

mini'app'les

apple computer user group newsletter

Volume VIII No 8 August 1985

WHICH	WHEN	WHERE	WHAT
August			
Board Meeting	Wed. Aug. 7 7:30 pm.	To be determined	All members welcome. Please call Dave Laden for location -- 488-6774.
MacSIG: Non Tech Users	Mon. Aug. 12 6:30/7 pm.	Southdale Area Library 7001 York Ave. So., Edina	Mac Draw, Click Art Effects, DOM demo Bring your Mac Masterpieces. Note 16.
Dakota County Branch	Tue. Aug. 13 7 pm.	St. John Neumann Church 4030 Pilot Knob Rd, Eagan	Open topic. Note 7.
Pascal & Apple ///	Wed. Aug. 14 7:30 pm.	Mn Federal S&L Hopkins	Note 1.
REGULAR MINI'APP'LES	WEDNESDAY Aug. 21, 7:30	Oak Grove Jr. High Bloomington	Seminar Format: Magic Office System Demo & Apple][DOM show. Note 2.
Business SIG.	Wed. Aug. 21	After Regular Mini'app'les mtg.	See announcements, note 10.
Investment SIG.,	Wed. Aug. 21	After Regular Mini'app'les mtg.	New members intro, Note 4.
Applesoft BASIG.	Thur. Aug. 22 7:00 pm.	Highland Park Library 1974 Ford Parkway, St. Paul	PRO D.O.S. Note 17.
Main MacSIG.	Mon. Aug. 26 6:30/7 pm.	Southdale Area Library 7001 York Ave. So., Edina	Comparison of Music programs, Chuck Boody. Note 9.
Northwest Branch	Tue. Aug. 27 7:00 pm.	Rockford Road Library 6401 42nd Av N, Crystal	Newsroom demo, Note 12.
Minnetonka Branch	Wed. Aug. 28 7:30 pm.	Glen Lake Community Ctr. 14300 Excelsior Blvd.	Note 8.

September

Board Meeting	Wed. Sept. 4	To be determined	All members welcome.
MacSIG Non Tech Users	Mon. Sept. 9	To be determined	Note 16.
Dakota County Branch	Tue. Sept. 10	St. John Neumann Church	MODEM Demos Note 7.
REGULAR MINI'APP'LES	WEDNESDAY Sept. 18, 7:30	St. Paul U o' M Student Center theater	First Class Peripherals; the Sider hard drive (Sider versions for Mac & Apple) Note 2.
Business	See announcements		Mini Application. Note 10.
Main MacSIG	Mon. Sept. 23	To be determined	Note 9.
Minnetonka Branch &	Wed. Sept. 25	Glen Lake Community Ctr.	Blankenship Basic. Note 8.
Mac-Fest computer show	Sept. 26-28	Hyatt Regency Hotel	Note Steve George, Tom Edwards.
Twin City Computer Show	Oct 31 - Nov 3	St Paul Civic Center	You know - like last year!

Notes: (See page 4 for telephone numbers)

1. John Schoeppner	5. Mark Abbott	9. Mike Carlson	12. Jere Kauffman	15. John Gammell
2. Dave Laden	7. Bob Pfaff	10. Dick Marchiafava	13. Stewart Haight	16. Steve Bibus
3. Fred Woodward	8. Dick Peterson	11. Bill DeCoursey	14. Steve George	17. Tom Alexander
4. Eric Holterman				

DRAWING FOR DRIVE

Branch and SIG Coordinators - Please Call Steve Bibus (374-1612) in order to have your meeting correctly listed!

Twin Cities Computer Show & Business Equipment Expo

St. Paul Civic Center

Oct. 31-Nov. 3, 1985

10:30 a.m.-6p.m.

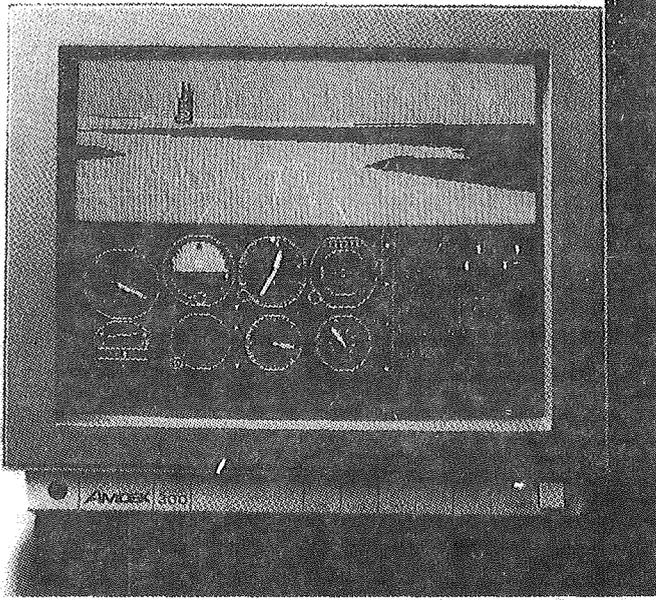
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Questions

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 Co-ordinator:
Ann Bell 544-4505
8325 39th Avenue N.
New Hope,
Minnesota, 55427

\$12 buys membership for one year. New members and persons renewing after letting membership expire, pay a \$5 administration fee. Members receive a subscription to this newsletter and all club benefits.

DOMs and MSDs

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 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

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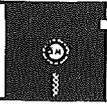
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This issue of Mini'app'les sets a new standard for newsletter production. All text was converted to Macintosh, formatted with *Microsoft Word*, and typeset with the Laserwriter on an AppleTalk network.

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Announcements



business SIG

by Dick Marchiafava

Meeting notes

During the summer months the Business SIG will not have an active meeting schedule. A committee person from the Business SIG will be at each main meeting in order to meet with persons who are interested in business and to answer questions. The date for this summer schedule is August 21st. The first date of an active meeting schedule should be Thursday, September 12th. Watch the announcements and calendar for details.

Looking Ahead with the Veep

by Tom Edwards

As I swing into the duties of this vice presidency, it's clear that the scheduling of places and programs will be the main task to face. Some of the places that we schedule work on reservations several months in advance. Our "announcements" columns keep you abreast of impending activities within the 1 to 2 month timeframe. If you want to look a bit further ahead, here's a list of main meetings through December, 1985.

- **Date:** September 18, Wednesday
Location: St. Paul U of M, Student Center Theater
Program: First Class Peripherals; the Sider hard drive
- **Date:** October 16, Wednesday
Location: Oak Grove Jr. High, Bloomington
Program: Bill Pederson and Eric Johnson of the regional Apple Computer office answer your questions about Apple Computer and Apple Computer products.
- **Date:** November 20, Wednesday
Location: St. Paul U of M, Student Center Theater
Program: Presentation by Sorcim on their new product for Apple II, SuperCalc 3a, combining spreadsheet, database and graphics within one integrated program.
- **Date:** December 7, Saturday (Note day change!!!)
Location: To Be Announced in later issues of newsletter.
Program: A repeat of our very successful "Swap Meet," just in time for you to pick up some holiday bargains.

Business SIG Starts Fall Schedule First meeting "Mini-Business SIG Gets New Committee Members Applications"

The Business SIG will resume meetings in September. Check the September newsletter calendar and announcements for time and place.

The subject for the first meeting will be Erik Carlson's program Mini-Applications. Demonstrations will be made of small applications and techniques using a database, wordprocessor, spelling checker and spreadsheet. The

purpose is to show how to get more out of your Apple II+, //e etc. using software which you may already have. An extended listing of meeting programs will be published in the September Newsletter.

Business SIG Starts Fall Schedule First meeting "Mini-Applications" Business SIG Gets New Committee Members

I am pleased to announce that Bob French and Dick Wiese have agreed to join the SIG committee. Their help with the planning of our programs is most welcome. They will help to fill the gap created by some of our departing committee persons.

We want meetings to be relevant to members needs. Join us in planning programs which reflect your wants!
Dick Marchiafava, SIG Coordinator 572-9305

NORTHWEST BRANCH NEWS

by Jere Kauffman

THE NEWSROOM software will be demonstrated on August 27th by Member *Stevie Johnson*. We will be back at our usual meeting location this month. The topic of our September meeting is to be determined. Please check the calendar for future topics.

All friends in the Northwest suburbs are encouraged to join and participate in our Branch meetings held the fourth Tuesday of each month at 7PM. Watch the Calendar of Events for specific topics and meeting location.

NORTHWEST BRANCH CALENDAR

- | | |
|--------------------------------|---|
| August 27
Tuesday | Newsroom Demo by <i>Stevie Johnson</i>
Rockford Road Library |
| September 24
Tuesday | General Meeting |

Artistic "Mouses" Wanted

by Tom Edwards

Mini'app'les will be participating in the Mac-Fest computer show, September 26-28, at the Hyatt Regency Hotel. The Club, with strong participation from the MacSIG members, has a booth arranged with the show's management. This gives us a big chance to meet several thousand Upper Mid-West people interested in Apple Macintosh computers and explain the benefits of membership in Mini'app'les.

The show is open to the public 10:00 AM to 9:00 PM Thursday and Friday, and 10:00 AM to 6:00 PM on Saturday. Tickets are \$5.00, with discount vouchers available from local retailers. Expect to see the latest software and hardware for the Mac. The show is sponsored by Technology Exchange of Plymouth, MN, with co-sponsors Apple Computer, Inc. and Computer User magazine. Similar shows will be held in Milwaukee and Chicago after the Minneapolis date.

⇒ 16



by Steve George

Once again this month we are lucky to present you with 3 new offerings: Mini'app'les DOM #37 (Disk Utilities,) IAC #46 (Binary Linking Utility), and Math Invaders (Personal Domain).

Mini'app'les DOM #37 (DOS format)

The basis of this disk comes from our own member *Matt Pharr*. Matt's Disk Modifier program will let you access any part of a standard DOS 3.3 disk. You can alter the disk at the byte level on any track or sector. Full documentation is on disk. The following is Matt's list of COMMAND CODES:

- Q Quit to basic.
- E Exclusive-or all bytes with FF.
- Ctrl-E Edit.
- R Toggle between read/write mode.
- T Increment all bytes in the sector.
- G Decrement all bytes in the sector.
- P Print the screen on the printer.
- A Toggle between Ascii and Hex output mode.
- S Search.
- D Drive toggle.
- Z Zero all the bytes in the sector.
- V Restore VTOC.
- Left Arrow Decrement the sector number.
- Right Arrow Increment sector.
- Up Arrow (<CR> II,II+) Increment track.
- Down Arrow (/ II,II+) Decrement track.
- Ctrl-V Read the VTOC off of the disk.
- Ctrl-D Delete DOS.
- Ctrl-S Scan the disk for errors.
- C Change error check.
- Ctrl-A Reads/writes sector (see R cmd.)
- L Do a disassembled list of the sector.

The next major utility is FAST ZAP by *Shawn Stanley*. Works similar to Matt's utility. On screen prompts guide the way. (First letter of command name usually works, and <ESC> will back you out of most precarious situations.

The remaining utilities are mainly from *Call -APPLE* and *Apple Assembly Lines*. They are ones that I found interesting and use with some regularity, so I hope you enjoy them too. Most programs have directions within the body. Separate 'doc' is provided where necessary. A DISK SUMMARY is a short explanation of each program. The full CATALOG follows:

- A DISK SUMMARY
- CAT ARRANGE EDIT DOC
- CAT ARRANGE/EDIT NORMAL DOS
- CAT ARRANGE/EDIT NORMAL DOS.S
- CAT ARRANGE/EDIT RAMCRD DOS
- CAT ARRANGE/EDIT RAMCRD DOS.S
- CONV RND TO SEQ (DOS 3.3)
- CONV.SEQ.TO.RND (PRODOS)
- DISK FREE SPACE
- DISK MODIFIER
- DISK MODIFIER DOC
- DISK MODIFIER.S
- DISK MONITOR PATCH
- DISK SORT
- DISK VERIFY
- DISK VERIFY SUBR
- DISK VERIFY SUBR.S
- DOM 37 LOGO.C
- FAST B/LOAD
- FAST B/LOAD INSTALLER
- FAST B/LOAD.S
- FAST ZAP
- FILEDUMP CMD POKE
- HIRES.UNPACK
- MINI'APP'LES
- MINNESOTA BLUES
- MN BLUES READ
- PRINT CATALOG W CTRL CHARS
- PRINT TO DISK
- PRINT TO DISK.S
- REMSAVER
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The Sider: Hard Disk

*Review by John B. Matthews, M.D.
Reprinted from Apple-Dayton
Entered by Steve George*

I. A what kind of disk?

A corollary of Murphy's Law, well known to computists, suggests that data expands to fill the space available. Apple Computer's Disk II makes just 140 kilobytes (KB) of data available per drive. At one time this seemed like plenty but a proliferation of complex new software (as well as a hoard of treasured old software) requires ever more storage. More capacious floppy disk drives are available but their higher densities need premium media and you still have to handle the disks gingerly. Even with greatest care the disks simply wear out.

The next step up is a hard disk, so called because the magnetic medium is on a rigid platter. Current units, small enough to fit on a desk, can hold tens of millions of bytes of data. They are sealed to prevent contamination and the recording head floats above the disk rather than grinding away at the magnetic surface as floppies do. The platter spins over ten times faster than a floppy and the seek time (how long it takes to get from one area of the disk to another) is shorter. Hard disks are bigger and faster but, until now, too expensive for the average Apple user.

If your carton of cryptic papers has become a box of worn floppies, if you're tired of doing the "floppy shuffle", First Class Peripherals' Sider has made the hard disk affordable. At \$695, the Sider is less than half the price of the next best thing.

II. What's in the box?

A hard disk is a delicate instrument and the Sider comes in a well padded carton. A smaller box inside the first contains all the other parts: Apple interface card, connectors, cables, software, and manual.

The Sider itself weighs 11 pounds and measures 7.5 inches high, 3.4 inches wide, and 16 inches long. The unit is meant to sit along side your Apple (hence the name Sider) but the connector and cable add another 4 inches to the Sider's length, so plan on desk space of at least 20 inches deep. The front is blank except for the Sider logo and a red "in use" light; the connectors and power switch are in the back. Which way to set the disk is a matter of taste, but I like to have the switch where I can get at it. A second connector on the drive's back normally holds a terminator but a second Sider may be attached in a "daisy-chain" configuration. The current software permits a total of two drives.

The drive runs quietly, making little more noise than my Apple's add-on cooling fan. The Sider doesn't need its own fan: screened ventilation slots along the drive's top and the disk's balance wheel flying at 3600 RPM serve to keep things cool. The unit rests on a vibration-absorbing platform bearing six rubber feet. It's solid. The housing is sealed with a warning about voided warranties if you tamper with it. Through the holes you can see that the drive is a half-height mounted on its side near the front; the controller (likely the Xebec 1410) is coplanar with the drive and its analog circuitry; the power supply fills the rear.

The interface card is well constructed. Chips on the board are soldered in place except for a socketed 2732 (4KB) erasable programmable read only memory (EPROM) containing the system's firmware. Most of the logic on the board employs low power, Schottky diode technology which draws little power from the Apple and stays cool in use. The card's 50 pin connector (standard in many hard disks) is on the edge facing the front of the Apple so connections are not cramped. Strangely, the card's data and control lines are terminated in a non-standard way: instead of the customary 220/330 ohm termination resistor network, the interface employs fixed capacitance/inductance on the card's end of the bus. While unusual, this arrangement appears to not affect the Sider's operation.

Two disks (four sides) of software, some industrial strength cables, and a 60 page typeset manual round out the package.

III. Surgery on the Apple.

The manual provides step-by-step instructions for installing the interface and cables in an Apple IIe while inset notes show changes needed for installation in a II+. The supplied ribbon cable is threaded through one of the Apple's rear access slots and its terminating connector is screwed to the rear panel. The ribbon cable is then snaked around the inside of the Apple and attached to the interface card. The card, called a "host adapter", is plugged into one of the Apple's interface slots; FCP suggests slot seven. Eight illustrations mark the way and lend a feeling of confidence that applying power to your Apple won't fry it.

A two foot cable connects Apple and Sider; once again, the bulky connector adds at least four inches to the back of the Apple. A jumper on the rear of the Sider (already in place) tells the system how many Sider drives are connected. Finally, you plug in the power cord.

The result is a clean appearance that limits radio frequency interference. The Sider can be disconnected from the Apple without having to remove the interface card.

IV. Even a hard disk needs formatting.

The Sider's firmware makes it look like a disk controller to the Apple so that powering up with the interface in slot seven causes the Apple to attempt to boot from the hard disk. To make that work you have to format the Sider and supply information about how the disk is to be partitioned among the several operating systems you might want to install. FCP's Auto Install program, which boots under DOS 3.3 from floppy disk, makes partition adjustments about as painless as possible. A hi-res representation of the current allocation is displayed on the screen (see fig.1) so you can adjust to your heart's content before committing to the actual format operation.

The manual is candid: "...the Sider, in order to provide high quality performance, uses fixed partitioning to separate different operating systems. This means that if your needs change in the future, those partitions can only be redefined by reformatting." In practice this is not a serious limitation. The real problems stem from how each operating system is allowed to use its particular partition.

The Sider: Hard Disk (Continued)

V. DOS 3.3

When you format the Sider, DOS 3.3 is automatically installed. It is what boots each time you cold-start your Apple. Each DOS volume on the hard disk can be either a small volume (140KB, the same as a standard floppy) or a large volume (400KB). Each is referenced by a volume number (starting with volume one) using normal DOS syntax. Thus "RUN HELLO,S7,D1,V2" or "CATALOG V4" work as expected. A second Sider appears as slot seven, drive two. A given volume can hold as many as 106 files. A minimum of one DOS small volume must appear on the disk.

DOS and Integer BASIC are loaded into memory from an inaccessible part of the disk but one of the utilities makes a new boot track from the DOS residing in memory. In this way you can change hard disk slots or apply your favorite DOS patches. Using any of several "fast" DOS programs improves disk performance even on the hard disk. Such a DOS must fit in the old DOS addresses (\$9D00 to \$BFFF), must not have moved the RWTS entry point from \$BD00, and must make no calls "deeper" in DOS than RWTS. Diversi-DOS or my own FASTDOS (available on the Apple-Dayton bulletin board) work well here. Most protected software won't work unless you can somehow change the first three bytes of the RWTS at \$BD00.

The greeting program, named MAIN MENU on volume one, runs automatically at boot and gives access to any of the operating systems or a host of utilities. Since MAINMENU is written in BASIC, it can be modified or replaced entirely so you can customize what the system does at startup.

The utilities, while undocumented, are easy to use. FCP supplies an improved version of Apple's FID. In addition to the familiar functions, FCP FID handles volume numbers and can do a whole disk copy between a small volume and a floppy. Other utilities permit mounting CP/M volumes, changing Pascal Unit number assignments, Formatting a DOS data disk, and running diagnostics. The backup/restore program is described below.

VI. CP/M

The Sider supports Microsoft's Z-80 card with CP/M version 2.23 or PCPI's card with CP/M version 1.0, 1.5, 1.6 or 2.0. The entire CP/M partition must be at least 96KB but may be as large as 8 megabytes; this is divided among a maximum of four volumes per drive. Each of these volumes may be individually sized in 8KB increments when the disk is formatted. Only four volumes can be active at once; you must exit CP/M to alter which volumes are on-line. Each volume can hold up to 512 files.

Installing CP/M involves booting your own CP/M disk, executing the supplied installation program MINSTALL, setting drive assignments, and using PIP to transfer files from your own CP/M disk to the hard disk. Two drive assignments are possible: 1) CP/M volumes E and F are the slot six floppies while volumes A through D are on the hard disk, or 2) volumes A and B are the slot six drives while volumes C through F are on the hard disk.

As with DOS, booting CP/M is really a warm boot of the CP/M image saved to disk by the MINSTALL program. Adding new devices to the system or patching CP/M

requires that you execute MINSTALL from floppy each time things change.

In use, disk access under CP/M is two to three times faster than floppy. This is most noticeable when program overlays are called from disk or when files are paged into memory. Wordstar, for instance, benefits on both counts. With a potentially huge number of files on each volume, wildcard directory searches and formatted directory listings become a necessity.

VII. ProDOS

Because ProDOS was designed with large disks in mind, it really shines on the Sider. The ProDOS partition may be as large as the entire remainder of the disk but, whatever size you choose, the partition is divided exactly in half with each half corresponding to drive one or drive two of slot seven. Since ProDOS manages its files with a hierarchical directory, this seems arbitrary. In practice, ProDOS limits each volume's root directory to 54 entries; if your application involves a large number of small files, this even division of the ProDOS partition may be desirable. A second Sider may contain another equally divided partition referenced as drive one or two of an otherwise unused slot.

Installing ProDOS is simple: boot Apple's ProDOS System Master disk from slot six and use the ProDOS Filer to copy the files from your disk to the Sider. Since ProDOS automatically recognizes the Sider, even protected software is likely to be able to use the hard disk for file storage. Unprotected software, such as AppleWorks or MousePaint, can actually be installed on the Sider. The enormously increased space and fast disk response make these programs a real pleasure to use. I set up separate sub-directories (using the Filer) for AppleWorks, MousePaint, and the Editor/Assembler; a simple menu program to set the appropriate prefix makes each system available with a single keystroke.

I found two problems with ProDOS on the Sider; both stem from the way the operating system is started. The first problem occurs when you choose to boot ProDOS. The program MAIN MENU (running under DOS) must BLOAD the 62 sector ProDOS image from disk, set up some zero page parameters, and execute the program. Under DOS this is painfully slow and a fast DOS helps greatly. The second problem is that the ProDOS thus booted is version 1.0.1. The current version from Apple is 1.1.1. Even though your ProDOS volume may contain the newer version, the boot process never uses it. One solution is to arrange for your ProDOS startup program to notice the discrepancy (a PEEK of address 49151 reveals the version number) and execute the newer ProDOS system file.

VIII. Pascal

The Sider can accommodate Apple Pascal version 1.1 or 1.2. The 128K version of 1.2, however, cannot boot directly from the hard disk. I called FCP's toll free customer support line and learned that they plan to repair this problem in a future update (When? Real Soon Now in the parlance of Dr. Pournelle).

The Pascal partition can be as large as the entire disk; this partition is divided into four volumes which can be individually sized in 16 block increments when the disk is formatted. Pascal Units four and five become volumes one and two in the Sider while the slot six floppies may be assigned to Units 9 and 10 or Units 11 and 12. There is

The Sider: Hard Disk (Continued)

no provision for using Units 13 through 20 which are available under version 1.2.

Installing Pascal is cumbersome. Several files must be transferred to a copy of your APPLE1 disk and renamed according to which version of Pascal you will install. After booting this modified disk, you transfer its files to the hard disk. You then boot yet another copy of the original APPLE1 so you can change the name of your first APPLE1 copy. Finally, you store an image of your current Pascal system on the hard disk using a supplied utility named XBOOT.COM. Some of the complication arises from Pascal's intolerance of two on-line volumes bearing the same name, but the manual is entirely ambiguous about the need for two copies of APPLE1 in the first place.

FCP's method of warm booting Pascal is an abomination. First, Pascal learns much about its environment while booting. The warm boot approach short circuits this process. Adding cards or even adding system files requires recourse to the XBOOT.COM program. How much simpler it would have been to make the boot program load SYSTEM.APPLE into the language card and cold start the system in the usual way through the start up vector at \$FFF8.

Second, the hard disk driver program, originally loaded into RAM by SYSTEM.ATTACH, becomes a permanent fixture in memory. Each of the other operating system's drivers are part of the interface card's firmware and Pascal's would run just as well there. Nearly 1700 bytes of heap space are thus lost and attaching your own device drivers becomes a manual process. No greeting program (SYSTEM.STARTUP) is executed at boot time and any system work file left over from a previous session goes unrecognized. The Editor and Compiler get cramped for space.

In fairness, Pascal runs the fastest of the lot with the hard disk. Program segment swapping appears instantaneous and the delay imposed by compiler swapping is greatly diminished. Support for the 128K system would mitigate the memory loss.

IX. What backup?

Another corollary of Murphy's great theorem warns that a computer file can become damaged if and only if it is the only copy on hand. A hard disk compounds the problem of keeping adequate backups largely because of its size. For files smaller than a single floppy, you can make reasonable backups using just a given operating system's file transfer utility (FID, Filer, PIP etc.).

For large files, FCP supplies a quite useful backup/restore program. The program only serves DOS, Pascal, and CP/M. It permits examination of any directory on any volume allocated to one of these operating systems. The backup process formats, verifies, and copies disks prompting for each floppy needed and supplying a disk name for future reference. The program asks for only as many disks as it needs for the files on a particular volume so a large but sparsely filled volume doesn't need an armload of disks for a backup. Wildcard characters make backup of a subset of files easy. The restore operation prompts you for each disk by the name supplied when it was backed up originally. This program is an excellent,

low cost way to backup the Sider. It really needs to have written documentation.

ProDOS is conspicuously absent in the backup/restore menus. FCP promises to add it, once again, Real Soon Now. In the interim, the ProDOS Filer has proven adequate for most backup jobs.

What can damage data on the disk? The most feared disaster is a "head crash" in which the disk's read/write head falls from its position a few micro-inches above the magnetic surface and digs into the platter. At 3600 RPM the damage can be considerable and generally irreversible. This is why the Sider can tolerate more shock or vibration when not operational (see table 1).

For safety, the MAIN MENU's last option is to park the heads on some part of the disk containing no data. The manual, unfortunately, mentions neither this feature nor the penalty for failing to park the heads before powering down. Forgetting this operation appears to do no damage; if it did, every brown out would destroy the disk. Leaving the heads resting on your data just means that the operating shock and vibration levels still apply. Never move the Sider while it's running and never move it otherwise, unless the heads are parked.

X. How much faster is it?

No one doubts that a hard disk is bigger than a floppy; the question of how much faster is problematic. The frequently quoted transfer rate, 512 KB/sec, is a maximum specified in the small computer standard interface (SCSI) guidelines. For the Sider, the maximum rate is limited by operating system overhead and the speed of what is essentially a parallel interface between disk and Apple. The fastest operation I timed was a read of contiguous blocks using the Pascal Filer's bad block scan: 25.5 KB/sec.

Table two summarizes the results of timing several common disk operations. The DOS and ProDOS benchmarks were written in BASIC. The times are averages obtained by causing a particular operation to be performed several times in a simple loop. BLOAD and BSAVE are familiar DOS and ProDOS commands; the corresponding Pascal programs used UNITREAD and UNITWRITE. In each case the file size was 8KB. The read and write tests came from single iterations of simple text file programs; the comparable Pascal test used GET and PUT. In each the file was 100 records containing 256 byte strings or arbitrary characters.

DOS text files show almost no improvement while ProDOS, already much faster on floppy, clearly benefits from the hard disk. The Pascal/Sider benchmarks are not strictly comparable to the others but they show an improvement over Pascal/Floppy by a factor of two or three. The continuous scans for each system suggest the maximum transfer rate possible as well as the overhead imposed by a particular language and operating system. I did not have the opportunity to re-create the benchmarks for CP/M but my overall impression was one of a roughly equivalent improvement.

XI. The bottom line

The single best thing about the Sider is its low price/performance ratio. You would have to spend at least twice as much for half the storage with the competition. The speed factors are only marginally different since the transfer rates are limited primarily by the Apple's 6502 processor.

MacSIG Dances to JAZZ!

Or, How to Play a Symphony with a Syncopated Beat *by Tom Edwards*

They've waited long enough. Let 'em eat cake.

This night was to be the unveiling. A grand metamorphosis from the Land of Vaporware into the Realm of Regalware, as JAZZ!, the "Lotus product for the Macintosh," was scheduled to come center stage and play its musical magic to soothe our savage breast. A perfect evening for a jam session under the stars.

However, we were not under the stars, this June 24th evening at the Southdale Hennepin County Library. Sixty plus strong hearts were beating with anticipation as *Mike Carlson* called the meeting to order at the 7:00 PM curtain time, with more arrivals shortly after. Knowing that the crowd was anxious to get to the star of the show for this meeting, Mike scampered through the preliminaries quickly. Announcements included themes for future meetings of the two MacSIG groups, and general information about the Mini'app'les Club.

Some of the "old hands" were introduced, along with changes in volunteer assignments, brought on by the impending move out-of-state by *Steve Baker*, our original and much appreciated MacDOM editor. His duties are being assumed by *Mark Richards*, with assistance from *Bill Engle*. We extend many thanks to you, Steve, for your valuable service, and wish you well as you head for the setting sun.

Our usual round of self-introductions by those new to MacSIG showed a dozen fresh faces beaming from the audience. There was the now-familiar mix of serious business and frivolous business from those starting their love affair with Mac.

Like all love affairs, there come to pass some rocky times. Tonight's Q/A period brought forth some concern by at least one Mac'er that the 512K version seemed to be rough on power supplies... to the point of murdering them! During a lively discussion of reliability-in-general, it seemed to be the consensus of the group that Mac, Fat or Thin, maintains its cool pretty well. Not much different than the Apple // series, which is respected for a good record of serviceability.

For those looking for positive answers in how to treat Mac in order to keep its love into the golden years, there must have been bushels of disappointment this evening, as "hedging" was the name of the game. Longevity should be best if you don't switch Mac off unless you will not be using it for several hours. The screen brightness should be turned down during this time, to limit deterioration of the video.

Those complaining of "bad disks" were encouraged to insert disks after power-up, and remove them before power-down. Nonetheless, since "reboots" are inevitable at times, using the "programmer's switch" to restart should be less of a shock to the system than a full scale power-off/power-on.

On the "soft" side of the Q/A's, *Switcher* is now up to version 3.5. (Actually, 4.0 - Ed.) Some of the database moves should be better, if you can get a copy to work with. *Dave Stovall* is still romancing *MacDraw* to answer his architectural drafting needs. Although he has used *ReEdit* to change on-screen arrowheads, printout of the changes still eludes him.

Enough of this sparring at shadows. The meat of the matter this night was the mystical strains of the program from Lotus. Mike introduced our speaker, *Gerry Van Fleet*, Marketing Rep with *Lotus Development Corporation*, to conduct the presentation for the group. Gerry quickly set the credentials for JAZZ. It is now available; is fully supported by Lotus; seems to be "bug free", even with this first measure to hit the streets.

JAZZ consists of 5 movements: Word Processing, Database, Spreadsheet, Communications and Graphics. There is also a "Forms" module, that (if I got this right) lets you design how things are oriented in the screen view during Database entry. Your views can be of eight different windows, too.

Gerry pulled his demo files up and went through them with a steady hand. As you see each element separately, you are lulled into a semi-sonambulistic state. There is little to set the single elements apart from the appearance of quality stand-alone products that you may already be using. And, as each element is called from the disk for the first time, there is the inevitable Mac shuffle to confirm the fact that this tune is indeed playing on the Mac. Though it works with data files on a hard disk, the adventurous muse on what things would be like with the program on hard disk!

The power, the sweetness, the elegance of this program come not from the elements individually. It is the exponential utility factor as they all work together, feeding their creations into the mouth of the Word Processing segment as it collects, formats and presents.

Copies, cuts, moves of data from element to element, are where JAZZ struts its stuff. You know what the clipboard is, but in JAZZ it is a rocket-assisted adventure, written in the key of Mac and played at warp 3.

Try some of these, for instance:

- A "hot view" where a change in the database, or whatever, ripples through other windows, updating each as it passes.
- Keyboard equivalents for most menu selections.
- Spreadsheet of gargantuan proportions, with 72 available functions, including sorts and ability to "link." (Gargantuan may be relative, since JAZZ takes up a large part of the available memory - Ed.)
- A MacWrite-like word processor that has a 15" ruler and the merge-letter function built in.
- Communications forms to format data to your whim, stripping or adding characters to your specifications.
- Construct "forms" just by dragging fields into position.
- Support for various types of printers.

Lotus has made this a worthy addition to the software stage for the Mac. Some of the limits of the current release will evoke small grumbles from the hardcore users pressing for perfection. When pushed on the potential of "macros," Gerry would but smile and mumble

MacSIG Dances to JAZZ (Continued)

something about Lotus looking for the appropriate "enhancements."

We thank Gerry and Lotus Development Corporation for a first view of a most impressive program.

Feeling the breath of life beginning to slip from the evening's meeting, the diehards quickly parried with a flurry of parting shots before the final curtain. *Chuck Thiesfeld* probed for interest in a beginner's class on 68000 programming. *Ramsey Smith* called for beta-testers for a stock analysis program. *Steve Bibus* queried about other Mac groups that may be in the local area, and another voice was raised on the subject of desktop publishing. Others reported that some of the long awaited books are beginning to show up in the bookstores.

The bug swatters came out with reports on *MacSpellRight* (poor high-quality printout on 128K Macs); *MacWrite's* most recent release (drops right-most characters in full justify with bold and italic selected); and a real clinker in the "New System." Apple has made a change in the resource numbers allocated to the Desk Accessories. Many of the current third-party DA's use numbers that are not supported by this release. The bottom line is, a lot of Systems with non-Apple Desk Accessories get royally messed-up if you patch-in the New System. Beware! (How about some hints on how to avoid catastrophe from some of you developer-type folks?)



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Switcher Ahead by Dan Buchler

I failed to take heed at the first warning and ended up having to write this article twice. While working with *Switcher 2.6* and attempting to launch the *Finder* as an application, I invariably ended up with a bomb. So, when I received *Switcher 4.0* about a week ago I thought, "At last, I can return to the desktop instantaneously!". Instantaneous trouble!

You can launch *Finder* from *Switcher* and if you are careful, you can successfully utilize that environment. The warning is: Be careful! *Finder* is *Fickle*!

Firstly, each application launched under the *finder* independently keeps track of which disk is inserted. Result: a lot of unexpected disk swapping. For example, using *Microsoft Word*, I always work with a copy of the master. Let us refer to it as the "Work Disk." When you open *Word* normally (without *Switcher*), you reach a point where you are asked to insert the *Word Master*. After that you are asked to Insert the *Work Disk*. With *Switcher*, assuming you set-up to return to *Switcher* after launch, you see the following sequence.

- Mac ejects Work Disk.
- Message "Insert Work Disk."
- *Switch* to *Word*.
- Mac ejects Work Disk
- Message "Insert Work Master"
- Message "Insert Work Disk"

The reason is that each program thinks it has a certain disk inserted and ejects that disk without checking to see what it is. All of the above is basically an annoyance.

The real problem occurs if you open up *Word* and then start messing around with the desk top by *switching* to the *Finder*. I'm not sure exactly what causes problem, but the *Word* gets confused very easily. I have lost about 2 hours of work in the last two days. In fact while writing the first version of this article on trying to *Save it*, I got message "Unrecoverable Disk error ...on file:XXX." XXX was the name of the file previously accessed by *Word*. On trying to proceed, I ended up in a loop with this error condition. On another occasion, the error message referred to a file just renamed under the *Finder*, and I again lost the file I was trying to *Save*. This could be a "Word" problem, but my intuition tells me its the complex situation invoked by the *Switcher*.





Reviewed by Curtis Juliber

This month's MacDom features enough utilities and desk accessories to keep you busy until Mark and I can put together next month's MacDom!!

For openers, the latest version (4.0) of Switcher is included to update those of you who have MacDom #11. Supposedly, this will be the last beta version of this program before its actual release in early August. For those of you newcomers, Switcher is a program for the Fat Mac which allows you to make your own integrated programs. See Dan Buchler's excellent writeup in the July issue of the newsletter for more information.

Some of you out there in Macland have not yet picked up the new Font/Desk Accessory Mover, so we are including it on this MacDom. However, if you have a 128K Mac, read New-System Bugs, elsewhere in this newsletter. Apple has made some changes to the way programmers must put together desk accessories so you may discover a case where one of your trusty desk accessories won't install properly with the new mover. Do not fear. Many of the accessories are being reprogrammed to accommodate the changes. Some of them are included on this disk. You will notice such old friends as the Calendar, Delete file, Eject and reset, and Executive Decision Maker. New accessories include Timer, which I have discovered works great with Macterminal when you want to keep track of the time you're spending on a bulletin board system. The desk accessory called Time displays the time of day only, while Clock 1 displays both the date and time. Appl.font 1.01 allows you to change the default font of applications on the desktop. (WARNING! If you change the default font it will stay that way until you change it back, even after you've powered down the system and inserted a completely different disk.)

Multi-scrap lets you set up multiple scrapbooks. Transfer lets you switch applications quickly without returning to the desktop. DAfile is a small file program. FatMouse turns the cursor into a small magnifying glass which also gives you the pixel location of the cursor at any point. Extras 1.5 allows you to delete and rename

files from within an application as well as showing you the amount of available space and free memory on the disk.

If you wish to backup your copy protected software without paying more bucks to the software company, check out Super Copy 1.1. This is a shareware program which means the author requests a fee if you intend to use it. Instructions are on the disk as to how to get in touch with the author. Another shareware program on this disk is a fantastic program called Painter's Helper #1 which greatly simplifies the process of making whole page MacPaint drawings. No documentation is available but you should be able to figure it out.

Packit takes one or more Macintosh files (either applications or documents) and packs them together into a single file. It will also unpack them. The packed file can then be transferred to another computer using any of the existing binary file transfer programs (XModem, Kermit, etc.).

The latest version of the Resource Editor (.7) is also on this disk. This program allows you redesign icons, cursors, patterns, and fonts. The program still has some bugs so first backup the disk you wish to edit. REdit, version 1.0, is similar in some ways to the resource editor.

Want more? Well, just for good measure, we've tossed in Iedit 1.0, an Icon editor from the University of Michigan. Quick Print lets you easily print text files. Quick Directory is a nifty little program which allows you to quickly see what files are on a particular disk. For instructions on these programs, see their GET INFO boxes.

You say you STILL want more? Ok.... a 6 & 10 point Monaco font is on the disk as well. But that's it since there is no more space on the disk. By the way, as usual this MacDom does not contain a system folder so you'll have to boot up from another disk.

A personal note to retiring MacDom editor Steven Baker. It was fun helping you with MacDoms and other things. Best of luck in hot, humid, sticky Florida. May MacForce be with you.

New-System Bugs!

Can Apple be Less Than Perfect?

by Tom Edwards

There have been several mentions of the "New System" that Apple recently released for the Mac. I've experienced some trouble (!! It BOMBS!) with the new Font/Desk Mover on my 128K machine. The symptom is, I cannot move 18pt fonts with the New Mover and the Old Mover does not recognize the new fonts.

In reading through a fresh newsletter from the Stanford Macintosh User Group, I read just a sentence about troubles for 128K owners getting aced out in favor of 512K machines with this latest System release. If you've had some problems too, give me a call. I'll try to search out some answers and see if there are some ways around this.

Do you s'pose that someone is trying to tell us to upgrade? (You can do it real cheap now, Tom - Ed.)

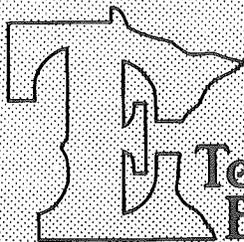
We're Looking for Artistic Mouses!

The Mac-Fest, a showcase for new products, training and information, is sponsoring an art contest. Use your imagination and mouse to create your own artistic masterpiece.

MACINTOSH™ ART CONTEST RULES AND REGULATIONS

1. Must be 18 years or older
2. Must use the Macintosh computer
3. Each participant please enclose a clean copy of the original artwork (no folds or creases) to: Technology Exchange, 3140 Harbor Lane, Suite 118, Plymouth, MN 55441. Include your name, address and phone number
4. All entries must be postmarked by September 16, 1985 to qualify
5. A panel of judges will review all entries
6. 30 drawings will be ribboned for display at Mac-Fest
7. Judges will award first through fifth place winners Saturday, September 28, 1985, 1:00 pm at Hyatt Regency Hotel
8. All drawings become the property of Apple® Computer
9. All artists will receive free passes to the Mac-Fest

GRAND PRIZE
WINNER WILL
RECEIVE
128K MACINTOSH
COMPUTER

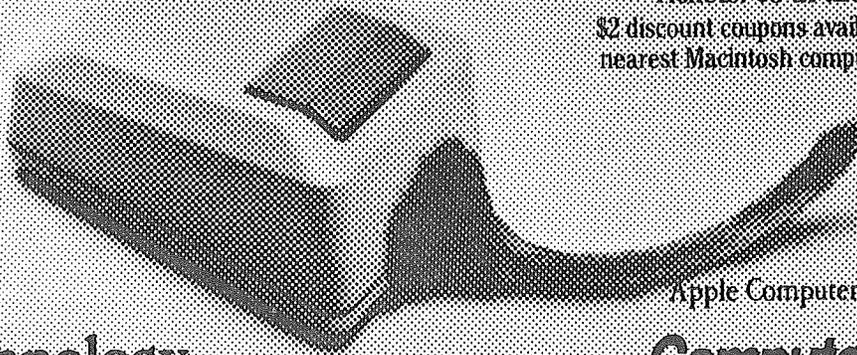


Technology
Exchange



Mac-Fest -- Hyatt Regency,
Minneapolis
September 26-28

Tickets: \$5 at the door
\$2 discount coupons available at your
nearest Macintosh computer retailer



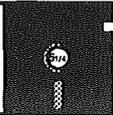
Apple Computer



ComputerUser

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August
DOMs



(Continued)

Math Invaders (Personal Domain)

Math Invaders by Alan Needham is a keyboard or paddle game similar to 'Type Attack' except that it involves addition of numbers. Choose sound on/off, difficulty, number of games (sets), etc. The <ESC> key starts the game. When you begin, you will be confronted with several numbered alien ships. At the side of the screen will be the math problem to solve. When you have added the numbers in your head, use the arrow keys to position your space ship below the alien with the correct answer. Space bar shoots the alien/digits and they disappear, while the remaining ones slowly descend upon your position!

As received, the Addition section is included. To receive the Divide, Subtract, & Multiply portions, you must send Alan his fee of \$10 -- remember, this is Personal Domain. So if you like the program and continue to use it, send the author the requested fee.



IAC #46 B.L.U. (DOS format)

B.L.U. stands for BINARY LINKING UTILITY which was written by Ken Lind. Its purpose is to facilitate the linking of Ampersand (&) routines, which are written in binary or machine language, to Applesoft BASIC programs. Two methods of using binary files are included: the two methods are termed Ampersand Library and Routine Library. The Ampersand Library mode works just fine, the Routine section has a few problems. (Routine Lib works for relocating the code, but won't 'link' routines together.) So, use the Ampersand Library mode!

In essence, this disk eases the pain involved when you would like to use more than one '&' routine in your program. Whenever Applesoft encounters an '&', it jumps to the machine language program that the '&' points to. If you have 2 or more you'd like to use, you've got a problem. Enter BLU. This allows you to link together several & routines into a 'library' which you create. Follow the example in the INSTRUCTIONS file on disk for a full explanation. However, when they tell you to BLOAD your library, BRUN it instead!

Thanks to Richard Peterson, the IAC disk is complemented with several demos which actually work (see those with the RHP suffix). See also the COMMENTS file for a brief explanation of each demo.



Announcements (Continued)

ART CONTEST for Artistic Mouse Maneuverers! For those with access to a Mac, and a touch of Dali or Rembrandt in their hand, Mac-Fest is sponsoring an art contest with a 128K Mac as first prize. See the Mac-Fest ad for full details. (Submissions due September 16.)

***** You can HELP.
***** Mini'app'les peoplepower will be needed to staff the booth. If you can donate some time to assist, please call and volunteer your services to Tom Edwards (544-3200{O}, 927-6790{H}) or Steve George (935-5775).



by Dan Buchler

A report by Tom Edwards on the June MacSIG meeting entitled MacSIG dances to JAZZ is detailed elsewhere in this newsletter. We are continuing our twice-a-month differently flavored monthly meetings of the MacSIG. The alternate meeting, is now being chaired by Steve Bibus (374-1612), and is targeted "for the rest of us". The name of this subgroup is the MacSIG NTU (Non-Technical Users.) See calendar for dates and topics. Next month's main MacSIG meeting topic will be MacMusic by Chuck Boody. Chuck is well known nationally as a contributor to the art and science of computers and music. He will talk and demonstrate the pros and cons of some Mac Music programs.



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MacSIG:ntu Pigs Out on Games

Yup! There is more to the Mac than
MacWrite and MacPaint!

by Tom Edwards

The June 17th meeting of the MacSIG:ntu featured GAMES!

Steve Bibus called things to order at the stroke of 7:00 PM. A hush fell over the crowd of 40 or so, gathered in the meeting room of the Southdale Hennepin County Library. Feet impatiently shuffled on the floor, as Steve recited the mandatory reminder about membership and asked for Q/A's.

Only one foolhardy soul dared to delay the evening's orgy of sin with a question about MS:Chart. Needing to move data from MS:Multiplan, he asked "How?" "Use the 'link' function," he was told. As armed guards moved menacingly closer, all thought of trying to find out more vanished.

Games were the order for the day, and games it would be! Steve went to the Mac and loaded MacDOM #10, the Mini'app'les recent release that is stuffed with the real thing.

There were demos of Megaroids, Asteroids, and Bonzal! All designed to weaken the will of the serious MacUser. Steve proved that the steady hand needed to run up big scores does indeed take a while to hone to a fighting edge. It was evident Steve has not devoted enough time to be a title contender.

Curtis Juliber was asked to describe the realm of Public Domain software, actually a catch-all term that now covers several types of low-cost or no-cost software. Some of the varieties are:

- Un-copyrighted works released into the public domain for the pleasure and utility of any user that wants a copy.
- Copyrighted software that is noted by the author for free personal use. A copyright notice is to accompany any copy of the program and sale of the program is prohibited.
- "Freeware" or "personal software" copyrighted by the author. This comes with an "honored-use" clause; copies are encouraged, but if you use the program you are asked to send a small fee to the author, who often provides updates or documentation for those that register their use with him. You can't sell it, of course. If you don't use it, erase it.

Many public domain programs for the Mac are high quality, useful programs, where a small fee will get you most of the features of commercial programs, often selling for prices many times higher. Some of the games that are available are very polished, occasionally limited-feature variations of programs that reach the commercial market in more elaborate form. Sources for these programs are bulletin boards, friends, on-line databases and of course some of our own MacDOM's.

Other games demo'ed at the meeting included:

- AIRBORNE: Shoot 'em up arcade action with full sound effects of guns, explosions and motorized vehicles.
- MacCHALLENGER: Use your piloting skills to bring the Shuttle down from orbit and grease it in on a desert landing strip. Gopher stew is served if you miss the mark.
- FEATHERS in SPACE: A real turkey shoot.
- GATO: Command the WW II submarine assigned to patrol the South Pacific, seeking out enemy craft and sinking them. You will need to brush up on Morse Code, if you expect to get new orders or intercept radio traffic.
- MILLIONAIRE: Parlay your bankroll by playing the stock market. Based on realistic market performance.
- SLOTS: Your Mac can look like most any of the coin or card games that you find in Vegas. Catch gambler's fever without sacrificing your wallet to the mob.
- SARGON III: A board-game extraordinaire. Play chess against a ruthless opponent... MacBoris. Muff a move and you go down in history... defeated again!

See? All work and no play does make Mac a dullard.



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Quartet for the Mac; retail \$199. 3 leaft at \$95 each.
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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

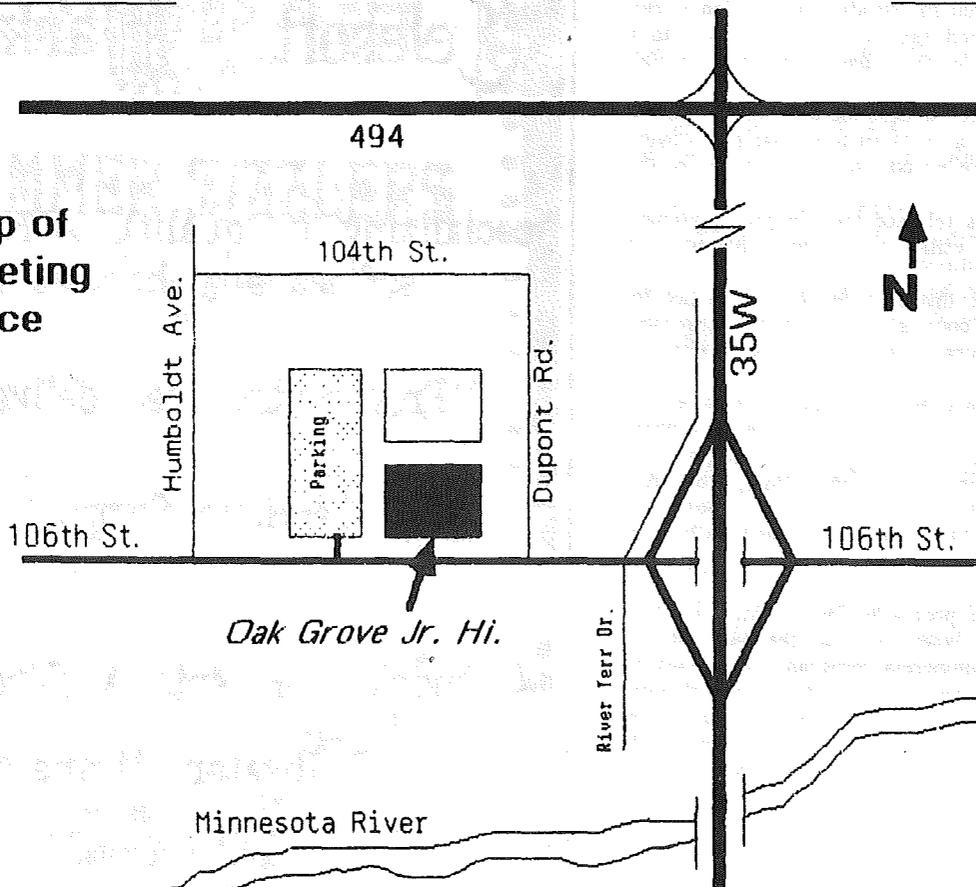
Members can order DOMs (not Mini'app'les Software or MacDOMs) using their own diskettes. Here is the procedure:

- 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.
 3. Send correct postage in stamps -- do not send money in lieu of stamps.
 4. Self-addressed return label.
 5. \$1.00 copying fee per DOM or disk.
 6. A note indicating which DOMs are desired.
- Send to:

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

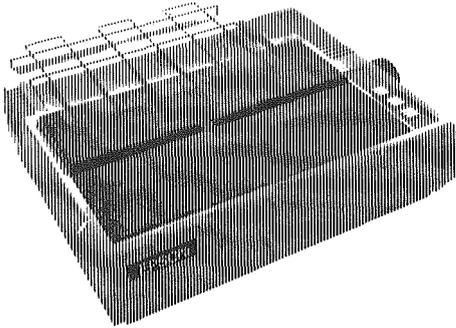
Please allow 60 days for delivery in USA. Incomplete packages will not be returned. DOMs 1 thru 29, except 18, EAMON #3, and 8 Pascal disks are currently available. Mini'app'les Software disks (MSD) are not available! General questions about DOMs should be addressed to Steve George.

Map of Meeting Place



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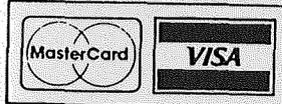
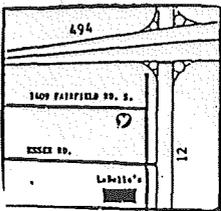
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