mini'app'les

apple computer user group newsletter

Volume VIII No 10 October 1985

WHICH	WHEN	WHERE	WHAT
Board Meeting	Wed. Oct. 2	1402 Concordia, St Paul	All members welcome. Note 2.
MacSIG Non Tech Users	Mon. Oct. 7 7 pm.	Edina Community Center 5701 Normandale Rd., Edina	Ready Set Go &/or Page Maker, DOM demo Note location change, Note 16.
Dakota County Branch	Tue. Oct. 8 7pm.	St. John Neumann Church 4030 Pilot Knob Rd., Eagan	Bulletin Boards, Note 7.
Pascal & Apple ///	Wed. Oct. 9 7:30 pm.	MN Federal S. & L. 31 9th Av. S., Hopkins	Note 1.
Business SIG	Thurs. Oct. 10 7 pm.	MN Federal S. & L. 5320 Lyndale Av. S.	Apple Works, Peter Martin Note 10.
St. Cloud Branch	Thurs. Oct. 10 7:30 pm	Waite Park City Hall 5th Av. & 3rd St. N.	Note 15
REGULAR MINI'APP'LES	WEDNESDAY Oct. 16, 7:30	Oak Grove Jr. High Bloomington	Apple Reps, Apple Office Systems & Fred Weiner of the Connection. Note 2.
Northwest Branch	Tue. Oct. 22 7 pm.	MN Federal Bdlg. 8320 42nd Av. N., New Hope	Modems, Bulletin Boards. Note 12. Note different location this month.
Minnetonka Branch &	Wed. Oct. 23 7:30 pm.	Glen Lake Community Ctr. 14300 Excelsior Blvd.	General meeting. Note 8.
Education SIG. returns!	Thurs. Oct. 24 7:00	MN Federal S. & L. 31 9th Av. S.	First meeting of Season Paula Craton, 721-1741. Note 6
Applesoft BASIG.	Thur. Oct. 24 7:00 pm.	Derham Hall High School Rm 218, 540 Warwick, St. Paul	Pro DOS, Note 17.
Main MacSIG	Mon. Oct. 28 6:30/7 pm.	Edina Community Center 5701 Normandale Rd., Edina	Micro Soft XL, Note 9. Note location change
Twin City Computer Show	Oct 31 - Nov 3	St Paul Civic Center	See ad in this edition of Newsletter
MacSIG: Non Tech Users	Mon. Nov. 4	Edina Community Center	Note 16.
Business SIG.	Thurs. Nov. 14	MN Federal S & L, Lyndale Av.	Accessing on line Data Services. Note 10.
REGULAR MINI'APP'LES	WEDNESDAY Nov 20, 7:30	St. Paul U. of M. Student Center Theater	SuperCalc 3a, integrated program by Sorcim, Note 2.
Main MacSIG.	Mon. Nov. 25	Edina Community Center	Note 9.
North West Branch	Tue. Nov. 26	Rockford Road Library	Favorite Games. Note 12.

Notes: (See page 4 for telephone numbers)

1. John Schoeppner 5. Mark Abbott 9. Mike Carlson 12. Jere Kauffman 15. John Gammell 12. Dave Laden 6. Paula Craton 3. Fred Woodward 7. Bob Pfaff 11. Bill DeCoursey 14. Steve George 17. Tom Alexander 15. John Gammell 16. Steve Bibus 16. Steve Bibus 17. Tom Alexander 18. Dick Peterson 19. Mike Carlson 19. Mike C

Branch & SIG Coordinators - Please call Steve Bibus (374-1612) by the 15th in order to have your meeting correctly listed!

mini'app'les MEMBERS

LOOK

to mini'app'les next month for the "new" Computer Buying Service. You'll see the best prices on computers, software, & peripherals & special bargains for mini'app'les members. Look to Computer Buying Service to satisfy all your computing needs. 884-5009

In This Issue

1362		
۶.	Announcements	6
	Interview with Andy Hertzfeld	.edited by Tom Howe13
Ć	Blinded by the Light A Review of D.R.S./Lifesaver	by Steve George20
	Call Waiting Zapped	.by Tom Edwards12
	Classified	
Ć	Apple //e - //c RAM Boards	
Ć	APPLEWORKS Mailing Program	
Ċ	uuuuuuu	by Steve George16
	October DOMs	
Ġ	DOM34 Bug	.by Tom Ostertag18
	Give an Advertiser a Try	by Curtis Juliber11
	MacSIG: a-ONE, a-TWO, a-THREE.	
	MacSIG:ntu	.by Tom Edwards10
	Map of Meeting Place	
	Mini'app'les Budget	.by Dave Laden21
包.	E Signal ∰ Semaphore E	.by Tom Edwards12

Advertisers

City Desk Computer Warehouse	23
Computer Buying Service	2
the Connection	11, 14
Daytons (Repair Service)	7
Hagen Office Equipment	10
House of Forms	3
MacTutor	9
Mini'app'les	19
Twin City Computer Show	4
Yukon Computer Products	

If you have complaints about lack of d material - write something!

Note, once again, next month's newsletter goes to press one week early!



Ask About Our Continuous Postcards and Index Cards

CALL 332-4866
For More Information and Prompt Service

WE HAVE YOUR PRINTER PAPER

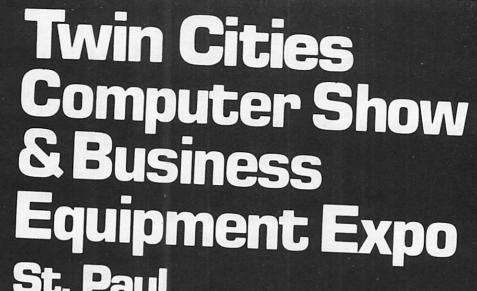
-IN STOCK-

- 11" x 9½" 15# or 20# Paper Regular Perf
- 50# Offset with Micro Perf Edges

Sold in quantities of 2000 per carton

Continuous Address Labels Sold in Large and Small Quantities

Also: MANY OTHER SIZES AND TYPES OF PRINTER PAPER (Stop in and see our selection), DATA PROCESSING AND OFFICE SUPPLIES.



St. Paul Civic Center

Oct. 31-Nov. 3, 1985 10:30 a.m.-6 p.m. Adults \$6 • Children 6-12 \$3

SAVE TIME AND MONEY – At one convenient location, learn about, try out and compare thousands of different products. If you buy at the Show, you may save hundreds, even thousands of dollars because many of the products on display are for sale at super show prices.

SEE IT ALL – More than one hundred displays feature all of the hardware and software made for every major computer for business, industry, the professions, government, education, home and personal use and the latest equipment for the modern electronic office.

IF YOU ALREADY OWN A COMPUTER – The Show features thousands of software, hardware, peripherals, accessories for every conceivable application. For more information about exhibiting or attending, call CompuShows, Inc., Toll-free Show Hotline, 1-800-368-2066.

PRESENT THIS COUPON AT SHOW BOX OFFICE AND SAVE \$1.00 (ONE DOLLAR) ON ONE ADULT ADMISSION TICKET



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

	•	
Board Mem	bers	
President	David E. Laden	488-6774
Tiosident	1215 W. Laurie Rd,	
	Roseville, MN 55113	
Past President	Chase Allen	431-7278
	15718 Hayes Trail,	
	Apple Valley, MN 5512	
Vice-President	Tom Edwards	927-6790
	4521 Xerxes Ave. S.,	_
	Minneapolis, MN 5541	
Treasurer	Tom Alexander	698-8633
	1926 Summit Ave,	
	St Paul, MN 55105	U062 2715
Secretary	Ken Slingsby 507 Route II, Box 182,	/263-3715
	Welch, MN 55089	
Communication Di		890-5051
Software Director	Steve George	935-5775
Technical Dir.	Hugh Kurtzman	544-7303
SIG Director 1	Keith Madonna	474-3876
SIG Director 2	Dick Marchiafava	572-9305
Branch Director	Mark Gleizer	338-8399
Coordinato	rs	
Adviser - Spreadsh	eets Mike Carlson	866-3441
Beginners' Consulta		869-3447
Membership Form		827-3205
Shows and conver		935-5775
Membership Co'to		544-4505
Spcl Int Apple Spcl Int AppleSof	/// Dave Rasmussen	938-7348
Spel Int Applesor Spel Int Busine		698-8633 572-9305
Spel Int Educati		872-6741
Spel Int FORTH		854-8304
Spel Int Investr		822-8528
Spcl Int Macint	osh Mike Carlson	866-3441
Spcl Int Macint Spcl Int Pascal	John Schoeppner	455-8613
Tech. Adviser (hdw) Roger Flint	771-2868
Duanah Oa		
Branch Cod		
Dakota County	Bob Pfaff	452-2541
Minnetonka	Dick Peterson	473-5846
New Hope	Jere Kauffman	535-6745
St. Cloud St. Paul/Mahtomed	John Gammell	253-9377
Liaison (†) - CP/M		426-4060 475-3916
	cology Bill Decoursey	574-9062
Liaison (†) - Medi		644-1838
† To provide contact with	th non-Mini'app'les SIGS	A44.1020
Software D	irector's Staff	
		025 5775
Apple // Software Assistants:	Editor Steve George	935-5775
DOMs	Hugh Kurtzman	544-7303
CDA	Datas Cillas	475 2016

Circulation this issue: 1800

Assistant MacDOM Ed. Curtis Juliber

Peter Gilles

Dave Nordvall

Mark Richards

Richard Peterson

475-3916

724-9174

925-3625

487-2850

CP/M

Eamon

MacDOM Editor/Prod

IAC

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

Questions

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

Membership

Applications for membership should be directed to the Membership

Ann Bell 544-4505 Co-ordinator:

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

DOMs (Disk of the Month) are available at meetings for \$5/disk (\$8/MacDOM) or any DOM may be ordered by mail for \$6.00/disk (\$9.00/ MacDOM). MSDs are \$15/disk at meetings or \$17.50/disk by mail. Send orders to Mini'app'les at PO Box 796 (see above), attention DOM Sales.

Members may have 51/4" DOMs copied to their own media. See classified Ads for details.

Dealers

Mini'app'les does not endorse any specific dealers but promotes 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 on Mac 3 1/2" disks or via telecommunications directly to the Newsletter Editor. Contributions on 5 1/4" disks should be sent to the club PO Box, and marked: "Newsletter Submission".

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.

Meeting Dates

Please telephone calendar announcements to Steve Bibus - 374-1612. **Advertising**

Direct Advertising inquiries to our co-ordinator Eric Holterman at:

PO Box 8266

Minneapolis, MN 55408 612-822-8528

E-Mail: CompuServe, 71445,400

Newsletter Publication Staff

Editor	13516 Grand A Burnsville, M		
Assistant Editors	Jo Hornung		Steve Nimchuk881-8656 Rick Thompson
Announcements	Kent Edwards	452-4956	
Calendar	Steve Bibus	374-1612	
Contributing	Arsen Darnay	933-0399	Steve George935-5775

Comp./Layout Joan Kistner

Mailing Hugh Kurtzman..... Richard Peterson Advertising Eric Holterman.....822-8528

Tom Edwards......927-6790

Daniel B.Buchler .. 890-5051

Editors

Director &



Announcements

EDUCATION SIG

By Jim Baker and Paula Craton

My, oh my, how summer flew by, and gone it seems to be; The kids are back in class replete with all their sass

(Complete the poem and bring your entry to the first EDSIG meeting. We'll read them aloud and a show of hands will vote the winner!)

Just in time, the ED SIG is now reforming to help meet the challenges of the new school year. We would like to focus SIG agendas (broadly) on two critical basic skill areas -- math/problem-solving and language arts (reading, writing, spelling), as mastery in these areas is so importantly linked to achievement in other studies, as well as student self-esteem. We envision EDSIG as a forum for:

- Discussion of CAI experiences, successful and unsuccessful
- Brainstorming new solutions to resistant problems
- Looking at promising educational software (including word processors and LOGO and their varied applications)
- Disseminating information collected on school district policies, plans and activities related to computer aided instruction
- Other items of interest to participants.

Upcoming topics will include a presentation on software evaluation and notes on exciting applications of LOGO in area schools.

Whether you have great experience or little, or are just curious, come on along. Let's get those classrooms airborne!

First meeting: October 24, Thursday

Time: 7:30 P.M.

Location: Minnesota Federal Savings and Loan

31 9th Ave. S., Hopkins.

Business SIG Meetings Resume New meeting Location Announced by Dick Marchiafava

The new meeting location is the Minnesota Federal Savings and Loan located at 5320 Lyndale Avenue South. This is just north of Diamond Lake Road on Lyndale Avenue in south Minneapolis. We have this site from September through December and will try to reserve it for the rest of our schedule as soon as the bank will take the reservation.

Meetings start at 7 PM with introductions, announcements and our *Question and Answer* session. Bring your questions. Someone at the meeting may be able to help you. Bring someone to the meeting with you! You may use the bank parking lot. Entry is at the back of the building. The meeting room is upstairs.

Fall / Winter meeting schedule and topics

October 10 AppleWorks - Peter Martin

November 14 Accessing On Line Data Services by

Modem - Erik Carlson

December 12 Hardware and Maintaince Tips

January 9 Softax 85, A Federal and Minnesota tax

package for the tax accountant and prepa

rer. Ron Schlangen of Softax

February 13 Panel discussion "The role of Mico-

Computers in Business, Past, Present and

Future".

Spring meeting dates are March 13, April 10 and May 15. Meeting subjects not scheduled yet are: RAMDISKS and Hard Disks, Think Tank, and BPI General Accounting (ProDOS).

FROM THE PC

by David E. Laden Board Activities

The next board meeting is scheduled for October 2, 1985 and will be held at 1402 Concordia in St. Paul. This is in the Snelling Heating & Air conditioning building and is located between Snelling and Hamline on the South side of 194. (NOTE: This is a change in location from what was published last month.) As usual, all members are welcome. If you are unable to make the meeting, feel free to call me or any of the board members with your opinions and suggestions. Remember, it's your club!

HELP WANTED - Computer Show

Mini'app'les will be participating in the Twin Cities Computer Show October 31-November 3 at the St. Paul Civic Center. Volunteers will be needed to staff the Mini'app'les booth at this show. This is a great opportunity to promote your club and to meet other computer enthusiasts from the Twin Cities area (Oh, I almost forget to mention, one of the benefits of working at the booth is free admission to the show the day you work).

If you are interested in helping out at the Twin City Computer Show, please call Steve George at 935-5775. See you at the Show!

Education SIG Update

As you are aware, the Education SIG (EDSIG) has been in a dormant state. I am happy to pass along the news that it is now back on its feet with two leaders: Jim Baker and Paule Craton. Jim and Paule have lots of exciting plans for the EDSIG. See above for additional details and meeting announcements. Thanks Jim and Paule!

Announcements (Continued)

Education SIG Update (Continued)

A note from our previous ED-SIG coordinator, Jane Chatterjee:

"As you may know, I have relocated to Miami. I will be operating and expanding Conroy Associates, my educational consulting and software business. I really enjoyed my years in Minnesota and I value the friendships I made there. I am writing to say THANK YOU to all of you, for your warm welcome and all your help and encouragement."



by Dan Buchler

The two MacSIGs, as regularly reported upon by Tom Edwards in these pages, continue and add to their strengths.

Both meetings in October and both meetings in November will be at the Edina Community Center. The building is on the service road to the East of highway 100 and South of 50th street. Do not confuse with the Public Library which is on 50th st.



WOULD YOU BELIEVE FAST, AFFORDABLE COMPUTER REPAIR?

Why wait 2 to 3 days for repairs, when our 12 trained technicians can insure fast, professional service. We service IBM, Epson, Apple and Panasonic computers, and Epson and Okidata printers. We provide convenient service at your own location* or you can bring your computer or printer direct to us. We'll even provide regular, scheduled service at your convenience. Extended service contracts available at reasonable rates. Use your Visa,® MasterCard,® American Express® or Dayton's Flexible, Furnish-A-Home or Invoice Account. For more information, call 623-7123.

*Within 7-county Metro area only.



© 1985 Dayton Hudson

Give an Advertiser a Try

You might appreciate the service.

(from House of Forms)

by Tom Edwards

Sometimes you get just what you bargained for, and that's just fine.

My printer uses paper (don't they all?) and was getting to the bottom of the box. Oftentimes you put these kinds of purchases off, hoping that the last sheet will somehow reproduce itself and grow another page just before the end pulls up out of the box. A never-ending supply, like Uncle Sam manages to do with dollar bills.

Not so this time. I resolved to get more of the folding kind before I tested the possibility that the paper played horny games down in the depths of the box. I pulled out my latest issue of the newsletter to make note of the phone and address of House of Forms, one of our faithful advertisers.

Armed with that info, I called a few days later, somewhere during mid-morning, to check on what they had available, price and hours that they were open. The price seemed OK, and the quality, as described by the pleasant alto voice at the other end of the line, was scored as top notch. I said, "Fine, set a box aside for me. I'll try to pick it up late this afternoon."

As lunchtime pressed near, and the weather was beckoning warmly to come and enjoy the sun, I decided that I'd jump to downtown, maybe stretching the lunch hour a bit to avoid the crush of quitting-time traffic. It took a bit of navigating (I always goof up on those "1st and 1st" kind of addresses. This ends up just a stone's throw north of Hansord Pontiac.), but I only circled the block once.

Being early, I anticipated that I would have to wait, but no, the case of paper that I ordered was already at the front desk. In a couple of minutes, the bill was ready (with Mini'app'les discount) and paid for. The smalltalk with the clerk got me curious to see what else they had that might be of interest to me.

Though the name, House of Forms, suggests paper oriented stock, that's only a touch of what is available. Nosing into a back displayroom, I found all sorts of pens, rulers, labels, tags, tapes and greeting cards, handsomely displayed. Really more like a stationery store.

Expressing suprise at seeing all of this other merchandise, I was plied with a thick catalog of all that is in stock or can be ordered. Desks, chairs, storage units and

As I collected my paper to leave, I was offered a free plastic ruler to keep as a final momento, and reminded that if not satisfied, be sure to come back and discuss and problem that I had with the purchase.

Homey, pleasant, quick, courteous, friendly and more. It was just a case of paper, but I was treated as though I had the king's treasury to spend. Thanks, House of Forms.



MacSIG: a-ONE

Mac's Melodic Music Mesmerizes Many Members' Minds

by Tom Edwards

hhhhusch! The maestro is ready to begin.

The stage was set for the music program evaluation playoff. A demanding user's evaluation of the two top contenders for the title of "Top Dog" in the music catagory, sub-division Mac. The house lights were dimmed, as Mike Carlson began the overture at the August 26 meeting of the Mini'app'les MacSIG. Dispensing information about up-coming events to those gathered at the Southdale Hennepin County Library, Mike manipulated a slight revision to the normal program to clear the way for our reigning concertmaster, Chuck Boody, to come center stage (well, maybe a bit off center) and strike up the MacBand.

Chuck has the credentials for this task, with a long and varied career covering music, education, programming One of the programs at an early(!) and teaching. Mini'app'les meeting was a demonstration by Chuck of the musical capabilities of the Apple][, an event perhaps more remembered by a fluky electronic glitch that held up the show more than recall of what systems were demo'ed. But for some, a remake of the event held promise of fun, already wise to the knowledge of what a computer can do with the musical medium. For "the rest of us", it was a chance to gain insight into yet one more talent hidden within this small, funny looking, electronic gizmo.

Beginning at the beginning, Chuck explained some of the specs that are contained within the Mac. Mac can "sing" four "voices" at a time. That is, it can sound like an instrumental quartet, or any lesser part of the group if you please. That's a Mac limit, which means that you can't make it sound like a full orchestra, but it doesn't stop you from letting one of your "quartet" set aside one instrument and pick up another when you need a different sound in

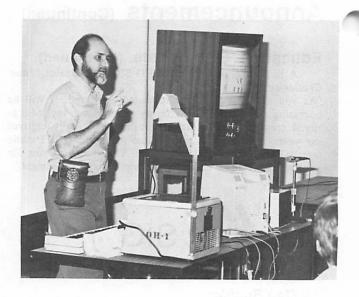
your composition.

Mac's pretty true to the tuning fork, too. With some minor exception at very low frequencies (notes, if you will), Mac is right on pitch all of the way up to its highest notes near 11,000Hz. That's close to as high as many of of our "middle aged" Mini'app'lers can hear. It's in the response range of a good table radio, explained Chuck.

What you hear out of your Mac without any electronic assistance doesn't come close to matching its ability. Mac's speaker may be fine to give you a happy little "beep" now and then, or suggest a boom or bang as you play "Airborn", but it is woefully inadequate for rich music. To get the most, you should pump the output through your hi-fi. It won't be in stereo, but will be much more enjoyable.

(Our presentation was helped by another electronic gizmo this evening. The Kette Group loaned us McKnifty, a device that electronically splits the Mac's sound output into "stereo" and sends it to a pair of matched

speakers.)



Prep'ed with this hardware overview, Chuck launched into his presentation of the two music programs that he has been working with; MusicWorks (Hayden, about \$60) and Concertware (Great Wave Software, about \$70). Many of the things these programs allow you to do are very similar. However, on-screen views and completeness of program details differ, sometimes quite significantly. For Chuck, the better program in his opinion is "Concertware", but you might want to test them on your own. How you use a program, or what you need from it, may lead you to another choice.

Common to both programs, is the facility to work with four part music, create, edit, play it back, print it and determine just how it sounds by working with the sound waves themselves.

Some of the features of the programs (though not necessarily common to both) are:

- Fast entry and editing of written music, using keyboard selections or the mouse.
- Watch your music scroll by as it is played.
- Bring score into MacPaint for touch-up.
- A number of pre-set instrument sounds available, and editable if you want to change sounds to your liking. Concertware even allows you to create an icon to go with the instrument.
- Print out of your score, by voice if you wish.
- Enter a whole cord of notes at one stroke.

A tough thing for these programs, is the interpretation of your notes into a musical score. Details like stems pointing up or down, how to treat key-signatures and notes that are sharp or flat, or where to show a measures end can be troublesome within a complex composition. The programs try hard to be consistant, which can make fancy things you want to try come out a bit different than you intended.

Added bells and whistles in the Concertware program give you more flexible control over the entry of music. There is even a "zoom" feature that enables you to get a closer look at the screen, making it easier on the eyes. Transposition, changing the time and instruments also give Concertware the edge. If you want to live





MacSIG: a-ONE, a-TWO, a-THREE (Continued)

adventurously, it will accept your "playing" the Mac's keyboard in real-time, and translate it into a music score! There is also a more fuller version coming that will work with a music keyboard (The Kette Group) for a more realistic method of entry.

MusicWorks is the "older" of the two programs. That gives it and edge on the base of tunes that have been recorded for it (one of our MacDOM's contains nothing but MusicWorks scores.) To avoid being left in the cold, Concertware claims that you can read in songs from "the other program" and convert them to their format.

These are not the only possible programs that address music on the Mac. A pricey offering called "Professional Music Composer" is designed for the serious productivity of churning out scores that you arrange. Playback of the score as "music" is only incidental to the task of the arrangement. Electronic Arts also is making the Vaporware scene with talk of an offering on the Mac that follows in the vein of their "construction sets" for games and music on other computers.

As a sidebar to our music program, Chuck also gave us a taste of another soon-to-be product from The Kette Group. They are in the process of producing a "sound digitizer", and Chuck had an example of things to come. With a bit of The Kette Group's electronic gadgetry, you can capture any sound and record it on your computer. Once there, you can manipulate it like any other sound wave. Tonight's example of a car crash was a "smashing" success. There may soon be an album of digitized sounds that you can play back with a public domain program. Can't you just hear it now? Open a door in Zork and the hinges creak for you... A spelling game for kids where "CAT" gets you a meow and "COW" a moo ... Flight Simulator, and the ATC tells you to "Squawk 2400" or you hear the tires squeal as you touch down at Meiggs and stand on the brakes to avoid a bath in Lake Michigan.

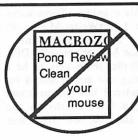
Chuck was rewarded with a hearty round of applause as he concluded his presentation. Music obviously is a subject that is enjoyed by many in MacSIG. Thanks, Chuck.

Our revamped program schedule for this evening lead us to wind up with Q/A's. We had some diverse questions; if you have any info, share it by writing an article for the newsletter or attending the next MacSIG and offering your knowledge:

- Modula 2 information: what is it, good or bad?
- · Have a Profile disk that you want to sell?
- HyperDrive has gotten Apple to accept their work as not voiding the warranty, but there are a lot of questions about other "non-Apple" upgrades and Apple's policy toward them.
- · Has anyone bumped Lisa from .5 meg to 2 meg?
- Information on Apple's service training for non-dealer folks? Someone must be seeing a service need opportunity forthcoming. Our "instant survey" suggested that about 15% of those in attendance have needed service for their Mac.

The evening ended with some ad hoc review of the gear that *Boody* had set-up and a final round of MacDOM sales.





NO FLUFF!

MacTutor, the Macintosh Programming Journal. For the few of us who already know what a computer is for.

\$24 per year US funds. \$30 for Canada. \$36 for Overseas.

Twelve issues per year of technical info on the Mac Toolbox, hardware, C, Assembly, Neon, Basic, Pascal and more! A Mac Hacker's delight!



MacTutor P.O. Box 846 Placentia, CA. 92670

Not convinced yet? Call (714) 993-9939 for a free sample.

Can't Draw a Straight Line? Mac-it!

A Tour with MacSIG:ntu's Resident CAD-Architect

by Tom Edwards

No! That's not a condemnation... it's the subject of the MacSIG:ntu of August 12, held at the Southdale Hennepin County Library. Dave Stovall is an architect who has been following the development of the Mac and several Computer Aided Design programs that make use of the excellent graphics of the Mac. Dave has (finally) had the opportunity to actually get his hands on some of these programs to try them out. Tonight he shared some first impressions with us.

Steve Bibus kicked things off at the stroke of 7:00 pm. Mark Richards, our MacDOM editor, reported that things were underway for #15, to add to the steady stream of public domain and freeware that the club has assembled for the Mac. Other announcements touched on the Mac-Fest (late September), and of local hardware types that are making a 512K upgrade available for \$169.00 (look for a future report).

O/A's were on the brief side this evening. Some users have noticed a few "bugs" in the LaserWriter/Macintosh interface. Part of it may relate to the dot count... LaserWriter works at 300 DPI and the Mac at about 72 DPI. Since things are not an even multiple, there gets to be a hicup or two thrown in to even thing out and it shows on occasion. Another questioner wondered how to go about selecting a database (reach back a few months in the newsletter stack... look for "From the Soapbox" from this writer for one suggestion).

Dave Stovall was all warmed up at the head table to lead us through some of the programs that he has encountered in his quest for aid through his Mac. Dave has (tried) to use MacDraw to assist in drawing plans for his architectural business. He probably has some of the first copies to sneak out of Apple into BetaLand. Though acceptable for some types of "drawing", Dave soon found that he needed more specific help including automatic dimensioning, where lines lay on the grid and the ability to "rotate" a shape by single-degree cranks, rather than a 90° flip or flop.

Throughout the many pre-release issues of MacDraw, there have been a lot of improvements, but the program still is pretty basic and generalized, even with the official release version of a month or two back. Dave was tantilized by the hints of greatness suggested in another program, MacDraft (Innovative Data Design, Inc., about \$295), and he stayed in touch with the software company and was rewarded by being able to buy one of the first copies out of the slot.

MacDraft is a much more complete program for Dave's needs. That is evident by comparing program size to that of MacDraw. Here's some of the things that he likes:

- Better transportability of the document between
- Good documentation covering all of the features in an understandable and well presented manner.
- Ability to port-in MacPaint details.
- Excellent selection of line types and location on the
- Auto-dimensioning. (Really neat!).
- A zoom feature for pickey litte detailing.
- One degree rotation.
- Automatic, equidistant distribution of elements on a
- More logical ways to create circles, including placing a centerpoint and determining a radius.

Dave has also found some assistance from some other accessories that work with MacPaint. Programs like PaintCutter, ClickArt Effects and PaintGrabber help you move pictures around (even whole pages!) and let you rotate, stretch, nudge and distort your art in ways that can't be done with MacPaint alone. One of those of special favor to Dave is Accessory Pack #1, from Silicon Beach, the folks that brought you Airborn.

Steve adjourned the group 'til next month, with appropriate thanks to Dave for an enlighting evening with the graphic popourri available to the Mac'ers.



Professional ervice

Get it done right the first time!

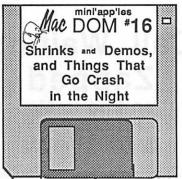
We give quality service on all Apple products and Epson printers.

Need on-site repair?

Call us--on site and maintenance contracts available.

OFFICE EQUIPMENT, INC.

801 WEST 77% STREET RICHFIELD, MINNESOTA 55423 866-3441



previewed by Curtis Juliber

We begin this month's DOM with a program which will let you carry on a simple conversation with your friendly

neighborhood Macintosh. Eliza turns your Mac into a psychotherapist who will listen to, and analyze, all of your problems without you having to pay a single penny!! Just start typing when Mac asks "What is your problem?"

You can buy software with all that money you'll be saving since you won't have to pay for psychotherapy We have included on this disk two demo programs which you can examine. Use these as a trial before you buy the real thing. P/C Privacy Demo encrypts any Mac file with a code that you select making the file unreadable to anyone not knowing your secret password. Webster's Revenge is an interesting word game.

Please note that both programs are for demonstration purposes only and will not include every feature you will get on the released version. If you like what see, buy the program and support those Mac programmers out there!!

If you attended the August MacSig meeting you probably enjoyed listening to the digital sounds of Chuck Boody. If you missed it, in addition to demoing Concertware and MusicWorks, Chuck "played" a couple of disks of digitized sound effects. The big favorite had to be the Car Crash. We have included it on this disk so you can amaze and amuse your friends. Documentation is on the disk in a MacWrite file (version 4.5). Read this first to get the program to perform properly.

Hacker Doc-Page Setup will show you how to change the page setup window so you can easily make labels and set up different page sizes other than US Letter, US Legal etc. This requires either RMover or the Resource Editor which can be found on MacDom #14.

Nac-Tab is a utility which will allow you to alternate between tabs and spaces in a text file. The resulting text is then compatible with Multiplan and Microsoft File.

Shazam and Browse are public domain utilities written by Bob Rees of Musicworks fame. Shazam is a fast and tiny replacement for the finder when you just want to select an application to run. Browse is a speedy alternative to the finder when you want to see what files are

on your disk.

Three desk accessories are also included on this disk as well as a new font. The font called Floor Plan is a graphic font depicting stairs, bathtubs etc. The desk accessory Telegraph is so good that I won't tell you what it does. Install it yourself and find out! Word Count counts words, lines and characters in a text file. This will not work with a MacWrite file. Cube is an excellent 3D Rubik's cube. Note that these desk accessories must be used with the latest version of the font/DA mover. If you don't have it see your dealer. It's FREE! Would you like to see more sound effects on future DOM's? Please let me know. Until next month then...keep on Macing!!



MANY MORE ITEMS BEING ADDED EVERYDAY FROM SOME OF THE AREAS LEADING STORES!

SAVE MONEY AND HAVE

Questions? LIVE OPERATORS 922-9000



Signal Semaphore

Tired of Always Seeing "Occupant" On The Mail That You Get?

by Tom Edwards

Here's a little freebie that you can send for. It comes addressed to you... by name... and will keep you just a touch more up-to-date with all of the Macintosh information. This little gem is Signal, a publication devoted strictly to the Apple/32 products.

Signal is published by Semaphore Corporation. It is a dozen or so pages issued each month. Focus of the newsletter is usually on review of a software program or two. Readership often responds with "letters to the editor" that are fun to read for contrasting viewpoints. To get your copy, just fill out the coupon below (or a facsimile) and return it to the Aptos CA address. Please note that your Mac serial number is required!



It's for N	It's for Macintosh users and it's FREE!	and it's FREE!
Signal is the FF start your subs card to: Signal,	Signal is the FREE publication for Mac users. To start your subscription, fill dut and mail this card to: Signal, 207 Granada Dr., Aptos, CA 95003.	I use the following: 128K Mac
Name Company		Lisa Desktop/Workshop AppleTalk network LaserWriter Modem
City/State/ZIP Telephone		I'm a Mac ond user
Macintosh serial number: (ABSOLUTELY REQUIRED)	number: VIRED)	hardware developer dealer Other
My address is a residence business	MACS 8/8 I use a Macintosh. Please send me Signal at no charge. Signature bate	MACS 8/85 I me Signal at no charge. Date

Call Waiting Zapped

Put an End to Modem Frustration

by Tom Edwards

Y ou are just about to the last few sectors, as your buddy is transferring the latest and best of the public domain software, hot off of the MAUG. Thirty-three minutes of connect time, and just one more to go.

And then it happens!!! The disk seems to hiccup... your program jumps out of the "receive" mode... a dialog box pops to the screen... the message: FILE TRANSFER UNSUCCESSFUL. CARRIER LOST.

YUP! You are the 20⁴⁵⁵th victim of CALL WAITING SYNDROME. It's what happens to those of us with "call waiting", when your "smart" modem tries to answer a second call, while you are on-line with another call. You can always tell which computer/modem users have this "valuable feature" from the local phone company... its the ones whose phone case looks like it was driven over with the car, and the handset is in two pieces, more like the phones from the thirties.

Ma Bell to the rescue! There is a good chance that you can defeat this "feature", whenever you want, now. Here's what Ma told me to try:

- Prefix your dialing with 1170 (for pulse dialers) or
 *70 (for tone dialers).
- Continue by dialing the number that you want to reach.

After you dial the "zero" of this prefix, you will get a "fast busy" signal. Don't stop, just keep dialing right on through it. Ma sez that this will shut off the call waiting feature if the switching station serving your exchange has the proper equipment. When you hang up, call waiting will be reactivated for your next call, unless you cancel it with this perfix procedure again.

This same prefix can be used for those with 3-way calling that are already on line with a call but don't want to get that annoying interruption. Push the receiver button once, dial the prefix 1170 or *70 as appropriate to your phone, then press the receiver button once more to return to your call.

Since adding this prefix to all of the numbers that I dial by modem, I have not suffered from CALL WAITING SYNDROME.

How sweet it is!

か

An Interview with Andy Hertzfeld

Author of MacPaint and Software Wizard

edited by Paul Howe

The following is a summary of a recent Compuserve Conference with ANDY HERTZFELD. author of much of the Macintosh's internal software (MacPaint and parts of the Finder/System, ThunderScan). C.C indicates various Compuserve users asking questions of Andy, while A.H. indicates his responses. The questions have been reordered by topic. You may notice some inconsistencies as to release dates. Remember, Hertzfeld, as an interested party, can only give hints.

- C.C. I'd like to know what is happening with SWITCHER release.
- A.H. I'm currently on 4.0, which has been thoroughly tested and should be uploaded here and shipped to dealers before the end of the month. The Switcher supports a limited form of multi-tasking; applications have to be modified to take advantage of it. The new version of ThunderScan can scan in the background under Switcher now. I'm not working on it anymore until the fall. I'm planning some major enhancements to Switcher in the Fall (disk based partitions) and a few other things that are too ephemeral to talk about now. (ED note: disk base partitions could mean Virtual Memory - more programs than can actually fit in memory could be loaded. This would need a hard disk to work well. Since this conference Switcher 4.4 has been circulated).

The Competition

- C.C. With firms such as Atari offering a new, low-cost alternative to the 512k Mac, what effect do feel these new machines will have on Apple sales and the company in general.
- A.H. I have an Atari 520 ST and while I'm impressed with some aspects of it, in general I think it's nothing like the Mac software-wise. The net effect of low cost Mac imitators will probably be to push the price of the Mac lower, which is good for the customers, and maybe even good for Apple.
- C.C. What are your impressions of the Amiga, is it a more worthy competitor to the Mac than the Atari St
- A.H. I don't have an Amiga, but I played with one. It has significantly more capabilities than the Atari, but it will be priced a lot more expensively. The Amiga's sound capabilities are truly great, blowing away both the Mac and the Atari. I think software is what matters the most, and both Atari and Amiga are WAY behind the Mac in that regard. (Ed note: some local Apple dealers are thinking about selling the Amiga!)
- C.C. What is the state of Atari and Commadore software compared to the MAC's when new?

A.H. From what I've seen, both the Atari and Amiga software is in the same state Mac software was in in about early 1982; i.e., its got a long way to go.

Macintosh Futures

- C.C. the AMIGA (Commadore) and the 520ST (Atari) are both color. Any chance of the Mac having color soon
- A.H. Eventually be a color Mac, but not until the second half of 1986 at the earliest
- C.C. Is there any chances that we see a Color Mac before Jan 24 86? And also what about Screen buffer size?
- A.H. I don't think you'll see a color Mac anytime at all in 1986, really. I'm not sure what you mean about screen buffer size; I think there's a good chance you'll see a black and white Mac with a bigger screen and more dots in early 86. (ED: note that Andy is inconsistent on timeframe.)
- C.C. What would you envision as Apples next MAJOR move with the Mac, color, open box, or size of screen.
- A.H. I think color is the least likely of the things you mentioned. There are degrees of "open box"; it's certain the next Mac will be more open hardware-wise, but I'm not sure by how much. A bigger screen is real easy to do and it's likely that you'll see a variety of screen sizes.
- C.C. There has been much speculation about the next version of the MAC having a 68010 or a 68020 Processor. Comment on the possibility and are these processors capable of being compatable with the 68000 (upward).
- A.H. Exception handling is different on the 680010 and 680020 so there can be some compatibility problems. The new (128K) ROM will be compatible with both the 010 and 020 but everybody's applications may not be. The truth is that Apple has at least 3 candidates for the "next Mac" under development so its hard to say which ones will be for real. (Ed note: the Mac uses a Motarolla 68000 computer chip. The 680010/20 are newer, faster and more powerfull versions.)
- C.C. Is there any chance us number crunchers will be able to turn in our VAX's for a MAC with a co-processor soon
- A.H. I've seen machines on the drawing board that have a socket for the Motorola math chip; it's also possible to do a HyperDrive-type math chip product for the current Mac. (Ed note: a co-processor is a special computer designed to do scientific computations much faster than a standard computer chip.

→14



2 MONTHS FREE!

CONNECTMAIL

ELECTRONIC MAIL AND MESSAGE NETWORK FROM







- No charge to dial up—no charge for connect time
- Send up to 150 messages a month at no additional charge
- · Your new mail is highlighted each time you log on
- Special multi-message codes for companies and group users
- Send and receive messages 24 hours a day, 7 days a week

ORDER YOUR ELECTRONIC MAILBOX TODAY!

ONLY \$795 PER
(3 MONTH MINIMUM.)

OR 1 YEAR \$7495
PLUS 2 FREE MONTHS WITH 1 YR. SU

YOUR SUBSCRIPTION ALSO INCLUDES:

- · Free use of The Connection classified want ads
- Check your mailbox daily for "FINDERS KEEPERS" prizes
- Special money saving electronic coupons and sales alerts—exclusive to Connectmail subscribers.
- · 2 months free when you subscribe for a year

CALL 922-9000 NOW TO ORDER YOUR MAILBOX OR FILL OUT & MAIL ORDER FORM BELOW

NAME	ca particula esterimo, bies
ADDRESS	
CITY STATE ZIP	
PHONE	OR_
VISA/MASTERCARD #	_EXPIRES
CHECK ENCLOSED_	AMOUNT \$

Mail to: The Connection • 7375 Washington Avenue South Minneapolis, MN 55435

Andy Hertzfeld (Continued)

The New Finder/ROM

- C.C. Will the finder in ROM hurt those with non-Apple 512K and/or Hyperdrives? (ED. Note ROM = Read Only Memory this is where the Macintosh keeps often used instructions like the *Toolbox*. Apple is planning on increasing the size of the ROM from 64K to 128K.)
- A.H. The Finder will not be in ROM in the 128K ROMs. Most everybody will be able to easily upgrade to the 128K ROMs since all Macs have socketed ROMs.
- C.C. Just what will be on the 128K ROM? Why was the System and Finder disk-based? Time limitations?
- A.H. The Finder is disk based because we knew we didn't have it right yet. There were also severe space limitations. We tried to put the most important stuff in the ROM. By the way, they're out of space on the 128K ROM now and might have to leave some planned stuff out. It's funny how you never have enough space.
- C.C. What performance improvment is probable with new ROMS and where?
- A.H. The resource manager is the single place that was speeded up the most. Beleive it or not, but QuickDraw was significantly speeded up, too, as well as a bunch of other places. It's difficult to say since every application does things a little differently, but new ROMs coupled with the new 3.5 drives cut application launch time at least in half, usually more. (Ed note: Resource Manager- controls getting the various items needed by a program/application like fonts, instructions into the Mac from the disk drive, and taking them out of memory when no longer needed. QuickDraw is used to write text and graphics to the screen.)
- C.C. If I do my own [memory] upgrade is Apple going to support me on the ROM upgrade and do you have any idea what the approx cost of the ROM upgrade will be?
- A.H. If you upgrade to more than 512K, make sure to keep the screen at the top of the address space. Apple will try to sell the ROMs as cheaply as they can. Since the ROMs will cost Apple around 20 dollars, I would expect them to sell for around 60 dollars or so.
- C.C. Can you reveal any specifics about the contents of the additional space in the new ROM(s) - will system resources like Chicago FONT, MDEFs, WDEFs, CDEFs be in silicon?
- A.H. The new ROM isn't frozen yet, so things are subject to change, but I would expect the Chicago font (but no other fonts), WDEF 0, MDEF 0, CDEFs for buttons and scrollbars and most of the PACKS to be in the ROM.

Doing You Own Programming

- C.C. In your opinion... What is the best development system for the Macintosh, and WHY?
- A.H. A lot depends on what languages you like and your personal working style. I write all my programs in assembly and use the MDS system (Macitosh

Andy Hertzfeld (Continued)

Development System) I expect the forthcoming "MPS" system from Apple (which includes a C and Pascal compiler, as well as an assembler) to be the most popular environment if it ever gets finished.

C.C What are your thoughts on NEON! by Kriya

Systems?

A.H. Neon is an interesting idea, but good language systems take a long time to mature and theirs is still in its very early stages. I think it's not yet a practical environment for commercial programming, but is interesting for fun. (Ed note: Neon is a programing language related to Forth.)

C.C. A simple question. What is the status of MacBASIC and is Donn Dennman still writing it.

A.H. MacBasic is all finished (finally). The only hold-up now is Apple trying to decide if its worth releasing it, given the fact that MicroSoft Basic has gotten fairly good and the headaches involved in maintaining and supporting a new programming environment. (Ed note: recent articles indicate 27,000 copies of books on MacBasic have been published - MacBasic is still on HOLD. Word from other sources suggests they may never release it.)

C.C. Will the Lisa SmallTalk find its way to the Mac?

- A.H. Lisa SmallTalk should be available for the Mac, since Dan Ingalls, the world's leading SmallTalk expert, has been working real hard on it. I've seen it running on a 512K Mac, but I'm not sure what the marketting plans are. (Ed note: prerelease versions are available from Apple for \$50.00 on seven! disks).
- C.C. I'm shopping for C compiler...can you recommend one?
- A.H. Most people I know use the Consulair C compiler. It does not generate very tight code, but it is fairly mature and is well interfaced to the Mac system. Apple has a C compiler that should be released as part of the MPS development system, but its currently vaporware.

C.C. Latest release of Consulair Mac C generates code about as good as any of the other native Mac Cs but

it doesn't come close to Workshop C.

C.C. Are there any planned updates to MacPascal that will make it easier to use the toolbox or that will permit

more sizable applications.

A.H. If you mean the interactive Pascal from Think Technologies, yes, they are currently working on a "developer's version" that should be quite practical for writing large applications. It will have the option of generating native code, while retaining it's unique interactive flavor. Last March they said it would be ready in the fall, but I haven't heard about it recently.

Disk Drives

- C.C. What do you know about Haba's double sided drive and why isn't any body at Apple rushing to get one out?
- A.H. I haven't seen or tried Haba's drive, but I would avoid it as its sure to be different than Apple's. Apple's double sided drive is great, it seeks and changes speed much faster than the old one. They are rushing to get it out, but they are a big company so things often seem to move slowly.

- I would expect it to be available around the end of the year, but don't quote me.
- C.C. Any word on the 20 meg hard disk that plugs into the disk-drive port, how can we get info?
- A.H. Apple has announced the 20 meg drive that plugs into the disk port. They realize it's very important to get it out ASAP so they're working real hard on it now. It will use the new hierarchical file system loaded in RAM, because it will be out before the new ROMs are available. A consequence of that is it will only run on 512K or bigger machines. More info should be available in the fall. (Ed note: the hierarchical file system is needed to allow more files on a disk with out slowing down the Finder. By connecting the new disk drive to the external disk drive port, it should be faster.)
- C.C. Apple has announced an October shipping date for the 20 Meg drives... did you mean earlier then that the ROMs would be out after that.
- A.H. Yes, the hard disk is currently supposed to come out before the new ROMs, so it will run the new file system in RAM
- C.C. Do you know when and how info will be available about the new hierarchical file system? Will software supplement purchasers be getting a new File Manager chapter of Inside Macintosh? THANKS in advance!
- A.H. Info on the new file system should be available to developers through the normal channels pretty soon. The new file system is compatible with the old except for people who follow the FCB list (the FCB, File Control Block, size is different) or read the directory themselves. Most software will run just fine because the "vRefNum" will mean the working directory instead of default volume
- C.C. Will there be an upgrade to replace the internal drive with Apple's double sided drive (800K)? I've heard there might be heat considerations.
- A.H. Yes, there will be an upgrade to replace the internal drive. It will be optionally bundled with the new ROM so you only have to open the Mac up once. It will be available in the same time frame as the new ROM
- C.C. Will there ever be an Apple Profile that can hook up to both the Mac and Apple II.
- A.H. I think the new 20Meg external drive from Apple will be capable of doing that, since it interfaces through the IWM (Integrated Woz Machine), which is common to both Mac and the Apple][. All it would take is a driver for ProDos and probably some ProDos -> Mac conversion software that I think they're already working on. One of the advantages of the recent re-organization is that things like that should be much more likely to happen.
- C.C. I just heard a rumor that a 24-pin Imagewriter II with 2-3 times the throughput of the Imagewriter is in the works. Care to comment?
- A.H. Yes, it's true, except I'm not sure how many elements are on the printhead. It is considerably faster and does have much nicer print quality.

Well, lots of grist for the rumor mill. By the time you read this Apple will have had a Dealers meeting, presumably to brief them on upcomming announcments. Perhaps Apple will have told the world at the MacFest!

October DOMs



by Steve George

Several of my pleas for help regarding both Public and Personal Domain software are beginning to pay-off. We received the following 3 Personal Domain disks from Ed Thompson of the Denver Apple Pi user group. In return they got 3 of ours. Sometimes its so easy, other times so hard. A couple of groups haven't bothered to respond at all; even after 5 months, 2 letters, sending them disks, etc. In the long-run however, they will be the ones to suffer. Which is too bad because we're all in this together. The more we help each other, the more we enjoy our association with a user group (ours or THEIRS). EOS - end of sermon.

Due to the fact that this is the October issue and we have new people joining Mini'app'les at such a rate, I think it might be important to review the following (in no particular order). We do not knowingly publish any software that is copyrighted without prior permission of the author or copyright-holder. If you notice anything that seems to be contrary to this stated position, please bring it to our attention so that we can rectify the situation. Personal Domain disks are fully copyrighted by the author/company stated and we are encouraged to make the software available to our membership. The member price of the disk is not the purchase price (unless the author requests no additional fee). Normally, an additional fee is requested and the additional payment is sent directly to the address given on the disk. Payment makes you a legal user of the software. Additionally, sometimes you may receive the latest version, notice of program updates or new products, full documentation, etc. These are benefits of having been honest enough to pay for the software if you continue to use it. As always, we are interested in programs that you have written which you think others may enjoy or find useful, too.. They needn't be 'professional' but it sure helps if they work (!) and have some sort of documentation included (a text file, profusely REMed BASIC programs, etc). Whether its your first attempt (we all start somewhere!) or a finely-tuned, optimized-code routine, we're here to see that your creations see daylight. EOL - end of lecture.

Master Chart (DOS format)

Ever needed to create a quick Bar, Pie or Line Chart? Wouldn't it have been nice to have some way to write on the chart? How about custom characters/symbols? Then there's always custom/automatic color fill. Want 3-D Bar or Pie Charts, hey, no problem!

This can be a handy little charting package. Its worst fault is that data points must be entered from the keyboard and Pie charts seem to be limited to 11 data entries. There is no provision for reading a Text file or DATA statements. Oh, sure, you can change it to do those things, but as it comes, whuh. Oh, there isn't a printer dump built-in either. If you have a graphics interface card for your printer it may be a map, I don't know about such things, yet. But, the

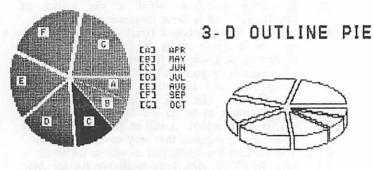
attached charts were saved to disk from within the program and subsequestly 'dumped' using The Printogrpher; so it can be done (even with a 'dumb' interface like mine).

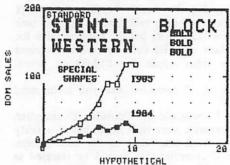
The program is menu driven and 'help screens' are generally available. The startup screen says that what you get for paying for the program is the documentation! Doc would definitely help you get under way. But as you can see, even without the doc, it is very useable.

Master Chart (c) 1983 Spectral Graphics. Requested fee: \$17.95.

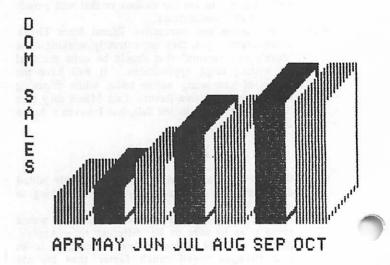
Examples of Chart Output:

2-D AUTO COLOR FILL PIE





3-D SOLID BAR CHART





Continued

Eve Terminal Program v2.1(DOS format)

A communications package for the][,][+, & //e for use with the Hayes MicroModem II or IIe. (Also appears to work well with MM compatibles like the ZOOM/Modem IIe.) Supports most 80-column cards including the M&R Sup'rTerm and Apple 80-col card, and the shift key mod on the][&][+. Supports XMODEM protocol.

Features supported:

- · Originate and answer modes.
- · Pulse (or TouchTone with MM IIe).
- · Full DOS facilities, incl new 'LIST' cmd.
- Send/Rcve: Text, A'Soft, Integer or Binary files using XMODEM file transfer protocol.
- 'LIST' a Text file to modem using XON/XOFF or Send Lines Protocol with or without linefeeds, to Printer or to Screen.
- Capture incoming Text data to buffer (holds over 27,000 characters) and SAVE to disk or dump directly to Printer.
- Create messages off-line, SAVE to disk, then send once on-line.
- · Common data formats: 7/E/1 & 8/N/1.
- · Simple user interface with multiple error trapping.
- Full control of linefeeds, upper & lower case chars, and duplex.
- Full 80-column support (80 col card optional).
- Works with Pronto-DOS, Diversi-DOS, and DAVID-DOS

Full documentation is on disk including a 'Reference Card'. Bob Baker, the author, says that a newer version with significant improvements is available to purchasers of the software. He's also working on one for external modems (SmartModem compatibles) and the Super Serial Card interface. [ENCOURAGE HIM!! Apple //c owners could really use someting like this!]

Eve Termial Program (c) 1985 MicroApplications, Inc. Requested fee: \$30.

[PS- If you know of a Personal or Public Domain communications package which will work with an external modem and a Super Serial Card, we'd sure like to hear about itl.

The Font Machine (DOS format)

If you are lucky enough to own one of the newer types of printers, you may have the ability to 'download fonts'. This disk will allow you to create an alternate character set within your printer. Switching between the two sets

(normal/alternate) can be done within software, your word processor, etc.

Version 1.5 of TFM works with the following printers: Apple DMP, Epson FX series, and Prowriter 8510A. The interfaces supported are: generic parallel, Grappler/+, and Apple Dumpling. There is an outline of a driver for the Super Serial Card too.

Twenty fonts are included on disk, including: Roman, Cyrillic, Upside Down, Gothic, and Outline. Ten help screens complement the package.

The Font Machine (c) 1983 CE Software. Requested fee is \$15.

Examples of Font output:

The GOTHIC font.

!"#\$%&'()*+,-./0123456789:;(=)?@AB@D@F The GRAPHIC font.

#\$ ¢ x+ - ÷0123456789**¢•□□□□□△₄●○**\
The GREEK font.

!"#\$%&'()*+,-_/0123456789:;<=>?'AΒΓΔΕΦ The KATAKANA font.

。「」、・ヲァィゥェォャュョッーアイウエオカキクケコサシスセソタチッテトナニ The MIRROR font.

FEDCBR@?>=(;:9876543210/.-,+*)('&%\$#"! no by a substitution of the outline of the

!"#\$%&'()*+,-./0123456789:;(=)?@@@@@P The PINOCCHIO font.

!"#\$%&'()*+,-./0123456789:;«=»?@ABCDEF !"#\$%&'()*+,-./0123456789:;<=>?@ABCDEF The BYTE font.

"#\$%&?()*+,=./0123456789:;<=>?°NBCDEF
The COLOSSAL font.

!"#5%&'()*+,-./0123456789:;<=>?@ABCDEF The COUNT font.

!"#\$%&'()**,-./0123456789:;(:)?@ABCDEF
The CYRILLIC font.

|!"ъ\$Ы&'()ЩЭ,-|/0123456789щэЦ=ц?ЬАВЧДЕФ The ESPERANTO font.

!"#\$%&'()*+,-./0123456789:;<=>?ĝABCDEF The SLANT font.

/"#\$%&'()*+,-*\/0183456789:;(=)?*R&CDEF* The STOP font.

!"#\$%8'()*+,-./0123456789:;«=»?@ABCDEF The UPSIDE DOWN font.

!"#\$%&"()*+,-./0123456789:;<=>?@RBCDEF

Looking forward, the next few months are going to be exciting. Seven disks are being reviewed that will be released over the next 2 months! The quality of the software looked good enough that I felt 'formal' reviews would help us all better understand what they're all about. Look forward to: pre- & elementary school-level educational games, a teacher's grade book, more help with amper-routines, lots of LOGO stuff, more EAMON (the adventure never ends), etc, etc. WHEW!! EOS - end of steve.



DOM 34 Bug

by Thomas Ostertag

I recently received a call asking about one of the utilities that I wrote on DOM 34, WPL.SECTORS, that determines the number of free sectors on an AppleWriter disk. The problem comes when Free Sectors on Disk is chosen for the DOM disk. When I wrote the utilities, there were no comment lines in my catalog. The Catalog Logo has some "files" with 000 sectors in them to pretty the catalog. My WPL program gags on the 000 and hangs. You can fix the bug fairly easily. Load WPL.SECTORS and insert several lines as shown below.

Here is the section to be altered as it is:

```
loop2
pls#&@(x)@&(&n=$d
psy $d
psz +(y)
psx +1
pgo loop1
lend
p...
```

Here is what the section should be:

```
loop2
pls#&@(x)@&(&n=$d
pcs/$d/000/
pgo nullskip
psy $d
psz +(y)
nullskip
psx +1
pgo loop1
lend
p...
```

Add the lines and save the program under the same name. The program will now determine the number of free sectors, but the comment lines in the catalog will be counted as files, which they are, so to speak. Have patience with the program. It will take about 90 seconds to determine free sectors on the Master. Anyway, this is a good excuse to get in there and play with WPL.

By the way, if anyone is running the utilities in 40-columns, would you please give me a call. (488-9979)



APPLEWORKS Mailing Program

A Review

by Eugene Whitehouse
Published in SOFTDISK Number 44
Submitted by Tom Ostertag

There is a terrific program that does a true mail/merge on AppleWorks files, and does it very well. It is called the APPLEWORKS Mailing Program, and is distributed by the International Apple Core. The program itself was created by Apple Computer, Inc., and is distributed exclusively by the IAC.

This program enables you to place different names and addresses at the beginning of the letter and to customize lines and insert specific information within the body of the letter. It will merge as many records as you have in your data base and will close up lines if some of your records do not contain a certain entry.

Everything looks exactly as it would if printed from APPLEWORKS, and the program is used from APPLEWORKS-style menus. Full documentation is provided on the disk, in three APPLEWORKS word processing files, and the whole program is unprotected and written in Applesoft BASIC!

In short, you take your data base file and print it to a text (ASCII) file on a disk (from APPLEWORKS). Then you take your word processor file, put [MERGE] and a number wherever information must be inserted from the data base, (each insertion can be different for each letter printed), then you print the letter to the disk. When you run the mail/merge program, you give it the names of these two files, and the number of records in your data base, and it does the rest, flawlessly!

I have no reservations in recommending this program to anyone who is looking for an APPLEWORKS mail merge, and it costs only \$30.00, or \$25.00 to members of the International Apple Core. Their address is 908 George Street, Santa Clara, California 95054. Orders are accepted at (408) 727-7652 with charge cards. I hope you find it useful and helpful as I did.

N.B. Peter Gilles is collecting names of people who wanted this program.

Apple //e - //c **RAM Board** Comparison

by Dick Marchiafava

In the last 6 months high capacity memory boards have become more important as expansion devices for Apple //e. One reason is the modifications which the AppleWorks expand utilities furnished with these boards perform on working copies of AppleWorks. Another reason is the falling price of memory chips which allow "after manufacture" addition of memory to these kinds of boards. Also the capability of using these huge memories as RAM drives to speed up operations with other software, where possible.

In the fast moving micro-computer industry developments and new items are released at a furious pace. Once available, improvements to the new items are made at a pace no less rapid.

Some new items deserve a detailed examination. This can be difficult because of the rate of change which occurs. However, I will attempt to make comparisons of features and software for Applied Engineering's RAMWORKS and Checkmate Technology's MultiRam. Until these products stabilize I will attempt to keep current the comparison chart. Keep in mind that the comparison is only valid as of today, Sep 2, 1985, and is not guaranteed to be absolutely correct.

The companies whose products are being compared make memory expansion cards for the Apple //e and //c. \Rightarrow

Mini'app'les Software Disks

2 Great Disks:

- Mini'Scrip Checkbook Financial System MSD #1. A home and small business checking and accounting package by Leighton G. Siegel.
- Higher Text Extensions MSD #3. Contains Higher Print by Dan Buchler, Message Maker and Charles C. Boody 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. 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 by mail from Terry only, for \$15, or Schoeppner for \$17.50. See classified ads.

Apple //c R	AM Board	Comparison
Feature	Z-RAM //c	MULTIRAM C
		Card
Memory size	256K	265K
Expandable to	512K	512K
Run CP/M	Yes	No
AppleWorks Desktop		
@ 256K	229K	229K
@ 512K	413K	413K
Suggested retail @ 2	56K	
	\$399.00	\$329.95
@ 512K from Mfg.*	* \$479.00	\$429.95

^{**} RAM installed by a dealer may result in a lower cost.

The Z-80 microprocessor on the Z-RAM results in a price which is \$69 to \$49 higher. This is a good price to pay to be able to run CP/M. It is an additional cost if one does not want to use CP/M.

The other characteristics of these boards are similar to the boards for the //e. See below.

Apple //e RAM Board Comparison

	IWORKS //e	MULTIRAM_//e
Memory size	512K	768K
Memory with add-on	1024K 2.5M (announced)	1536K (to be released) May be part of RGB option board
80 Column	Yes	Yes
RGB Option	Yes	To be released,
Co-processor Port	Announced	September release
Warranty	5 year	5 year
Memory mapping	?	PAL, up-gradeable
Appleworks Expand	Included ±	Included

AppleWorks Capat	oilities At 512K	•
Load entire program	Yes	Yes
Word processor	5100 lines	2250 lines
Database	5000 records/file	5350 records/file
Spreadsheet	RAM dependent, bug in expand	RAM dependent
Expand Desktop based	may limit size ‡ Yes	Yes on available memory
RAMDISK software	\$29.00	Included with expand disk
ProDos, Dos 3.3	Yes	Yes
PASCAĹ	Yes	In alpha development
CP/M RAMDRIVE	\$29.00	In beta development
Self test RAM	No	Yes, included
Self test 80 Col	Yes	Yes, included
RAMDRIVE capable of Slot/Drive emulation	Yes	September release
Visicale //e expand	\$29.00	No. Use DIF files to

The board cost is similar for the basic cards for the Apple //e and remains the same up to 512K of dealer installed memory. With 768K of memory installed the MultiRam would have a cost ratio advantage of 3 to 4 per kilobyte.

Version 4.1 of AE's Expander disk has a bug which does not allow the user to choose loading all of AppleWorks or not. It modifies the program to load it all regardless of user choice. This version will not recognize and list correctly the record names in files loaded from QuickFile. It lists about half of the record names. A bug in the expanded spreadsheet limits spreadsheet size at about Column BJ.

Blinded by the Light

A Review of D.R.S./Lifesaver

by Steve George

 $oldsymbol{H}$ ave you ever read a software review that praised a package so much that you thought for sure the reviewer must have gotten sunburned? That it was described in such glowing terms that surely the reviewer was blinded by the light?

Well, I've purposefully not mentioned a particular package before this, because my enthusiasm for it has always over-powered my objectivity. Still the case, but apparently the market place hasn't been too kind to it, so here goes... but first, break out the sunglasses and lotion.

What higher praise can you give a piece of software than to recommend that others purchase it? In just the past 3 months I've recommended that two friends buy a copy (they did) of Disk Recovery System (Sof-Sys) also sold under the name Lifesaver (MicroLab). Apparently it didn't catch on like it really should have, because its hard to find it. If you do find one, carefully remove the dust from the package and guard this disk with yourlife! Because it will repay the favor many times.

I bought D.R.S. when it was first available through Sof-Sys and it had a list price of \$100. Even at that price if it saved your life once or twice it was a bargain. But now I guess it lists for something like \$24.95 (MicroLab) and can be had for less (if you can locate it).

So what do it do? Well, it will back-up unprotected disks which are worn, have a bad VTOC, bad T/S lists, exhibit pronounced I/O ERRORs, etc. Basically if your last hope is to re-INIT a disk and re-key inyour 20,000 name data base, you're a candidate for D.R.S./Lifesaver! If your one-and-only disk full of vital info wasn't centered in the drive when you INITed it and SAVEd your data, you're a candidate. If you've ever hit RESET while writing to the disk, you're... You get the idea. Its for all of us who ever have troubles with our standard Apple disks!

It won't work with protected disks, but what it does for DOS 3.3, ProDOS, Pascal, CP/M, Fortran disks is just short of miraculous.

D.R.S./Lifesaver (itself well (?) protected), asks whether you have drives connected to slot 6. When you insert a blank disk/erasable disk when requested, it determines the speed of the available disk drives. Then you insert the damaged disk and it compares the speed at which the damaged disk was recorded with the current speed of your drives. Then, depending upon the results, you're asked to insert the damaged disk into a specific drive and the blank disk into the other. This should be the best combination and produce the best results when recovering the bad disk! Even 'off-center' diskmay be recovered.

Apple disks are what are termed 'soft-sectored'. What this generally means is that the information on the disk can virtually appear anywhere. So, what is needed is an orderly means of determining what is being read from the drive. Much of the overhead on the disk is devoted to telling the operating system (DOS/etc) things like: "where am I on the disk".

When you SAVE your program to disk, it is surrounded by pieces of information which provide the operating system with all this important stuff. If some of it is lost, you'r dead in the water. Enter our hero: D.R.S./Lifesaver. It goes out looking for the important stuff like nobody's business! It will try its darndest (going as far as 2.5 tracks on either side of where the data SHOULD be in .25 track increments) checking things out for you. With a really bad disk, this can take some time, but the results can certainly be well worth it.

To wit: the two September IAC disks were 'blown' and had notes attached to them when I received them as Software Director. The notes indicated that the disk were unusable: they wouldn't boot, wouldn't CATALOG, and using a T/S editor, I wasn't even able to locate a good sector! Well, D.R.S./Lifesaver did its thing, and brought them both back to life.

Now don't get the impression that it can recover everything. It does have some limitations, but overall its an excellent piece of software. In cases where it can only partially recover the data, it will give the file a letter grade of A-F as part of the filename. Thenits up to you to LOAD/BLOAD the files and eyeball 'em for errors.

Now for the exciting part. (What? enough?). D.R.S./Lifesaver will 'create' some files where a T/S list exists but has no filename associated with it. This usually happens when a file is DELETEd and another one is subsequently SAVEd 'in its place'. HA! The operating system (DOS anyway) will probably over-write the CATALOG entry, but it will also probably save the new file's data at a new location on the disk. Therefore, you will have a T/S list without a corresponding filename, and D.R.S./Lifesaver will create a catalog entry for you. Recently I've witnessed some very interesting 'recovered' files which weren't in the CATALOG (as even DELETEd

Ok, OK!! You can remove the sunglasses now. Wipe the lotion off before you reach for your D.R.S./Lifesaver disk, too!





Mini'app'les Budget -	FΥ	1985/1986
-----------------------	----	-----------

Approved July 9, 1985

Revenue				
Membershi				
New	• • •	\$8,500.00		
Rene	wal (1100 @\$12.00)	\$13,200.00 >\$	21 700 00	
Advertisi	nα		\$8,700.00	
Software	119		10,	
	e // DOMs, IAC DOMs, and other Public Domain Software	\$5,000.00		
	e // MSDs	\$210.00		
MacD	OMS and other Macintosh-related Software	\$8,000.00		
	Sales Tax	(\$749.00)		
		>\$		12 061 00
0	Tuesday	•	>\$	42,861.00
Operating	Expanses			
Comowal a	nd Administrative (President)			
	Postage, mailing, duplication, telephone		\$125.00	
	Insurance, liability		\$900.00	
	Membership (e.g. IAC)		\$100.00	
104	Post Office Box Rent		\$50.00	
	Board/Staff Appreciation Dinner		\$400.00	
106	Stationary/Business Cards/Name Tags		\$300.00	A1 A75 AA
Comerci M	Instinue and Chaus (Ilian Bunsident)	•	>	\$1,8/5.00
	Meetings and Shows (Vice President) Postage, mailing, duplication, telephone		\$75.00	
	Meeting sites (12 per year @\$150.00)		\$1,800.00	
	Interpreter support at meetings (12 per year @\$30.00)		\$360.00	
	Shows and conventions (6 per year plus TCCS)		\$1,200.00	
	• • •		>	\$3,435.00
	(Treasurer)			
	Postage, mailing, duplication, telephone		\$50.00	
	Bank charges		\$100.00 \$500.00	
303	Auditing/Tax Preparation		>	\$650.00
Secretary	,		•	4030.00
	Postage, mailing, duplication, telephone		\$100.00	\$100.00
	tions, Membership, and Publicity (Communications Director)			
	Newsletter production/distribution		\$20,765.00	
	Newsletter editor expense including DOMs for contributors		\$240.00	
	Membership processing Printer maintenance		\$3,278.00 \$240.00	
	Advertising expense		\$390.00	
	Transfer to Capital Accounts (Kitty for Laser)		\$2,700.00	
		•	>\$	27,613.00
	Production and Sales (Software Director)			
	DOMs, IAC DOMs, and other PDS Production, media, and disti	ribution	\$2,066.00	
	Acquisition of public domain software		\$640.00	
	Software Director expense indluding DOMs for contributors MacDOM production and media		\$250.00 \$3,750.00	
	MSD production and media		\$16.00	
500	· · · · · · · · · · · · · · · · · · ·		>	\$6,722.00
Hardware	Support and Resource Network (Technical Director)		_	
701	Postage, mailing, duplication, telephone		\$50.00	
702	Cables, connectors, misc. hardware		\$100.00	
	Maintenance contract on equipment		\$300.00	
	Insurance on equipment Bulletin Board ongoing support		\$200.08	
105	partectu posta oudorud subbott		\$500.00 >	\$1,150.00
Technical	SIGs (SIG Director, Technical)			41,130.00
801	Macintosh/Postage, mailing, duplication, room rental, mise	c.	\$400.00	
	Apple /// - memberships, correspondence, etc.		\$100.00	
804	Director expense, postage, mailing, duplication, membersh		\$50.00	
	lana CTCa (CTC Discapes 2-11-11-11-11		>	\$550.00
	ions SIGs (SIG Director, Applications)		6100 00	
	Business/Mailing, duplication, room rental, misc. Investment/Mailing, duplication, equipment rental		\$100.00 \$60.00	
	Director expense, postage, mailing, duplication, membersh:	ips	\$50.00	
			>	\$210.00
	(Branch Director)			
	Director expense, postage, mailing, duplication, etc.		\$50.00	
	All/New DOM releases All/Mailing duplication flip shorts at 46550 00/hours		\$300.00	
1004	All/Mailing, duplication, flip charts, etc. (@\$50.00/brane		\$250.00 >	\$600.00
				3000.00

17

\$42,305.00

Total Expenses

CLASSIFIED

These ads are provided free to members for non-commercial use, and are limited to 10 lines. Commercial ads will be charged at 20 cents/word for members or 40 cents/word for non-members. Contact the Advertising coordinator.

DEADLINE for ads is the second Friday of the month preceding the month of publication. Ads will be repeated on request only. Also, please notify editor if item is sold. Unless otherwise noted, all

Extended 80 column cards by Applied Engineering - \$89.95. Software Plus.....560-4077

items are For Sale

Saturn Systems 32K RAM Board for Apple][or //e. Includes manual and software for moving DOS, RAM disk and bank switching; \$50 or make offer. Eric.....822-8528

Computer carrying case for Apple][or //e, two drives and small printer; \$35. Continental's "Home Accountant"; \$20. Jim.....489-4713

Brand new half high disk drive; \$110. Acoustical moem & RS232 cable; \$50. WANTED: Bare Apple][+ and serial card for Apple][+ or //e.

......341-4333 (work)

Timex/Sinclair 1000 Computer, 16K RAM module and 12 programs; \$40 or make offer. Eric.....822-8528

Distar half height disk drive. Perfect for second drive. \$90 or best offer. Mark......698-4285 (eves)

FREE: Your classified ad . As a member of Mini'app'les, you may run a classified ad each month for non-commercial purposes. Call Eric 822-8528

ORDERING DOMs or MSDs

A reminder that Disks Of the Months (DOMs) and Mini'app'les Software Disks (MSDs) are available by mail: DOMs at \$6.00 each; MSDs at \$17.50 each. MacDOMs at \$9.00 each.

Send your order to: MINI'APP'LES DOM's PO Box 796 Hopkins MN., 55343

Attention DOM Sales Most DOM's and all the MSDs are available at club meetings
Because of the volume of disks
distributed, they are not tested.
Club members are asked to make every effort to get the DOM or MSD running. For example, occasionally the DOS on the disk will be bad, but it will catalog OK and one can run the programs. Master Create on your System master disk will fix-up the DOS. Of course, if you have a disk with bad programs, we will cheerfully replace it!

Continuing Service for Mini'app'les Members by Chuck Thiesfeld

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

Make up a package containing the following:

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. 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.

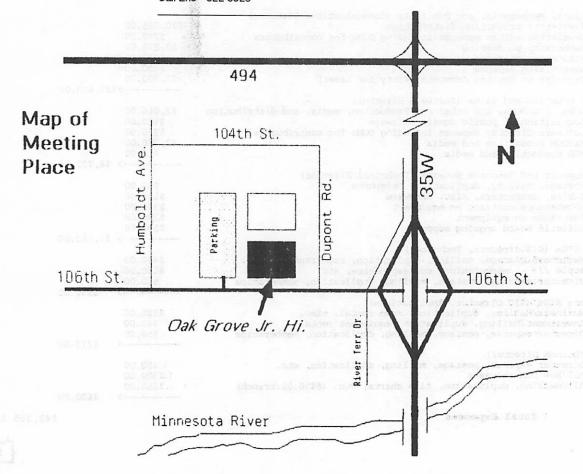
5. \$1.00 copying fee per DOM or disk.

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. In-complete packages will not be returned. DOMs 1 thru 29, except 18, EAMON #3, and 8 Pascal disks are currently available. Mini apples Software disks (MSD) are not available! General questions about DOMs should be addressed to Steve George.



EPSON®

Buy now before the Epson price increase takes effect!



We will not be undersold on Epson Printers.

Epson LX-80	\$249
NEW LX-90	\$254
FX-85 (W/NLQ PRINT)	\$359
FX-185 (W/NLQ PRINT)	\$479
JX-80	\$489
NEW! DX-10 (Daisy Wheel)	\$249
NEW! DX-20 (Daisy Wheel)	\$338
NE LQ 1500	\$899

Prices reflect cash discount. Sale prices subject to quantities on hand. Quantities are limited. Expires 9/30/85.



Lifetime warranty

Over the counter replacement

ELEPHANT BACK TO SCHOOL SALE

- Buy 10 disks and get a free eleventh disk containing demo software from CBS.*
- Mail in rebate entitling purchaser to \$5 or \$3 back depending on program purchased.* (Rebate for CBS software)
- Double the rebate by purchasing a second box of Elephants.*

EMS#1 SS/SD ONLY \$1199/box with coupon EMS#5 DS/DD ONLY \$1699/box with coupon

Stop in for a FREE Elephant Bookcover †

*Specially marked boxes only

Expires 9/30/85

†While supply lasts. One per person.

CITY DESK COMPUTER WAREHOUSE

164 North Blake Road, Hopkins, MN 55343 (612) 933-1771

Hours: M-F 9:30 AM-8:00 PM Sat. 9:30 AM-5:00 PM Sun. Closed (During Summer)

Fast, low cost delivery available on all products.



YAUKABIN PRODUCTIS

(612) 593-1503

GBAPTIES PERFORVEAS

Print Shop \$41.95 Print Shop Graphics #1 \$21.95 Print Shop Graphics #2 \$21.95 Newsroom \$39.95 Newsroom Clip Art #1 \$23.95

TIMEMASTER

by APPLIED ENGINEERING
The most compatible clock for your Apple

\$99.95

SPELLWORKS

by FOLKHOED LOTE SYSTEMS 90,000+ spelling checker/merge for Applew better than Megamerge at half the price

\$41.95

COMPUTER SHOW SPECIALS

Ramworks, 256k, 80 col

\$209.95

Back Chairs

\$19.95

Rainbow Color Paper Pack \$12.95

Color Ribbons = Epson98, Imageuriter \$755; Central Okidata \$559

ACCESSORIES

Hot Links-parallel converter for IIc/Mac Grappler C-parallel converter with Fx Twinport II - 2 zero force 16 pin connects \$27.95 \$31.95 Newport 16 pin/9 pin connects 11999111999999999999911199911

APPLEADOKS MODIFIER FOR IT EXTING IT - THU GHT APPLES ILLOOK PROPILING ETUTOR APPLECAT ING BAKU AKKEN SYSTEM \$41.95 \$71.95 \$41.95 \$222.95

APPLEWORKS - CALL APPLE IIE, MACS, IBM

CALL FOR PERSONAL ATTENTION

VISA*

46::::646::::

RECREATIONAL

Gato Spectrum \$31.95 Summer Games II \$31.95 Flight Simulator II \$39.95 Sky Fox \$33.95 Adventure Construction \$41.95 Sargon III \$38,95 Suspended \$41.95



SEE YOU AT THE

NOVEMBER 3, 1985 BOOTH

Mini'app'les Box 796 Hopkins 55343 MN

Address Correction Requested

Bulk Rate US Postage

Paid

Hopkins, MN Permit 631