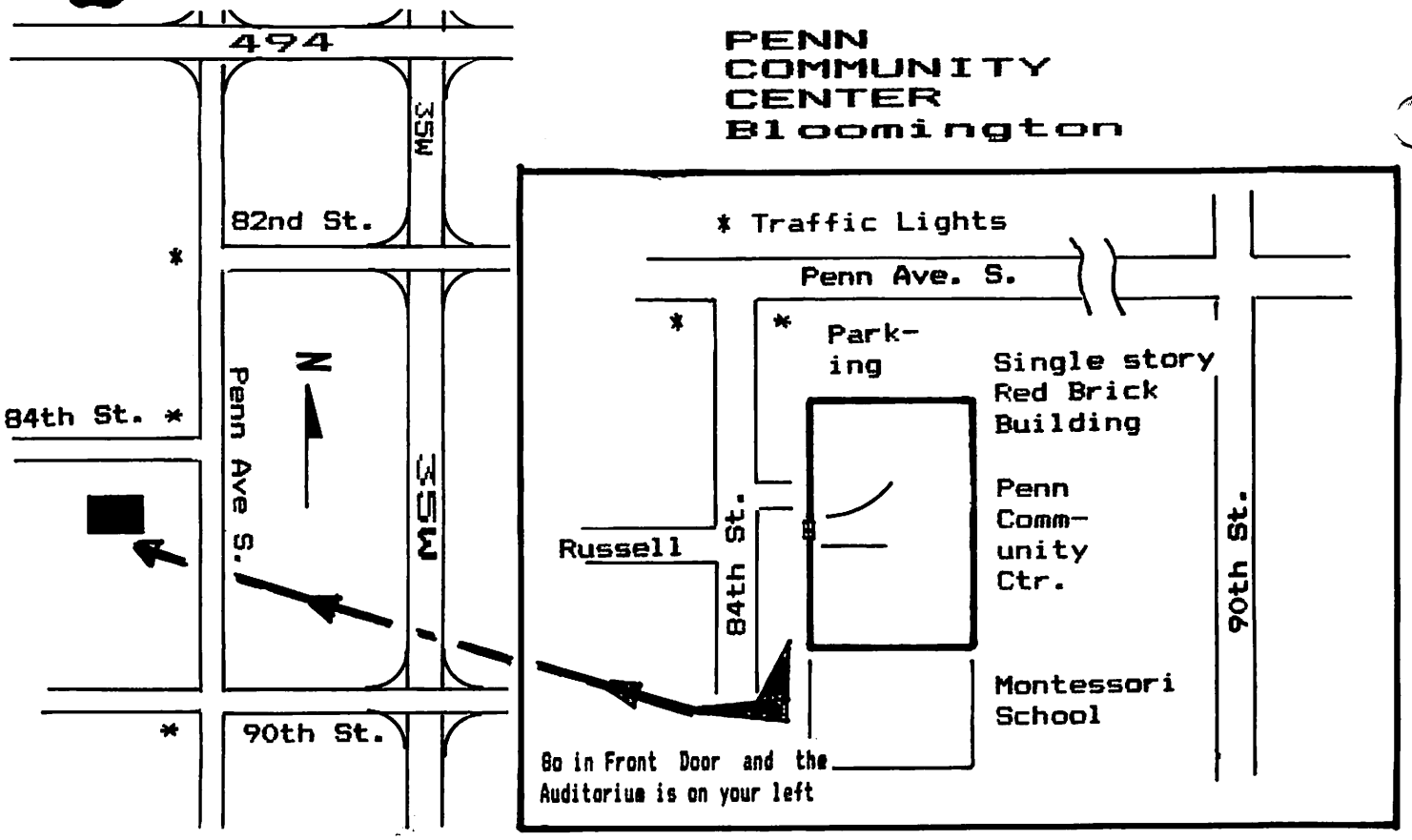
Write for prices on other software.

Minnesota residents add sales tax.
Include $3 per order for shipping.

Merry Christmas Merry Christmas

MICRO MAIL

Dept. M3 P.O. Box 1451, Burnsville, MN 55337



Classified

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SSDD 3M Scotch Diskettes; $21.00 Box 10, tax incl.
Bob Pfaff 452-2541

GAME EXCHANGE - for information send name & address to AP-X, 2524 Aquila Ave. S., St. Louis Park, MN 55426

Apple II+, 64K, with drive, manuals, paddles, fan, and Supertext & VisiCalc software; $1095.
Richard 735-4541

Apple IIe, monitor, joystick, Epson MX-80, parallel interface, D.C. Hayes Micromodem, 2 Apple disk drives with controller and lots of software; $3000.
Bob 770-3010 (after 5)

WANTED: PFS Will buy rev E, Aug 81 or later version which provides file management and report generation on a single diskette. Now obsolete, but I will pay $25 for diskette and manual.
Steve 853-3790 (day)
894-8860 (eve)

D.C. Hayes Smartmodem (300 baud) $175; Apple Communications Card $35; modem & comm card together $200; Apple IIe 80 column card $75.
Chase Allen 854-1331(day)
431-7278(eve)

C.O.R.P. Applesoft program generator and database for II's and II+'s. Includes 4 disks and manual. Rarely used. $225.
Naomi 770-1293

Apple Monitor Stand (New) $15; Budgeco Pinball Const. Set $25; Broderbund A.E. $20; Lunar Leeper $15.
Ed 890-8752 (eve)

Original Software: Gertrude's Secrets $22; Face Maker $16; Eduware PSAT $22; MicroLab English SAT $15; Music Maker, Serpentine, Miner 2049er, Crisis Mountain, Aztec, & Mask of the Sun $18 each; Evolution $16; Canyon Climber $15; Jawbreaker 2 $13; others $8 to $10.
Before Dec 9 934-1852
After Dec 9 727-1780(eve)

Apple Silentype Printer with interface card. Works with Apple II+, IIe, III. Almost new; used very little. $195.
Dave 631-9480(eve)

ORDERING DOMs or MSDs

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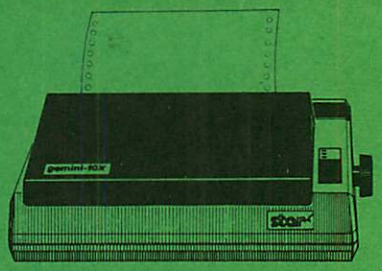

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