mini'app'les

Apple Computer user group newsletter

Volume XII No.1 January 1989

Calendar of Meetings and Events

WHO	WHEN	WHERE	WHAT		
Apple II Users	Wed. Jan 4				
	7:30 pm		11000 11		
Mac Users	Thur. Jan. 5 (6:30) 7:00 pm	Hennepin County Library, Southdale Branch, 70th & Xerxes, Edina, MN	Presentation Passport Steven C. Vetter—Notes 14 & 4		
Mac Computer Art & Design Group	Jan. Recess	Resume Feb. 13	Note 7 or call 870–3268 for most current meeting info (recording)		
Microsoft® Works™ S.I.G.	Wed. Jan. 10 7:00 pm	Edina Library—50th and Hwy 100 Edina, MN	Note 13		
The Smalltalk Group	Wed. Jan. 11 7:00 pm	250 Sa Milton St. St. Paul, MN	Programming in Smalltalk Note 10		
Board Meeting	Thur. Jan. 12 7:00 pm	Brookdale Hennepin Area Library 6125 Shingle Creek Pkwy., Brooklyn Ctr.	Members welcome, Note 1		
Fourth Dimension™ Group	Mon. Jan. 16 7:00 pm	Hennepin County Library, Southdale Branch, 70th & Xerxes, Edina, MN	Note 2 Small Meeting Room, 2nd Floor		
HyperCard™ Group	Mon. Jan. 16 7:00 pm	Hagen Office Equipment 801 W. 77-1/2 St., Richfield, MN	Note 4		
Beginning Macintosh™ Programmer	Tues. Jan. 17 7:00 pm.	Hennepin County Library, Southdale Branch, 70th & Xerxes, Edina, MN	Note 2 Small Conf. Room, 2nd Floor		
MacCAD/E User Group	Tues. Jan. 17 7:00 pm.	Heath/Zenith Computers Shady Oak Road, Hopkins, MN	Note 8		
Apple IIGS S.I.G.	Jan. Recess		Note 12		
Mac Desktop Publishing SIG.	Wed. Jan. 25 7:00 pm	First Tech Computer 2640 Hennepin Ave., Minneapolis	Note 3		
AppleWorks© S.I.G.	Thur. Jan. 26 7:00 pm	Murray Junior High School 2200 Buford, St. Paul, MN	InvestWorks? TimeOut Paint? Note 1		
Mac Novice User Group (Date Change for Jan.)	Mon. Jan. 30 7:00 pm	Highland Branch Library 1974 Ford Parkway, St. Paul, MN	Note 9		
Northwest Branch	Tues. Jan. 31 7:00 pm.	Rockford Road Library 6401 42nd Av. N., Crystal, MN	Macintosh Demo—Tom Lufkin Note 6		
Apple II Users	Apple II Users Mon. Feb. 1 St. Louis Park Sr. High School Note 9				
Mac Users Thur. Feb. 2 Hennepin County Library, Southdale Notes 14 & 4		Notes 14 & 4			
The Smalltalk Group Wed. Feb. 8 250 S. Milton, St. Paul Note 10		Note 10			
Board Meeting	Thur. Feb. 9	Brookdale Hennepin Area Library	Members welcome, Note 1		
Mac Computer Art & Design	Mon. Feb. 13	Mpls. College of Art & Design	Note 7		
Microsoft® Works™ S.I.G.	Tues. Feb. 14	Edina Library—50th and Hwy 100	Note 13		
Apple IIGS S.I.G.	Wed. Feb. 15	First Tech Computer, 2640 Hennepin	GS Animation, Note 12		
Fourth Dimension™ Group	Mon. Feb. 20	Hennepin County Library, Southdale	Note 2		
HyperCard™ Group	Mon. Feb. 20	Hagen Office Equipment	Note 4		
MacCAD/E User Group	Tues. Feb. 21	Heath/Zenith Computers, Hopkins	Note 8		
Beg. Macintosh Programmer	Tues. Feb. 21	Hennepin County Library, Southdale	Note 2		
Mac Desktop Publishing SIG	Wed. Feb. 22	First Tech Computer, 2640 Hennepin	Note 3		
AppleWorks© S.I.G.	Thur. Feb. 23	Murray Jr High, 2200 Buford, St Paul	InvestWorks? TimeOut Paint?, Note 1		
Mac Novice User Group	Mon. Feb. 27	Highland Branch Library, St. Paul	Note 9		
Northwest Branch	Tues. Feb. 28	Rockford Road Library, Crystal	Note 6		
Notes: 1. Dick Marchiafava					



The Minnesota Apple Computer Users' Group, Inc.

P.O. Box 796, Hopkins, MN 55343

Board Members:

Coordinators

ē

MicroSoft Works

Dick Marchiafava	572-9305
Fridley, MN 55432	
Ann Bell	544-4505
8325 39th Avenue N.,	
New Hope, MN 55427	
William Langer	937-9240
14160 Green View Court	
Eden Prairie, MN 55344	
	432-0103
	881-5928
	7099 N. E. Hickory Drive Fridley, MN 55432 Ann Bell 8325 39th Avenue N., New Hope, MN 55427 William Langer

Directors		
Publications	Dan Buchler	890-5051
Software	Tom Gates	789-1713
Technical	John Hook	944-8510
SIG: Macs	David Stovall	474-8015
SIG: Apples	Tom Ostertag	488-9979
Membership	Anne S. Charity	935-4845

Beg	ginners' Consultant	Earl Benser	884-2148	
Shows & Conventions		(Your Name Here?)		
Non	rthwest Branch	Jere Kauffman	535-674	
É	Apple II Users	Tom Ostertag	488-9979	
	Apple IIGS	Dick Peterson	473-584	
É	AppleWorks	Dick Marchiafava	572-930	
œ .	Beginner's Basic	Tom Alexander	698-863	
*	Languages/Tech	Wesley Johnson	636-182	
e	Tech. Adviser (hdwre)	Roger Flint	771-286	
8	Mac Users	David Stovall	474-801	
		Mike Carlson	866-344	
	Excel	M. Nightingale	545-938	
	Beginning Prog.	Tom Vind	473-045	
	HyperCard	Mike Carlson	866-344	
	CAD & Engineering	Bill Langer	937-924	
	4th Dimension Prog	Ian Able	824-860	
	Novice	Tom Lufkin	698-652	
	Smalltalk	Martin McClure	227-934	
	DeskTop Publishing	Charles Bjorgen	633-885	
	•			

Software Director's Staff					
Apple // DOM Editor	Tom Gates	789-1713			
MaceDOM Editor/Prod	Joe Carroll	938-4028			
CP/M	Open				

Ed Spitler

432-0103

Liaison Contacts	(Contact with non-Mini'app'les SIGs)			
- Genealogy	Jules Goldstein	690-4447		
- Medical	Stewart Haight	644-1838		
- CP/M	Jim Rosenow	(414) 261-2536		

Circulation this issue: 1350

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

Questions — Please direct questions to an appropriate board member. Technical questions should be directed to the Technical Director.

Membership — Send applications for membership directly to the Membership Coordinator:

Anne S. Charity
935-4845
PO Box 796
Hopkins, MN, 55343

Current membership dues are \$20 for the first year and \$15 thereafter. All members receive a subscription to the newsletter and all club benefits. New members receive a special package of member lists and software catalogs.

eDOMs	М	At eetings	Mail Order Add \$1	
Members:	5 1/4" eDOMs 5 1/4" System	\$3.00 \$1.00		
3 1	/2" Apple/MaceDOMs	\$5.00	per	
	3 1/2" System	\$3.00	disk,	
Non-Members:	5 1/4" eDOMs	\$6.00	Max	
3 1	/2" Apple/MaceDOMs	\$10.00	\$4.00	

Send orders to Mini'app'les at PO Box 796, Hopkins, MN 55343, attention eDOM Sales or MaceDOM Sales.

Dealers — Mini'app'les does not endorse specific dealers. The club promotes distribution of information which may help members identify best buys and service. The club itself does not participate in bulk purchases of media, software, hardware and publications. Members may organize such activities on behalf of other 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 day** 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 phone calendar announcements to John Hansen 890-3769.

Mini'app'les Mini'Info Exch BBS — Club members may utilize the club's BBS: Telephone No. 831-6235

Advertising — Direct all advertising inquiries to the club's Advertising

Coordinator: Bob Lowe 612-933-0464

14717 Idylwood Road, Minnetonka, MN 55345

Newsletter Publication Staff					
Director &	Daniel B.Buchler	890-5051			
Editor	13516 Grand Avenue S.				
	Burnsville, MN 5	5337			
Announcements	Kent Edwards	452-4956			
Calendar	John Hansen	890-3769			
Contributing Ed.	Steve George	935-5775			
Contributing Ed. Tom Edwards 927-6790					

Dave Brown

Joan Kistner

Comp./Layout

E-mail
AppleLink
UG0012
CompuServe
73537,463
GEnie: DBuchler



	Announcements		4
	Apple/Mac System software available	ole to members	5
	Board Meeting Minutes	by Ed Spitler	7
	Update on Tax Lability	by Unknown Editor	7
	Classified Advertisements		11
	Membership Promotion		BC
	Mistakes Novices Make	by Philip Russell (NEO AppleBits)	6
	Puzzled	by Tom Edwards	10
J J	AppleWorks Advisor Beginners' Corner—(Disk Talk)	by Dick Marchiafava by Tom Alexander	5 6
8	Electronic Scavenger Hunt	by Tom Edwards	10
	Freehand Persuasion (Nov. Mac DTP)		9
	Springboard Publishes—(Mac Users)	by Tom Edwards	8
	System 6.0.3 beta	extracted from AppleLink	10

Happy New Year, Mini'app'les!

The Fine Print

The Fine Print
The Mini'app'les newsletter is an independent publication not affiliated or otherwise associated with or sponsored or sanctioned by Apple Computer, Inc. or any other computer manufacturer. The opinions, statements, positions, and views stated herein are those of the author(s) or publisher and are not intended to be the opinions, statements, positions or views of Apple Computer Inc., or any other Computer manufacturer. Apple, the Apple, Apple IIGS, Apple Talk, AppleWorks, Macintosh, ImageWriter, LaserWriter, are registered trademarks of Apple Computer, Inc. LaserShare, Finder, MultiFinder, and HyperCard, are trademarks of Apple Computer, Inc. PostScript, is a registered trademark of Adobe Inc. Times, and Helvetica, are registered trademarks of LinoType Co.







System Finder HyperCard 1.2.1

HyperCard 1.2.1 is now available!

✓ System Updates for Macintosh

✓ ProDOS and DOS 3.3 systems for Apple II/IIGS

Apple II SIG

St Louis Park High

Jan 4

(Note: New time of month!)

MacUsers Jan 5
Southdale Library "Presentation Passport"

Mini'app'les BBS — 831-6235 (New Software)

February Mini'app'les Newsletter goes to press Jan. 14. Please observe minimum one week leadtime.

Advertisers ||||||||||

Hagen	BC
MacChuck	9

I Membership Application and Renewal Form

Name:	
Address:	
City:	
State:	

ı						
i	Home Phone	e:	(.)	 -	

Work Phone: ()		
New Member ()	or	Renewal ()

Spouse	's name:	
3.553		

Childrens names:	
(if interested in	
computers)	

I own or use a:

Sponsored by:

Mac+	()	SE()		IV	lac	:11()	
Apple	//or	//+or //e ()	//GS()	//c(
Other				•			

Special Interests - Check all that apply.

Programming	()	Spreadsheets	()
Business	()	DT Publishing	()
Education	()	Novice	()

Send to: Membership Coord

Anne S. Charity 5116 Ridge Rd Edina, MN 55436

Club Dues: \$15/yr + \$5 application fee .



Announcements

AppleWorks SIG Announcements And Meeting Schedule

by Dick Marchiafava

The next AppleWorks meeting will again be at the Murray Jr. Hi location. We are confirmed at this location, on standard AW meeting nights, through May, 1989.

The location is centrally located and convenient for most of the S.I.G. members. Other than the possibility of needing a few more chairs next time (that's not bad news), the accommodations are excellent.

Location

AppleWorks SIG meetings are at Murray Jr. High School, 2200 Buford Avenue, St. Paul. Park on Grantham, the street on the west of the school complex. The meeting room is the computer lab at the center of the hall.

Murray Jr. Hi is located a few blocks east of Highway 280, near Como Avenue. This is near the border of Minneapolis and St. Paul. See the map for directions.

Upcoming Meetings

January 26: New TimeOut Paint with SuperFonts & Graph. TO Paint is an enhancement for the SuperFonts and Graph programs. We will explore how Paint works with both.

February 23: Spreadsheet, Basic to Advanced

Corrections to the meeting calendar will be posted on the Mini'app'les Bulletin Board.

Meetings are held monthly at 7 PM on the 4th Thursday. Call 572-9305 if you need information about meetings. Dick

Standard Meeting Dates for Mini'app'les S.I.G.s, Branches, etc. by John L. Hansen, Calendar Preparer

The chart printed in the December newsletter was inadvertently corrupted. The following chart is a corrected version of the one that I use to keep track of group meeting dates. The chart listed below includes all changes reported to me through 9 December, including new meeting dates for the Apple II Users and Apple IIGS S.I.G.

Group	Standard Date
Apple II S.I.G.	First Wednesday
Apple IIGS S.I.G.	Third Wednesday
AppleWorks™ S.I.G.	Fourth Thursday (except Nov. and
••	Dec. if conflicts with Thanksgiving
	and/or Christmas occur)
Beginning Macintosh Programmer	Third Tuesday
Board Meeting	Second Thursday
Fourth Dimension TM Group	Third Monday
HyperCard™ Group	Third Monday
Languages/Technical S.I.G.	Second Wednesday (Summer Recess
	from August until notice)
Mac Computer Art & Design	Second Monday
Mac Desktop Publishing S.I.G.	Fourth Wednesday
Mac Novice User Group	Fourth Monday
Mac Users	First Thursday
MacCAD/E Users Group	Third Tuesday
Microsoft® Works S.I.G.	Second Tuesday
Northwest Branch	Last Tuesday of the Month
The Smalltalk Group	Second Wednesday

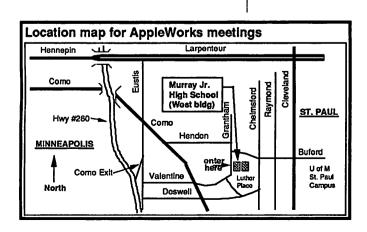
Mac Users: January Meeting

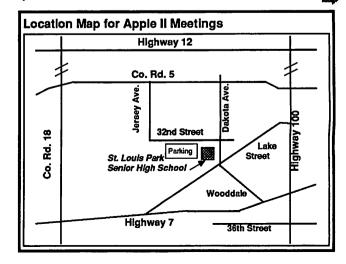
On Thursday, Jan. 5, the Mac Users group will view a demo of "Presentation Passport", a HyperCard-based application for the management of presentation resources. The program is a product of a local company, Computer Solutions of New Brighton. The aim of the program is to organize the presentation resources that may be available,

so that a new presentation can be created with a minimum of fuss.

Expect to see Steve Vetter, a developer of the program, as the presenter. If you come up with a question, this is the man to give you the answer.

The meeting will be at the Southdale Hennepin County Library (Map on page 11).







The AppleWorks Advisor

A Column For Users Of AppleWorks

by Dick Marchiafava

AppleWorks Package Art

I received my first shipment of AppleWorks GS in late November. The shipment also included an AppleWorks 2.1 package. Both packages sport the same new art work. I have to echo the criticisms of the new package art which I came across in other user publications.

The art on previous versions of Apple-Works gave the impression the software and users of it were purposeful and professional. In my opinion, the new AppleWorks package "Sesame Street" art work trivializes the software and the users. It appears to be aimed at an early childhood level user, say kindergarten.

One would think the contents of this box is a piece of educational software, instead of the largest selling productivity package ever sold for any computer from Apple. AppleWorks has been in the first or second place in national sales for many months, often ahead of Lotus 1-2-3. It has settled into a comfortable second place the last several months.

I am disappointed by the AppleWorks package art work from Claris. AppleWorks deserves a better impression and public face.

Compressed Data Files

It is time to remind users that AppleWorks compresses data files when it saves them to disk. Depending on the type of files and the amount of data contained therein, files can be the same size, or grow to be much larger when loaded to the Desktop than they are when shown in the disk catalog.

File compression helps make the best use of storage space, but the expansion of files to their true size when loaded to the Desktop can be confusing. The only way to be certain of the actual size a file is on the Desktop is to note the size of the available desktop in the lower right corner of the screen before and after loading a file.

Just because you have a 56K Desktop and a 56K AW file does not mean you will be able to load the latter onto the former!

AE AW 2.1 Expand Problems

I have a few reports of problems with AppleWorks 2.1 which have been expanded with the RAMWORKS Utility for that version. The reported problems include incidents of program freezes from unknown causes and other failures if a custom printer is modified after the expansion process.

If you use the RAMWORKS board and the AW expand utility from AE, keep your present

copy of AppleWorks 2.0 handy and test the expanded AW 2.1 thoroughly.

On a different note, as of early December, Checkmate still has not released their AW 2.1 Multiram expand software. I am displeased by this laggard performance on their part. On the other hand, is this slow start a disadvantage for users, or a blessing?

Beagle Ships SpreadTools

The first week of December brought my first shipment of the SpreadTools package from Beagle Bros. Also shipping then is the second collection of macros for UltraMacros, called MacroTools II. I had these items on order for a couple of months.

It appears that Beagle Bros is having problems getting the packaging for SpreadTools. The units I ordered arrived shrink wrapped with a piece of cardboard. The warranty registration cards were not enclosed either. The SpreadTools documentation I received with the Beagle Buddy package was the regular manual, so the delay in shipping must have been the box. Regardless, was happy to have received them and promptly ran out.

I certainly like the power SpreadTools adds to the AW spreadsheet. I am still exploring and learning about them. One feature, which is supposed to convert formulas to values, did not work when I tested it. I have notified Beagle Bros about this and am awaiting a reply.

CROSS-WORKS

This is a file exchange utility package to exchange files between AppleWorks and certain IBM programs. I did not say exchange data, but files!

CROSS-WORKS includes 2 transfer and conversion utility software packages, one for Apple // and one for IBM and a null modem cable. The cable has three different connectors for Apple //c, //e, ||gs and three for IBM PC-XT, AT and PS/2 computers. If the computers are not within reach of the null modem cable, transfers can be made via modem at 1200 baud.

This utility transfers and converts data files back and forth between AppleWorks and WordPerfect, Lotus 1-2-3 and dBase III+. Files transferred are not stripped down ASCII or DIF files, but ready to run files in the format of the receiving program, with formulas, formats etc.

Tom's company purchased CROSS-WORKS. He says the transfers are so fast, they are over almost before you can notice they have begun. The transfer rate with the null modern is at 19,200 baud!

CROSS-WORKS publisher SoftSpoken indicates other translation modules will be released in the future. At about \$80, this package is a real problem solver and time saver, too. No special preparation is necesscary to transfer files, no editing is required on received files.

A short column this month. A health problem kept me from writing this when I usually would and I am right down to the wire now. More next month!

AppleWorks questions and tips from anyone are welcome. Send to: 7099 Hickory Drive N.E., Fridley, MN 55432. Include your address and phone number. Or call 612-572-9305, no collect calls. Dick

Current Apple System software available through Mini'app'les:

<u>Software</u>	Ver	<u>Date</u>	Format
<u> , +, //c, //e</u>			
DOS 3.3 Master	n/a	09/10/85	5.25
ProDOS 8	1.6	06/13/88	5.25"
Apple IIGS			
GS/OS Syst. Disk	4.0	08/18/88	3.5"
GS/OS Syst. Tools	4.0	08/18/88	3.5"
Syst. Disk *	3.2	06/14/88	3.5"
ProDOS 8	1.6	06/13/88	3.5*
Macintosh			
System Tools	6.0	05/01/88	3.5"
Print Tools	6.0	05/01/88	3.5"
Utilities 1	6.0	05/01/88	3.5"
Utilities 2	6.0	05/01/88	3.5"
HyperCard	1.2	04/25/88	3.5"
H. C. Update 1	.2.1	05/25/88	3.5"

Apple System Software disk prices are as follows:

3.5" Systems disks \$3.00 each. 5.25" Systems disks \$1.00 each. Notes

- The Macintosh System Tools and Utilities disks are available only as a set of 4 disks.
- ProDOS requires 64K of memory on the Apple II and II+
- * Apple IIGS System Disk 3.2 also contains: ProDOS 16 (P16) v1.6 06/13/88 ProDOS 16 (ProDOS) v1.6 06/14/88 BASIC.SYSTEM v1.2 12/14/87 System Utilities v3.1 03/03/88



By Tom Alexander

Disk Talk

If the CPU (Central Processing Unit) is the engine that drives the Apple II, then the disk is the fuel that runs it or, rather, the programs on the disk. This discussion will use the 5-1/4" FLOPPY DISK as the example.

The Apple II doesn't really need a disk to operate, but life would be a lot harder without it. Like an automobile without gasoline, you'd have to push it everytime you wanted it to go someplace.

The disk is what is used to ENCODE (record) all the PROGRAMS (instructions) that give you the spreadsheets, word processors, graphics, utilities, games and other programs that make the computer do things.

Physically, the disk comes in a protective square JACKET that measures 5-1/4" on each of its four sides. The jacket has one large hole in the center and a 2" oblong hole extending down from the middle. There is a small, square notch on one side near the top. The disk should come with a paper SLEEVE that extends about 2/3 the way up the jacket. There are reasons for all of this.

The large hole in the center reveals a portion

of the disk held inside. When the disk drive door is closed, a device engages the hole in the disk and holds it firmly. It then spins the disk around INSIDE the jacket. The oblong hole also reveals a portion of the disk which the READ/WRITE HEAD can use for reading or writing to the disk. You will note that the programs are stored on the bottom side of the disk and reading/writing the disk occurs on the bottom side.

The notch on the side of the jacket is called the WRITE ENABLE NOTCH. If the notch is covered in any way, information cannot be stored on the disk. However, it can still be read. It's a good idea to make backup copies of all program disks, then put a piece of tape over the write enable notch of the original program disk. Use the copy for everyday use and store the original in a safe place. The original, then, can't be accidentally written to.

When the notch is covered with a piece of tape it is said to be WRITE PROTECTED. This is not the same as COPY PROTECTED. A disk that is copy protected has some part or parts of the programs encoded on it altered in some way to disable a copy program such as COPYA on the System Master Disk. COPYA is pronounced Copy A (like it was two words).

Although the disks are not fragile, some care should be used when using and storing them: (1) Don't touch the exposed portions of the disk, either bottom or top. (2) Don't smoke around your computer or disks. (3) Don't eat or drink around your computer or disks. (4) Don't store disks in hot or humid areas. (5) Don't bend disks or put them under pressure... for example, stacking books on top of them.

(6) Always keep the paper sleeve on the disk when it is not being used.

A question that keeps coming up and doesn't seem seem to have a unanimous answer is: Can both sides of a single sided disk be used to encode data? My own experience says yes. In several years of using both sides I've only had one bad experience. One astute observer asked, "How do they know which side is which when they put the disk in the jacket?" He didn't get an answer. In order to use the second side of the disk you must buy a disk NOTCHER. This is a small device that cuts the square notch in the jacket so the second side is now write enabled. Most software dealers have this device.

Does price really determine quality? When I bought my machine several years back disks were selling for \$4 each, retail. Nowadays you can get them for 37¢. The information seems to be as good on the 37¢ ones as it does on the \$4 ones. My advice is: Get the cheapest ones possible, then be sure to make backups. Granted, to get the lowest price you have to buy in volume but that shouldn't stop you. Two or three guys (gals, too!; Ed.) can go in on one purchase.

People keep coming up with new uses for the disk. They make good coasters. They make great targets for darts. I've been told by some that if you carefully remove the jacket from some of the earlier eDOMs and play the disk on your 45, the voice of Dan Buchler can be heard reciting the Apple II Reference Manual... backwards.

Mistakes Novices Make

by Philip Russell

(The idea for this article came from Ray Holan, writing in NEO Apple Bits. The Mac User Group (MUG) has taken his "Seven Magnificent Mistakes Mac Beginners Make" and added three more mistakes MUG thinks Mac beginners make.)



he first six mistakes new Macintosh owners often make are reprinted here. The last four will appear next month.

1. Buying and attempting to learn too many programs at once. Surveys have shown that the average Mac user knows six programs very well, while IBM-PC users tend to know only two programs. OK, so the Mac is easier, but don't cripple yourself by learning all six programs at once. Master a couple of simple applications. This will teach you a lot about getting around the Mac keyboard and mouse.

- 2. Buying new programs rather than using the full potential of those you already have. If you simply operate an application according to what you see in the menus and in the manual, you are probably missing a lot of capability. Almost every Mac program has hidden features, or ways to utilize existing features in imaginative ways. Milk that old program dry before you move on to the promises of new programs.
- 3. Not analyzing what tasks you will do on your Mac before buying software. If you don't, you may buy an overpriced program, loaded with features, to do some simple task. Data bases are a good example. Microsoft File and Works data bases are more than enough for most data base needs. Buying Helix, Omnis 3 or 4th Dimension for a modest data base is overkill.
- 4. Getting demoralized by comparing yourself to more experienced Mac users. Everyone out there knows SOMEONE who knows more about the Mac that they do

themselves. So what? If you are getting your work done on the Mac, you have nothing to be ashamed of.

Mac owners, as a group, are so enthusiastic about their computers that they are more than willing to lend a hand. Not only that, but you probably have enough knowledge to help OTHER, still newer, Mac owners. Get into the give and take. You probably know more about the Mac than you give yourself credit for.

5. Not reading the manual. I know, I know, Mac owners don't have to read manuals. Well, the truth of the matter is that Mac manuals are smaller — much, much smaller — than manuals for IBM-PCs. That doesn't mean you shouldn't read them.

I remember months after Aldus released Pagemaker 1.2, I kept running into "power users" of Pagemaker who did not know that depressing the Command key and clicking

GOTO Page 7



Update to Tax Situation

The local IRS office recently stepped into the picture by calling for the payment of taxes that are currently in dispute with the Pennsylvania IRS Office. The Club has been in contact with the same attorney who successfully pleaded for the "non-profit" status of the Club.

The attorney is quite confident that the issue will be determined in favor of a reduced or zero tax liability. The Club has escrowed money to cover the reduced amount with no significant problem.

Payment of the full tax and penalties requested by the local IRS office, and their actions to obtain those funds, have put a damper on Club expenditures. The feeling is, that the final outcome will be for the reduced or zero tax and penalties which were anticipated by the Club. However, in keeping with prudent business practice, major expenses will be held in check and the Club will function as though the unreduced tax and penalties will be required.

The IRS is expected to rule on the Club's protest withing 60 days (clocking from about December 1). During this interim time, please bear with us as we weather this out. The current newsletter (smaller and self-covered) is an example of the efforts that the Club has undertaken to minimize the long-term impact of the final ruling, regardless of which way it is decided.

Mistakes Novices Make Concluded

the mouse moved you back and forth from Fit in Window and Actual Size — a considerable speed aid. I write hint books about the Macintosh, and many, many of the hints come straight out of the manuals — which you macho types decided not to read!

6. Not practicing. Most frustrated Mac owners don't practice enough. I said frustrated, because if you practice, you won't be frustrated. The normal problems of getting up to speed operating a Mac are not beyond anyone of normal intelligence. It just takes practice.

Don't only operate your Mac when you have an important task at hand. Practice a few minutes every day one some Mac technique. You might start with keyboard equivalent commands, like practicing using Command/C and Command/V for Copy and Paste without going to the Edit menu.



Minutes

Board Meeting Nov. 9, 1988 at Hennepin County Library, Brookdale Branch by Ed Spitler

Board Members in attendence: Dick Marchiafava, Ed Spitler, Tom Ostertag, Ann Bell, J.E. Wheeler, John Hook, Anne Charity, William Langer and Dave Stovall. Also present: Ian Abel, Chase Allen, Pat Bohan, Steve George, Tom Lufkin, Lee Reynolds, and Dick Peterson.

Agenda Items

Minutes of the previous meeting (September, 1988) Submitted by secretary and approved.

Treasurer's Report submitted by J.E. Wheeler.

October 1 to 31 - 1988

INCOME

Membership dues	1814.00	
Savings Acct Interest	34.72	
e-DOM Sales	267.00	
Newsletter Advertising	367.92	
Miscellany	10.00	2493.64
EXPENSES		
e-DOM Cost of Goods	61.59	
Tele-	56.74	
Postage, shipping	32.67	
Rent	72.00	
Equip Rent	15.90	
Printing, publications	955.92	
Conf, conv, meetings	127.50	1322.32
MONTH PROFIT		1171.32

 MONTH PROFIT
 1171.32

 Save Acct Balance
 7918.44

 Check Acct Balance
 3200.30

Treasurer's report was approved.

Membership report submitted by Anne Charity was approved.

Old Business Tax Liability

Dick Marchiafava noted that Greg Klint, our tax Attorney, has sent a letter to IRS asking that their penalties be voided. A letter was received from IRS to the effect that our appeal was under consideration and that their decision would be made within 60 days. Mr. Klint is of the opinion that there will be a positive outcome. Chase Allen expressed concern regarding liability on the part of present and past officers of the club. Further discussion centered around this issue.

Overhead Projector

David Stovall and Ian Abel asked that the Board approve purchase of an overhead projector at this time in order to continue their use of the PC Viewer at Mini'app'les meetings. There have been difficulties getting the free use of overhead projectors at meeting sites and with the type of overhead projectors available at some meetings. Some of the older overhead projectors available do not allow the PC Viewer to operate effectively. Ed Spitler made the motion that we purchase a Elmo portable overhead projector at a cost not to exceed \$350.00. Anne Charity seconded the motion. Approved. John Hook was asked to make that purchase.

New Business

APPLE INFO: The location of various items, such as the Quick Connect newsletter, the new video tape and the Music SIG starter kit from Apple were asked about and discussed.

SOFTWARE ETC.: Dick Peterson noted that he has not heard back from Software Etc., regarding their offer to discount purchases if we provided them with a count of members by zip code.

APPLE MAINTENANCE AGREEMENT: Dick Peterson noted that an Apple maintenance agreement had been purchased for the IIGS through ZIM Computers at the annual rate of \$64.00. This price was significantly less than rates quoted by other dealers. Good work Dick!

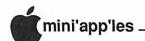
SWAP MEET: Bill Langer asked for volunteers for our Swap Meet on December 17 at the St. Louis Park Senior High School. He noted that the hours for that swap meet were from 10:00 am to 2:00 pm.

ACCOUNTING: Dick Marchiafava introduced Pat Bohan, who is going to help with computerizing accounting information for our club. Welcome Pat!

STRICTLY COMPUTER BUSINESS SHOW: David Stovall noted that the Strictly Business Computer Show would be held at the new Minneapolis Convention Center on May 3 and 4, 1989. Apple Computer does not plan to be there.

A motion was made, seconded and carried to adjourn.

Respectfully submitted by Ed Spitler, December 8, 1988.



Springboard Publishes

Beta testers see the real thing! By Tom Edwards



ere you one of the beta testers for Springboard Software's Publisher program? Many in the Mac

User group apparently did participate in that effort. At the December Mac User meeting, they saw the results of all those hours spent at the keyboard, working over publications that would never see the press of the printer's blanket. *Tom Kuder* of **Springboard** came out to demo the program for a group of about 80 Mac enthusiasts.

Before turning Tom loose, *David Stovall*, coordinator for the group, filled us in on announcements and encouraged several of the new folks to stand up and introduce themselves. Further delaying Tom's presentation (I think that Dave was just trying to let the hall fill up a little more...), he opened the podium for Q/A's from the throngs. Here are some of the "sticking points" that worried a few this night:

- HyperCard 1.2.1 aborts printing at some of the most in-opportune times. No solid answers, but a few wise-crackers suggested upgrading to 2.0 (yuk, yuk, yuk).
- Grappler LS with the HP DeskJet? Sounds like this is getting to be a "real soon now" situation. I've seen some output from these printers... not too shabby at all!
- TML Pascal users? Sorry, this is the wrong bunch to ask that question, though quite often some of the programmer-types do take in this meeting. Try the Beginning Mac Programmers Group. Check the calendar for dates and times.
- Zoom modem 2400 baud? Judged "so-so" by owners at this meeting. This brand, Epic, PCPC, Supra and perhaps others, are gaining reputations for being good buys and reasonable performers. A lot of prices for 2400 baud are now dropping under \$200... some as low as \$130 if you don't mind the mail order process.
- Pryo! seems to have some interference problems with the printing process. There is a "patch" that is a fix. Search around on some of the Mac oriented BBS's for a copy.
- Need OCR via scanning? Nobody has yet encountered a service shop that offers this highly specialized combination. If you REALLY need it, and say "pretty please", you might find a sympathetic shoulder at your local Apple dealer. (Mike Carlson at Hagen's may lend a hand if you're in the area.)
- •MILO? This is a symbolic math program, whatever that is. Nobody had any more

reasonable substitutes. Perhaps you'll have to wait for the NeXT machine (more yuks).

- Kinko's had an offer to educational types for high-discount LaserWriter copies... like 25¢ each. It no longer seems to be an open secret; you need to search and prod, and even then may flunk out of CheapPrint 101.
- Equipment rentals? Projectors and video stuff via Blumberg PhotoSound. For computer equipment, dealers (Computerland for one) and specialty rental facilities offer monthly rates for the take-out bunch. Kinko's and AlphaGraphics provide in-store use on an hourly basis.
- Accelerators and large screen monitors. Oh, there were a lot of suggestions here. Most dealers have something to offer. Radius, E-Machines, Dove, SuperMac and more.

And now to the main event...

Tom popped open a copy of Publisher and loaded it into the SE for the big screen demo. Springboard is a local company, headed by John Paulson, who has made presentations to the club in earlier times. The company got going with programs for the Apple II, has several hits including The Newsroom, and is now branching out into other machine names. Publisher is a program that combines paint, page layout and word processing in an easy-to-use graphic generator "for the rest of us." It was first issued for the Apple II, and will soon be available on the ibm as well as the Mac.

In the belief that all who use a word processor are indeed "publishers", the program is purposely designed to look like and work like things that we are already familiar with: MacWrite and MacPaint. It will also import files from MacWrite, Word and any ASCII format file. The screen view is as close to WYSIWYG as they can make it, and there are plenty of formatting, kerning and other functions that will help make the page attractive.

For those who like to keep the old digits on the keys, there are plenty of keyboard commands to help you do just that. And if your typing is fast (mine sure isn't), you can do your text entry and editing in a window. This turns off the reformatting, and resultant delays, that result from placing text into the middle of a layout.

One of Springboard's strengths is in clip art. Returning your registration card will get you a disk of your selection. Moving art into the program is handled very well, with a lot of logical utility. Once in the program, you can box it, size it and wrap text around it. Expect

more clip art to be available in the future, too.

A two page view helps those needing the big picture to balance the elements of a spread. And if you find that a page just doesn't lay out properly in the standard "portrait" orientation, you can rotate a page to "landscape."

As counterpoint to the typical pricing of most DTP programs (often \$400-\$600), Publisher can be had for a list price of under \$200. It will work on a 1MB system, and output to the ImageWriter (reasonable appearance) or LaserWriter (best appearance).

A mini-lottery for the goodies...

I had to take a hike (literally... my car was in the shop) before the festivities turned into a grab-bag session. Tom had a number of programs that looked like they were being readied for passing out to several lucky Mac Users. Many thanks to Springboard and Tom Kuder for all of the attention and the presentation on a nice program.

More bytes later...

TWE



Freehand Persuasion concluded from Page 9

year or so. It combines outlining, slide creation, charting, handouts and speaker's notes. A "slide" in this context may be any screen size graphic that can be viewed on the screen or sent out to become an overhead or film slide. All elements are linked by "hot views", so a change in one mode will ripple through to the slide itself.

A nice feature that I had not seen before in a desktop presentation package was obtained through layering of the elements of the slide. This allows you to place and call layers of a slide individually, to give special effects, such as you would accomplish with several progressively developed slides. In effect, you combine all of these as a unit. I may not have described it too well here, but it works very smoothly and lets you make one slide do the work of several. Kind of a mini-animation FX.

Seen any good graphics lately? That's the subject at each DTP meeting. Check the calendar for the next one, and stop by to lend and ear... and eye.

More bytes later...

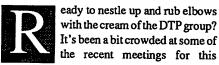
TWE





Freehand Persuasion

Two for the price of one! By Tom Edwards



group, but that doesn't stop the good programs, answers and exchange of information from flowing through the eager-beavers who battle the parking and traffic to take in each month's installment. First Tech (Hennepin address) has a nice complement of equipment to make the visuals easy to see and share for the bunch.

For November (a slightly delayed meeting because of the Gobble-Gobble Holiday), we were treated to a presentation of Freehand 2.0 by Michele Palmer, Sales representative for Aldus. Michele decided to forego the striptease of tee-shirts emblazoned with Aldus logos that were such a hit at a Mac User meeting a few months ago. She wore just one outfit, and kept it on the whole time! (Perhaps it was the presence of Nathan Everett, the groom-half of this artsy, computering team.)

With a few coachings from Nathan, Michele walked us through a demo of Freehand 2.0, the recent update to Aldus' entry into the PostScript art field. This incarnation sports a highly familiar interface, to anyone versed in the menus and tools of PageMaker, a long-time Aldus productivity smash. As a practical example of what the new version of the program can accomplish, Nathan provided several examples of finished flyers and brochures, each with a polished and quality look.

And what did they do to it?

Each revision of a program brings new utility, speed and versatility to the mousey fingertips of the user... and Freehand 2.0 is no exception. Here are a few examples:

- Several new tools help the artist in you tweak and prod lines and shapes into just the position and angle that you want.
- Screen views of text (often quite tacky in previous versions when rotated and/or bound to a line) are much more accurate.
- Mouse coordinates are tracked in a small window at the top of the screen. This means that you can be very finicky about placement of graphics, a very important point when separations and registration are important.
- Layers help you to organize elements. This
 makes it easy to work on just the element
 that you want, without mixing up the others.
 Freehand 2.0 offers about 100 of these little
 critters, although the concensus seems to be
 that a dozen or so are usually ample.

- "Blending" of backgrounds is now much more versatile. You can control light sources, angles, rates of change and create custom patterns.
- Objects become discrete elements that are saved with the file. They can also be extracted and moved to other files for reuse.
- Patterns can be edited in a bit-map fashion.
 If you don't see what you want, just create it to suit.
- PMS specs are available for colors. You can also spec a color as a "style", allowing you to refer to it by a name. Then, if you wish to change the specification of a color, all references using that "style" are changed.
- TIFF files can be edited within the program, so if you need to touch up some scanned-in art, you got it!

Friendly Persuasion...

The coordinator of the group, Chuck Bjorgen, always has something up his sleeve. Tonight, it was a "two for the price of one" deal. Although threatened with child labor violations, Chuck commanded Michele to press on with a demonstration of Aldus' Persuasion, a DT presentation program. Nathan had shown us the basics of this program a few meetings back. With the exception of losing the cursor off onto the big screen of an adjacent Mac II, and unsuccessfully trying to change the size of a text block, Michele did indeed press on.

Persuasion is one of several presentation tools that have been introduced during the past

GOTO Page 8



MacChuck[™]

Puts Your PC in a Macintosh Window!

If you work with both a Macintosh® and an IBM® compatible PC (or laptop), the MacChuck PC Remote Control Program may solve all your DOS co-processing and file transfer problems. With MacChuck version 1.5 you can:

- Operate DOS programs on your PC through a window on your Macintosh using AppleTalk® communications or a direct connect cable. MacChuck with AppleTalk support lets any Macintosh in the network operate a PC equipped with an Apple or compatible LocalTalk™ card. Direct cable communications is as easy as connecting the MacChuck cable between your Macintosh printer or modern port and a PC serial port.
- Use the Macintosh clipboard with PC programs. Select a character, word, paragraph, or the entire MacChuck window and copy the text into the Macintosh clipboard. Paste the text into another Macintosh window or back to the PC.
- Transfer one file or many. Easily copy text, non-text, and "MacBinary" files to and from the Macintosh at 57,600 baud. Fast, reliable transfers of files are done with simple PC programs that come with MacChuck.

Get connected for only \$99.95! MacChuck comes with the necessary Macintosh and PC software plus a direct connect cable to connect a Macintosh Plus, SE, or II to a 9-pin or 25-pin PC serial connector. If you have "classic" Macintosh, a mini-8 to 9-pin Macintosh adapter is available for \$14.95.

For more information, please contact us at:



Vano Associates, Inc.

P.O. Box 12730
 New Brighton, MN 55112
 (612) 788-9547

American Express, VISA or MasterCard accepted. MN, add 6%. MacChuck does not display APA graphics and requires DOS 3.0 or later and Apple System 3.2 or later. Macintosh, AppleTalk, and LocalTalk are trademarks of Apple Computer, Inc. IBM is a registered trademark of International Business Machines. MacChuck is a trademark of Vano Associates, Inc.



Electronic Scavenger Hunt

by Tom Edwards

ummaging around the local BBS's will turn up an interesting item or two every now and then. Just in case you are not too familiar with the information that can be found, I've gleaned several Apple and Mac oriented items that you can peruse. (And Bob Lowe had a Question of the Month, which I'll answer here... I frequent TCCN, Gizmode, EduNet [locals] and AppleLink and GEnie [nationals]. I like to read the messages, leave a comment now and then, and download programs and information that are of interest.)

- WriteNow 2.0: There's a strong following for this program, which was kind of a middle ground between MacWrite and Word in its 1.x versions. The long announced and eagerly awaited version 2.0 can now be seen on local shelves. Now, many folks will praise that news, except for those loyal believers who forked out cash early this summer and may still be waiting for their copy as you read this. Come on, T/Maker, give 'em a break!
- Maybe we should all go back to school. Apple has long made a special buy program available to students and educators. They have further sweetened the pot by providing coupons for discount buys from third parties. Of more value to those who enjoy the Apple product line is the amendment that now permits more than one computer system to be purchased by a qualified educator. The only clinker is that you can't buy the same system twice, and two years must pass from buy to buy. Ah, well. Good things come to those who wait!
- Just when you thought that the virus thing had run its course! Computer researchers at Nova University (Florida) have traced one data corruptor to a HARDWARE device that plugs into a slot. Due to an error in the internal code, up to 25 million microcomputers are at risk. It must be "those other guys." The Mac is too nice of a machine to let some fiberglass-mounted collection of chips and traces foul its data. Now for a small fee, all those with slotted machines can send for a report that tells how much risk they face. Somehow this deal sounds almost as good as the \$19.95 GENUINE diamond-like stone that you see advertised after the late news on channel 39.
- You know that other manufacturer of computers? The one with the blue logo?

Seems that they have begun to ship an operating system dubbed the Presentation Manager. It give a "graphical" interface to the computer which uses it. Something about "windows" and a "mouse" too. Gosh. That sounds neat. I'll have to look into that... but first, I'd better call my lawyer.

• Are you starting to get pushed out of the house by your collection of computer magazines? (I had to move the stove out to the back porch in order to get last months issues into the house!) Not to worry! Soon, Ziff Communication will offer the text of a whole passel of magazines on a compact disk. Now all I need is a scanning electron microscope in order to read the dang things!

More bytes later...
TWE



System 6.0.3 Beta Version

f you are a Macintosh developer, you may obtain System 6.0.3ß either through one of several bulletin boards or through the APDA (Apple Programmer's Developer's Association).

While every file on the 4-disk set will be updated with the 6.0.3 release number, only three files are actually changed from 6.0.2: the System file, Apple File Exchange and Responder. At this time System 6.0.3ß provides the following new features:

The changes made to the System file were:

- a patch to the Sony driver for Super-Drive
- a hook placed in the System that in the future will be utilized by 32-Bit Color OuickDraw
- · a new version of the Time Manager
- a fix made to the AppleTalk driver for 030 machines

The changes made to Apple File Exchange were numerous and remedied problems recently uncovered by Apple's Testing Department. The change made to Responder allows the new hardware to be returned to InterPol.



Puzzled

by Tom Edwards



ta coffeebreak last week, one of the guys challenged those about the table to come up with an answer to a math-teaser that

his seventh grader sprung on him. I used to fiddle with this kind of stuff, but kind of lost track as the kids grew up. Nonetheless, I got a charge out of working this out. Amazingly enough, I was able to diagram it out CORRECTLY on the FIRST pass through it. Then as I tried to show off to my own teenager, I had to try it 5 times before I could get it again.

Maybe Tom Alexander could program this out in his column. I wouldn't even know if it's possible, much less where to start. Here's the Noodler for the Month:

You see three jars of different sizes sitting on a table. Each is clearly marked with its total capacity, but has no intermediate markings. One holds 100 units, one holds 70 units and the last holds 40 units. The one marked "100" is full of a light blue fluid and the other two are empty.

Some nerdy looking guy just came by and asked that you bring 50 units of the light blue fluid, in one of the jars, to him in the next room in 10 minutes. "And be sure to leave the rest in a jar on the table for George," he said.

Can you figure out how to divide the fluid just by using the volume markings on the three jars?

I'll buy you a DOM of your choice as a prize for the earliest postmarked correct answer that reaches me before the February '89 newsletter editorial deadline (check this issue for that date... a winner from multiple correct answers with the same postmark will be by drawing). Mail it to:

The Fluid is Blue 4521 Xerxes Ave. So. Minneapolis, MN 55410

Gee. Wouldn't this look slick as an animation on a GS or Mac ('specially in color). I can just see the jars magically pouring from one to the other and a bottom line keeping track of the number of steps and the resultant volumes in each jar. Neater yet, would be the interaction if you could mouseclick and drag to do the "pouring" in the computer instead of on the kitchen table (or floor!).

Happy New Year TWE





Classified Advertisements

Each Mini'app'les member may run one free non-commercial classified ad per month in the newsletter. Submit ads to Bob Lowe by phone (voice) at 933-0464. Ads received by the second Wednesday of the month will appear in the next month's newsletter. Ads may be edited for length and to fit our usual format. There is a charge for commercial ads, contact Bob Lowe for details.

Wanted: Instructor for Applesoft Basic to teach beginning class in Bloomington Community Education. Five 3-hour sessions. Approximately \$12 per hour. For more information contact Ron Reich. Home, 888-7813; Work, 853-7838.

For Sale: Brown vinyl (leather look) Apple //e carrying case. First attractive offer. Leave message for Tracie Gib, 929-6131.

For Sale: Mirror 20 Meg hard drive. 1 year old \$350. 941-4999

Apple II Users January 18th

Mac Users—Jan 5 Southdale Library "Presentation Passport"

W. 50TH ST.							35 W
W. 70th ST.	, w	66th ST.			5		
(494)		YORK AV.	V				
\checkmark	FRANCE AV.	XERXES AV.	PENN AV.	(35 W	LYNDALE AV.	NICOLLET AV.	

Applecrate Hard Drive-MAC

21MB	65MS external	\$559
43MB	40MS external	\$699
64MB	40MS external	\$769
85MB	28MS external	\$1119

CMS Hard Drive //e-IIgs

Stack 20 MB	complete	\$679
Stack 40 MB	complete	\$898
Stack 60 MB	complete	\$958

Supra 2400 MODEM & Cable

MAC	Apple IIgs	//e c	\$179

SOFTWARE

PC TOOLS Delux	e MAC	\$49
AppleWorks GS	Ilgs	\$239
AppleWorks 2.1	//e c	\$189
Publish It!	//e c	\$79
Copy II+	//e c	\$28
SpreadTools	//e c	\$49
PowerPack	//e c	\$39
DeskTools II	//e c	\$39

MEMORY EXPANDERS

Size 256K	Apple //e \$148	Apple //c \$190
512K	\$238	\$280
768K	\$328	\$370
1 Meg	\$418	\$460

RAMCO SALES Dick 612-572-9305

Mac DTP SIG January 25th First Tech

HELP for the Computer Reluctant



Finally! HELP is here!
Software Specific Training on the
Apple® Macintosh™ and the Apple
Ilgs™. Hagen Office Equipment offers
hands-on training on many popular
software programs and introductions
to Macintosh and Ilgs hardware.

Classes are held at our convenient I-494 and Lyndale location. Call for complete information.

612/866-3441

Hagen Office Equipment, Inc.

Members -

Have some software to sell? Need some hardware?

Why not try an ad in our newsletter?

Here's a low-cost way to address a large group of Apple and Mac-oriented people!

It's fast! It's cheap! It's easy!

Mac SIG Meeting Place

Southdale Library, 7001 York



Mini'app'les 1989 Membership Drive

the your hagain of streng

The Club is looking for New members, Cooperative Dealers and Schools, Renewals and Referrals.

We didn't make our goal in 1988, but, on the other hand, we didn't do too badly. With your help and enthusiasm, we are embarking again on a concentrated effort to build and strengthen member resources within Mini'app'les to GROW AGAIN IN 1989!

Add YOUR helping hand!

612-934-4304

55352

New Members Oct & Nov:

THE WILLIAM		
612-779-8603	Couture, Jay	55110
612-831-4995	Crawford, Don	55435
612-933-5768	Dewey, Douglas	55343
612-447-2870	Dikis, Les	55372
612-942-7232	Edwards, Lois	55435
612-861-4087	Gottschalk, Larry	55419
612-464-8887	Ingulsrud, Joel	55127
	Jenson, Ralph	55118
612-379-1836	Kimm, Gervaise	55414
612-646-8978	Laabs, Duane O.	55104
612-722-7363	Olson, David	55417
612-825-8126	Silberberg, Sarah	55408
612-646-2954	Stanislaw, James O.	55403
612-454-0501	Telke, Terry	55123
612-331-3407	Temple, Ruth	55403
	Anderson	
	(St. Paul Schools),	
	Lee Or Jane	55414
612-784-2081	Barker, Barney	55432
612-926-9512	Byrne, Richard D.	55410
612-722-7056	Cannon, Patrick	55417
612-7772668	Carlson, Clarence G	
612-934-1259	Carney, Carlton P.	55346
612-922-7311	Holdridge, Earl	55424
612-522-5351	Jesmer, Jr, John	55422
612-593-1783	Krasky, Bob	55422
612-447-8213	Lenling, Camille	55372
507-345-4784	Lieske, Jody R	56001
612-881-0597	Londeen, Dave	55437
612-274-8083	Medley, Michael	56303
612-452-2521	Meduna, Frank	55122
612-778-0594	Meehan, James	55150
612-425-1032	Meehl, Chris	55369
	Olesen, C. J.	55343

Cooperating Schools:

Anoka, MN 553 Bloomington 8900 Portland A Bloomington, M Brooklyn Par 900 Brooklyn B Brooklyn Park, Dakota Cour 145th Street Ear Rosemont, MN	Comm. Ed. Service. IN 55420 rk VoTech oulevard MN 55445 rty Technical Institute st 55068 rchnical Institute ud Rd. IN 55344 gh School ve. So.	
612-435-7676	Paulson, Jerry	55337
612-781-2315	Priendshuh, Luke	55421
612-935-5454	Pyzdrowski, Mike	55343
612-332-6623	Raich, Thomas R.	55454
612-426-2371	Rasmussen, Gerry	55115
612-884-1771	Ringsmuth, David	55420
612-421-2868	Shey, James	55433

Stevens, David

Taylor, Edward N.

Verstegen, Peter

Cooperating Businesses:

Businessland	
7400 France Avenue	
Edina, MN 55435	893-1343
Computer Applications	
7101 France Avenue	
Edina, MN 55435	920-1154
Computer Pavilion	
Pavilion Place - 1655 West Coun	tv Rd R2
Roseville, MN 55113	631-2766
	031-2700
Computerland-Hopkins	
11319 Highway 7	022 0022
Hopkins, MN 55343	933-8822
Computerland	
2471 Fairview Avenue North	
Roseville, MN 55113	636-2366
Computerland	
7025 France Avenue	
Edina, MN 55435	920-6100
First Tech	
2640 Hennepin Ave. South	
Minneapolis, MN 55408	377-9300
Hagen Office Equipment	
801 West 77-1/2 Street	
Richfield, MN 55423	866-3441
Heath-Zenith - Hopkins	
101 Shady Oak Road	
Hopkins, MN 55343	938-6371
Hutch Computer Industri	es (HCI)
8017 Glen Lane	C5 (11.0.1.)
Eden Prairie, MN 55344	944-1350
IND Corp	(100)100 (100)
1620 County Road C	
Roseville, MN 55113	
Moore Business Forms	
3650 Hazelton Road	020 4224
Edina, MN 55435	929-4334
Twin Cities Computer Ne	
75 South 5th Street — Suite M-1	
Minneapolis, MN 55402 (mod	
The GIZMODE Data Ban	k
3519 West 50th St.	The same of the sa
3 6 1 3 6 3 C C 4 4 0 ()	020 (070

Mpls, MN 55410

55344

56303

55082



612-492-2419 Olson, Gregory

Non Profit Org. US Postage Paid

(modem) 929-6879

Hopkins, MN Permit 631