



mini'app'les

apple computer user group newsletter

VOLUME V No 4

APRIL 1982

CALENDAR

CALENDAR

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WHICH	WHEN	WHERE	WHAT
Genealogy Note 4	Sat Apr 3	Lexington Library 1080 University St. Paul	Genealogical Computing Special Interest Group Regular meeting.
Pascal Note 1	Wed Apr 7 7:30pm	Minnesota Federal 9th Ave S Hopkins	Regular Pascal Special Interest Group Meeting.
Languages Note 6	Wed Apr 7 1st of 8 sessions	Roseville	Assembly Language Class
REGULAR MINI'APP'LES Note 2	WEDNESDAY APR 21st 7:00pm	PENN COMMUNITY CENTER Auditorium! 84th & Penn Bloomington. Just S of 494 & W of 35W Free parking on premises. <i>Map back cover</i>	<i>Annual Election & Demos of the best games by Keith Madonna and Demo DTACK-Grounded 68000 Processor board for Apple II (Tentative)</i>
St. Paul Branch MINI'APP'LES Note 3	Tues Apr 27 7pm-10pm	Minnesota Federal White Bear Lake Shopping Center	General meeting
Education Note 7	Wed Apr 28 7.30pm	Sperry Univac 3001 Metro Drive Bloomington	Pascal Data Base Techniques
Pascal Note 1	Wed May 5 7:30pm	Minnesota Federal 9th Ave S Hopkins	Regular Pascal Special Interest Group Meeting.
Board Meeting Note 5	Wed May 12th 7:30 pm	To be announced	Appointment of new Board members
IAC Annual	May 14th- -16th	Boston MA	Annual Meeting & AppleFest
REGULAR MINI'APP'LES Note 2	WEDNESDAY MAY 19th 7:30pm	UNIVERSITY MINNESOTA ST. PAUL CAMPUS Near State Fair Room B45 Bldg 412 <i>Map next issue</i>	<i>To be determined</i>

Amateur Fair Sat Jun 5 Minn State Fair Grnds Swapfest & Exposition.

- Note 1. Contact- *Keith Madonna*
 2. *Chuck Thiesfeld*
 3. *Pete Halden 770-6624*
 4. *Bill Decoursey*
 5. *Stephen K. Johnson*
 6. *Max Coe 377-2107(H), 631-6667(N)*
 7. *Chase Allen*

NOTE NOTE NOTE
 We have reserved the
AUDITORIUM in the Penn
 Community Center. This a much
 superior meeting room to the
 Cafeteria in which we met in
 January.

MINI'APP'LES

The Minnesota Apple Computer Users' Group, Inc.

P.O. Box 796
Hopkins, MN 55343

MINI'APP'LES OFFICERS

<i>President</i>	Stephen K. Johnson 6053 Wentworth Ave S. Minneapolis, Minnesota, 55419	869-3447
<i>Past President and Newsletter Editor</i>	Daniel B. Buchler 13516 Grand Avenue S. Burnsville, Minnesota, 55337	890-5051
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<i>Secretary</i>	Ron Androff 1725 Crest Ridge Lane, Eagan, Minnesota, 55122	452-5230

MEMBERS OF THE BOARD

Membership Co-ordinator	Ann Bell 8325 39th Avenue N. New Hope, Minnesota, 55427	544-4505
Software Distr. - Mail and Software Sales	Hugh Kurtzman 11622 Live Oak Dr Minnetonka, Mn., 55343	544-7303
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MECC Librarian	Dave Nordvall	724-9174
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Blank Disk Bulk Purchases Co'tor	Peter Gilles	475-3916
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Spcl Int. - Nibble	John Schoeppner	455-8613
Spcl Int. - Z80/CPM & Meeting Hdw Support	Rick Gates	735-0373
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Assistant Librarians:	Bill Decoursey	see above
Assistant Prog Editors:	Tom Edwards Rick Gates	927-6790 see above

INFORMATION

This is the Newsletter of Mini'app'les, the Minnesota Apple Computer Users' Group, Inc., a non-profit club.

Questions

Please direct questions to appropriate board member or any officer. Technical questions should be directed to one of the Technical Advisers listed here.

Membership

Applications for membership should be directed to the Membership Co-ordinator. \$12 buys membership for one year. Members receive a subscription to this newsletter and all club benefits.

DOMs

The 3 most recent DOMs (Diskettes of the Month) are available at meetings for \$5/disk or any DOM may be ordered by mail for \$7.50/disk. Contact Software Sales coord'r.

Dealers

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

Newsletter

Contributions

Please send contributions directly to the Newsletter Editor. Hard copy binary or text files (ASCII coded) are preferred, but any form will be gratefully accepted. Deadline for publication is the 3rd Wednesday of the month preceding the month in which the item might be included. An article will be printed when space permits if, in the opinion of the Newsletter Editor, it constitutes suitable material for publication.

Advertising rates

Rates are as follows:
Full Page \$40/issue
Half Page \$25/issue

Circulation 1000 (approx)

EDITORIAL

On Club Branches

by Dan Buchler

You have all noticed the hordes of people at our monthly Mini'app'les meetings. It nice of you all to come, but many are asking:
 "What am I getting out of this club?"
 "Didn't I join so I could meet other Apple user's and learn from them?"
 "These crowded meetings are not condusive to meeting people!"

We old timers remember the days when there were 20 or 30 people at a Mini'app'les meeting, and everybody knew everybody else. Well I think we can have our cake and eat it! The answer is the club branch or special interest group. A St. Paul Branch has recently been formed and was attended by about 30 people. At such a meeting you can talk to the other members and exchange lots of ideas. Beginners can feel more at ease and free to ask the most fundamental question.

What I am suggesting is that we promote the formation of more branches. We have enough members to form several branches. Also by getting several going, there will not be a tendency for everyone to go to every 'branch' meeting and thus create the current 'huge' meeting attendences all over again.

I am also advocating that these 'branches' remain affiliated with Mini'app'les. The benefits are many and include our disk purchase arrangements, common newsletter, major meetings with key speakers and most important access to a pool of talent that is second to none!

Running a branch involves some work, but its not too terribly time consuming and the club will help with meetings and ideas. So come forward and form some branches.

As a starter, who, south of the Minnesota river, would be interested in attending a 'Burnsville/Eagan/Apple Valley branch'? Give me a call (890-5051) and let me know suitable days and ideas for a meeting place. I'm willing to run it, although I think we could use some new blood, and I would prefer someone else to do so.

We also need more true special interest groups (SIG). Mike Carlson has volunteered to help create a **VISICALC SIG**. If you are interested, call him at 929-4120.

DOM #11 PROBLEMS

by Dan Buchler & Hugh Kurtzman

Unknowingly during the reproduction cycle, many bad copies of DOM #11 were created. If you have trouble with the Tutorial and/or Catalog Management, you probably have a bad disk. We are making extra replacement copies and will have these available at the April meeting.

NOTICE

ADVERTISING RATES

Our monthly press run is now 1000 copies and will likely increase again soon. That together with increasing printing costs necessitates a price increase in Advertising rates effective immediately. Ads already ordered are not effected. See page 2 for new rates.

MINI'APP'LES Education

by Chase Allen

Last fall I announced a project which would attempt to compile a Pascal Reference Manual. For a variety of reasons, this project has been slow to jell. The call is out to submit your utility routines for inclusion, so we can get this project moving. Some routines are going to be very short, and may seem to be inconsequential. I assure you that the shorter and simpler, the better. Please get in touch with me if you have any questions on format. Of especial interest would be routines that handle real variables to give greater than 20 bit precision for multiply, divide and exponentials. (Note that Pascal uses 4 bytes for real variables, with 12 bit characteristic, and 20 bit mantissa.)

The long delayed second session of the Data Base Techniques Seminar (Pascal edition - still looking for a leader for the BASIC version) will be held April 28, 1982 at 7:30 PM. The location will be as before:

The Sperry-Univac Bldg.
 3001 Metro Drive,
 Bloomington.

I will contact all prior attendees. Anyone else desiring to attend is invited; call me if you wish to attend.

GAME PADDLES

Comments on some Game Paddles

by John L. Hansen

If you were one of those who played SUPER INVADERS with the APPLE game paddles when they were still supplied with the computer, you undoubtedly experienced the frustration that occurred when the firing button began to fail and you kept getting blasted in critical situations. At one of my early Mini'App'Les meetings, I learned that I could correct the problem by substituting a similar switch from Radio Shack. However, this switch lasted only about as long as the original.

Realizing that my low game scores had to be due to the defective switches, I went shopping for a set of game paddles. I came home with a set manufactured by a company called TG Products of Richardson, Texas. (\$39.95 per pair) These paddles contained a large impressive switch and a smooth potentiometer (the variable resistance under the knob that controls motion of your tank, etc., across or up and down on the display). It's knobs had red or black TG's so that you just had to figure out whether black or red was PDL(0). Disconcertingly, I found that the big button failed to fire an unacceptable number of times. Also, when I was at the extreme right side of the display, I was often could not get my tank to move and was destroyed again.

Hauling out some scientific tools, I determined that the rotation of the potentiometer from the left stop to the right stop was 300 degrees of the 360 degrees of a circle. Using PDL(0) and PDL(1), I measured the values obtained as I rotated the knob. Assigning a value of zero degrees to the full left position, I found that between zero and 10 degrees, the reading was 0. Between 10 and 220 degrees the PDL(0) and PDL(1) values increased linearly from 0 to 255 and from 220 degrees to 300 degrees (full right stop), the paddle value was 255. If we convert the degrees to possibly more easily understood percentages, the first 3% of rotation is 0, the next 70% the desired change from 0 to 255, and the last 27% of rotation gives a value of 255. As long as you are in that 27%, your tank will stand still on the right side of the screen. If, in your excitement, you move the

knob to the full right position, you have to rotate the knob about a quarter turn before the tank (or other object) starts to move -- being slow, I'm usually obliterated by that time.

Recently I discovered the ultimate in game paddles (I thought). The Keyboard Company (TKC) makes a set that matches the APPLE colors, uses microswitches and has two concentric potentiometer controls. Price is \$29.95 per pair. The controls consist of a small diameter knob on top a large one. The large one gives you fine control and the small one rapid motion. A "0" and "1" are molded into the knobs (never any confusion as to which is which). Unfortunately, all is not well. The microswitches do not always fire. (however, based on my past experience with microswitch reliability, I am beginning to suspect that some games have instructions built in that randomly and occasionally cancel my attempt to fire). The potentiometer has the same rotation range as the TG paddles. However, the paddle value is zero for the first 24 degrees of rotation (8% of the full range) and 255 for the same range as the TG (80 degrees = 27%) on the upper side of the range. As a result, you can lose by standing still unintentionally on either side of the screen.

I wondered why I had never observed this problem with the original APPLE paddles, so I ran the same check on them. The full range was again 300 degrees; the paddle is on zero for the first 20 degrees (almost as much as the TKC), but on 255 for only 40 degrees (half as much as the TG or TKC). Since my SUPER INVADER technique involved working from the right side of the screen, the smaller range was less obvious and I apparently attributed my problem to slow reactions.

Chuck Thiesfeld tells me I can reduce the problem by putting the proper resistance across the potentiometer. This will be my next step, but I still think manufacturers who advertise "Expand your APPLE with precision TKC products" should be sure that precision means the potentiometer range more closely matches the APPLE range of 0 to 255.

MECC PROGRAMS

by Dave Nordvall

INTRODUCTION

This is for the benefit of new members who may not be aware of MECC activities. The Minnesota Educational Computing Consortium (MECC) has been supporting computers in schools and colleges since 1974. Besides developing disks for the APPLE II MECC has a timeshare system with a CDC CYBER 73 that is available at low cost. This year they are starting to support the the ATARI 400 microcomputer. ATARI won the 1981 Minnesota contract for a low cost system to be installed in thje state schools.

All disks, books and services are available direct from MECC. Call them at 376-1118 for information and cost. However, most MECC disks are available to Mini'app'les members at half price. This is a club service. PLEASE do not call MECC and ask them for disks at Mini'app'les price. While there are support books for all of the MECC disks, only those that are required to use the disk are available from us. The price is rounded up to the next half dollar. Order forms are available at the meetings or copy the one in the January newsletter.

NEW MECC ITEMS

There are several new items available from MECC.

Disks requiring support book:

- *Intro To Applesoft Basic*
Disk No. 637 with student book and answer key for \$12.50 This covers Input/Output, Looping, Functions, Data & Strings and touches on Screen Formatting and High Resolution Graphics. Each chapter has exercises and review quizzes, for which the answers are given in the Answer Key book.
- *Files On The Apple*
Disk No. 640 with student book and answer key for \$12.50 This covers Types & Commands, Sequential Files, Random Access Files, and Binary Files. Each chapter has exercises and review quizzes, for which the answers are given in the Answer Key book.
- *Advanced Applesoft Basic*
Disk No. 670 with support book for \$8.50 This covers such things as Boolean Arithmetic. Peeks. Pokes &

Calls, Functions, Error Processing, Subscripted Variables, Sorting, and Files.

Books

Several books are available that might be of interest:

- *Introduction To The Apple II* This booklet for \$2.00 provides training materials on various aspects of using the Apple II in education.
 - *Beginning Applesoft Basic* for \$4.00
 - *Intermediate Applesoft Basic* for \$5.50
- These two booklets cover everything from Introduction to Programming Languages & Flow Charts to Subroutines. They were intended to be used as outlines in teaching Applesoft, but would be well suited for use as a text for self study.
- *Applesoft Special Features* for \$4.00
- This book covers low and high resolution Graphics, Shape Manipulation, and some Starter Programs.

The above items will be available from me, to be delivered at the next meeting, on prepaid orders only. Place the order at a Mini'app'les meeting or mail it to me:

David Nordvall
5252-36 Ave. So.
Mpls. Mn. 55417

Item 720, Programming Aid, and item 724, Shape Tables must now be prepaid. The club does not have sufficient capital to inventory all of the MECC books.

All other disk are \$5.00 each or \$7.50 each by mail.

DISK REVIEW

The following is a summary of the item #702, Elementary Math Vol.1 Disk It contains five games and six drills in math as follows:

Bagels

A game of logic with the computer randomly selecting a 2 - 4 digit number which the student must guess. The computer provides clues.

Hurkle

A game for teaching the coordinate system. Students find the hidden "Hurkle". (My daughter loved Hurkle when she was in 4th grade - Ed.)

GOTO 7

NEW PRODUCTS

by Dan Buchler

The proliferation of new products continues!

32K/64K/128K RAMs

Saturn Systems, Ann Arbor, Mich. have announced a large memory board of their own. (see ad by CDS elsewhere in this newsletter). This is the first 128K board. SVA offer a 64K board expandable to 256K (see Feb newsletter) and Legend offer a 64k board. The Saturn board comes in a 64K version expandable to 128K. In the 128K version, the cost per byte is less than for any of the other boards except the Axlon 320K RAMDISK:-

Mountain Computer have also announced a new memory board. Their's is a 32K board which can be purchased populated with only 16K of memory. Because the board uses the common 4116 16K Bit RAM integrated circuits, one can upgrade to 32K from 16K for around \$16.

	List price	Cents/byte	Mem. config	No of boards	Slot
Axlon	\$1400	.43	320K	Note 1	0
Saturn	599	.46	128K	?	?
Legend	375	.53	64K	1	?
Legend	750(3)	.53	128K	1	Any
SVA	1295	.61	256K	2	Note 2
Mount'n	209(4)	.63	32K	1	Any
Saturn	425	.65	64K	?	?
Saturn	239	.73	32K	1	0
SVA	495	.76	64K	1	0

Note 1 1 interface board any slot + external memory.

Note 2 2nd board piggy-backs on first board. Also contains 2K of firmware ROM.

Note 3 Includes emulation software.

Note 4 16K board lists for \$189 + \$16 approx. for 8 memory chips (you install).

The above prices may be deceiving in that the availability of discounts from one manufacturer to another and from one dealer to another varies considerably.

Saturn offer Disk emulators that appear similar to the ones offered by their competition. See article entitled 32K RAM BOARD REVISITED by Ken Slingsby elsewhere in this newsletter. It is interesting to note that the emulator techniques are not all the same. SVA seem to have the most elaborate and fastest, perhaps equalled by Axlon. However a benchmark run by Carl Helmers of North American Technology, Peterborough, NH using PASCAL and a number of compilations,

some filer and some linkage edit manipulations required 18 minutes 13 seconds with a floppy drive and 10 minutes 33 seconds with the Axlon RAMDISK. That is perhaps a poor measure since we do not know what proportion of the time was disk I/O bound. SVA has some special PASCAL capability, and for DOS they use a fairly elaborate technique which sets up the emulated disk. However the result is a speed improvement of about 10 times compared to about 3 for Legend. The speed of the Saturn system is unknown. (See March Softalk for more details). Mountain are not currently offering a disk emulator, though one of the other manufacturer's emulators might work. However, you cannot assume that all software is compatible because there are differences in the addressing techniques.

Both Saturn and Mountain Computer have a DOS mover, and what is unique, a mod for Visicalc so that the extra memory may be used. (The Mountain Visicalc mod is due to be released this month) The Visicalc mods will cost between \$50 and \$100.

MICROBUFFER II More Information

In the February New Product report I mentioned the Microbuffer II by Practical Peripherals. I did not do justice to it. I did them an injustice in the last report. They in fact have a fantastic idea, but you wouldn't know it from their flyers. The board contains its own microprocessor, so that it can be set up to ignore resets. What that means is that you can run your word-processor, or any piece of software that generates printed output, feeding the output to the Microbuffer II as fast as the program will run. Then you can hit RESET or do whatever you want to terminate the job, and the Microbuffer will go on feeding the printer until it has exhausted its 16K or 32K buffer (about 10 pages at 64 chars/line average and 50 lines/page).

GAME PORT MODEM

The Micromate company is offering a direct connect modem and dumb terminal software package for \$289. The modem interfaces to the Apple through the game port.

57 LINE CRT

Micro Display Systems Inc., Hastings, Minn., are offering a high resolution black and white CRT. The screen is 15" wide and displays 57 lines of 80 characters with an option for 66 lines.

GOTO 7

Advertisement

RECYCLED MUSIC SYSTEMS APRIL SPECIALS

EPSON MX-80 with GRAFTRAX & TYMAC interface	\$580
SILVER DOLLAR ribbon paks for EPSON	2 for \$ 8
BMC EU-12 high resolution (18mhz) monitor	\$158
DAN PAYMER LCA-2 lower case adaptor	\$ 35
VISION-80 80 column card with lower case	\$275

These prices are only for Mini'app'les members, and require proof of membership (membership card).

We handle products from MicroSoft, Hayes, Amdek, M&R, Mountain Computer, Dan Paymer, Vista, Olivetti and others. Nearly all items are IN STOCK, and we provide fast delivery on special orders. For more information call Alan at:

(612)-721-3295

Quality consumer electronics for over 12 years!!

New Products Continued from page 6

With Apple interface, the price is \$1795.

FORM & REPORT GENERATOR

VersaForm by Applied Software Technology, Monte Sereno, Ca. is a very sophisticated Screen format generator, report generator and data base manager. This product appears to do alot and should be seriously reviewed by anyone who needs to enter data and generate business forms. Price is \$389.

SMITH-CORONA PRINTER (Daisy-wheel <\$900)

The long rumoured printer from SC is a basic printer that lists for \$895 and runs at around 12 characters/second.

MORE ON LOGO

There are in fact now 3 versions of Logo for the Apple on the market.

Terrapin @ \$149.95

Krell @ \$179.95

Logo Computer Systems of Point Claire, Quebec, Canada.

The later version will be sold by non other than Apple Computer! No price available.

MECC Programs Continued from page 5

Metric 21

A game of Blackjack for improving skill in approximating metric lengths.

Number

A game of logic which can use various ranges of numbers. The computer picks a number to be guessed and gives clues of "too high" or "too low".

Taxman

A game which teaches about factors of a prime number.

Change

A drill on making change with the computer providing a random purchase price and the amount paid.

Metric Estimate

A timed drill for estimating lengths of line segments in centimeters and millimeters.

tric Length

A drill on converting from one metric unit to another using centimeters and millimeters.

Round

A drill on rounding numbers to the nearest ten, hundred, thousand etc.

Speed Drill

A timed drill on addition, subtraction, multiplication, and division with a choice of easy to hard problems.

Tens

A drill on muliplying numbers which are multiples of ten.

CHEAPER PRINTER RIBBONS

by Don Fuller
Northern Illinois Apple Users Group

The following article was originally published in the March, 1982 edition of the Harvest, the journal of the Northern Illinois Apple Users Group.

I though this would be of interest to the local Epson owners. Note that we do have a source of reloadable Epson MX80/MX100 ribbons called Silver Dollar Ribbons, but they may not suit everyone.

EPSON MX-80 owners arise! I'm not sure just how many MX-80 (and MX-70) owners there are out there, but personally, I'm tired of paying an outrageous amount for the ribbon! At the current price of \$14.95 + tax at your local printer ribbon store, and the way the MX-80 goes thru ribbons, I think I have found a way to ease the expense.

As you have probably noticed, on the EPSON ribbon cartridge is a diagram for installation and a place to mark the number of "EXCHANGE TIMES". What do you suppose that means? Well, I 'think' that the purpose of that was to inform the ribbon people just how many times the ribbon was replaced in that little ol' box! With that in mind, why not do it myself...!

First things first. If you'll turn off the printer and pop the ribbon cartridge out, you'll notice the usage

seems to be on one side of the middle. Well, for starters, I turned the ribbon over! YEP! That was good for about 20 minutes of "Hey! Don't touch me!", but I learned something in the process. The ribbon can be replaced without buying a new cartridge! So? Read on...

If you'll proceed to your nearest RADIO SHACK and "if" they carry ribbons for their printers, you'll find that the Centronics 700 series ribbon can be a replacement! (cost about \$4.95)

How to do all this? Now that you have your EPSON turned off and the ribbon cartridge in hand, start with a small pen knife and "pop" the snaps up and use the knife to gently (and I do mean gently) pry the top off the case. At the end with the protruding post, take your fingernail and move the little roller away from the roller with the post and lift the ribbon free. At the other end, pull the ribbon clear and 1. Turn the ribbon over and repack the case or 2. Replace the ribbon with the one purchased at the RADIO SHACK store.

If you are replacing the ribbon with a Centronics ribbon, make sure the MOBIUS LOOP is on the right side of the print head after replacing the cartridge in your printer. But don't worry if it's on the left, it will eventually find its way to the other side...

If you're contemplating this little trick, I suggest you do not wear your wife's white cotton gloves! In other words, if you aren't careful, this can be a bit messy. With due caution you get ink only on yourself, two kids (neighbors, of course), the cat and one parakeet.

Some question arises about the feasibility of all this. I go thru a carton of paper about every 90 days (3500 sheets) and if I run into any problems, I'll let you know. I'm reasonably sure that the lubrication qualities of the Centronics replacement will be compatible with the EPSON and at this point in time, I don't feel like paying thru the nose for EPSON cartridges!

Any rebuttals out there in printer land?

CANDIDATE STATEMENTS

As of press time, there will be contests for the offices of Vice President and Secretary in the Mini'app'les annual election to be held on April 21st. The nominees for office are:

President:	Ron Androff
Vice President:	Chase Allen Ken Slingsby
Treasurer:	John Hansen
Secretary:	Hugh Kurtzman Ken Foss

It is hoped that members coming to the election will exercise their privilege to vote. To help make intelligent voting decisions, election platforms for some of the candidates are presented below:

John L. Hansen for TREASURER

I have been a member of Mini'app'les since early 1979 and belong to both the Pascal and Nibble Special Interest Groups. I have written articles for the Newsletter and helped the editor put it together for the press and get it ready for mailing.

I previously served as treasurer for five years (not continuous) for the Land O' Lakes Region of the Sports Car Club of America, a non-profit corporation under the laws of the State of Minnesota, as we shall soon be. This experience should be beneficial if you select me as Mini'app'les Treasurer.

My philosophy has always been that being a member of a club involves working actively in that organization. I would like to continue that idea in Mini'app'les.

CHASE ALLEN for VICE PRESIDENT

I have been the Education Coordinator of MINI'APP'LES for the past year, and during that time I have been educated with the needs of the Club. I want an opportunity to further the aims of our Club in providing assistance to new users of the Apple, providing a source for technical reference for the membership and the fellowship of a common interest.

My background consists of a bit more than a year with the Apple, concentrating in Pascal and CP/M. I have been with Sperry-Univac for sixteen

years, during which time I have worked with a variety of computers, and have been involved in Programming, System Design, Quality Assurance and supervision of other programmers.

For my platform, if elected I would support the policies already in place, with a prime emphasis on locating a permanent meeting place. I would continue to support a broad educational program, presenting technical seminars on subjects of general and specific interest. My promise to you, should you select me for the office of Vice-President, would be to keep an open mind, looking for ways to serve you, our members, in the most helpful ways possible.

KEN SLINGSBY for VICE PRESIDENT

I have served the User Group for the past two years as program editor. In this position I have received material for inclusion in the Disk of the Month and have tried to document it so others could easily use it. I have been a member of Mini'app'les since its founding. During these years, I have had the opportunity to attend several board of directors' meetings and am familiar with the conduct of business in our User Group.

If elected to Vice President, I will continue to serve the Group to the best of my ability and try to promote the wellbeing of the organization.

HUGH KURTZMAN for SECRETARY

I have been involved with Mini'app'les for over 2 years. Having been a board member for most of that time and presently holding the job of Software co-ordinator, I am familiar with club policies and procedures. I actively participate in the PASCAL Special Interest Group (SIG) and the Nibble SIG.

As an 'Educator', I perceive an ever-growing influence of the personal computer in everyday life.

If elected to Secretary I will work for the better distribution of Public Domain software as well fulfilling the duties of Secretary.

EXCERPTS FROM

A P P L E N O T E S

Thomas M Neff
 A Bit Better Associates
 P.O. Box 621, Athens, OH 45701
 (614) 592-6179

(Excerpted from POKE-APPLE, January, 1982.
 This is the newsletter of the APPLE-SIDERS
 of Cincinnati, Ohio.)

RESTORING PAGE 3 VECTORS

Sometimes a program runs wild and trashes the contents of Page 3, where DOS stores vectors and routines including, but not limited to, the ubiquitous "3DOG" reentry to BASIC. You can restore these vectors as follows (48K Apple under DOS 3.2, 3.2.1, or 3.3 assumed):

```
>POKE 72,0
>CALL -151
*3DO<9E51.9E80M
*3F2:BF 9D 38
*3DOG
>
```

The second monitor command (*3F2:...) sets up the Autostart ROM reset vector to return you to BASIC. If you prefer a different vector, set it up instead. For example, "*3F2:69 FF 5A" goes to Monitor. The Applesoft ampersand("&") and Monitor CTL-Y jumps are stored at \$03F5 and \$03F8, respectively. If you had special values for these you'll have to restore them as well, since the first monitor command (*3DO<...) copies DOS's default values in.

PROGRAM LINE EDITOR AND THE "INIT" COMMAND

If you use Neil Konzen's excellent Program Line Editor (P.L.E.), be careful when INITing new disks. If you boot standard DOS with 48K and MAXFILES 3, your HIMEM: is \$9600. The P.L.E. installs itself BETWEEN the three file buffers and the rest of DOS's space, moving the

address of the first buffer, and thus HIMEM:, down to \$9000. Even if you "unhook" P.L.E., that new DOS boundary remains in effect. You can't change it back without rebooting DOS. If you INIT a disk with the change still in effect, the slave disk you create will forever after boot up with 6 fewer pages of available RAM than an ordinary slave disk of equivalent memory size. If the created disk is always going to be used in conjunction with P.L.E., it's less of a problem; but if you're just formatting new disks and you happen to have loaded P.L.E. during the current session, you should reboot standard DOS first.

If this warning is coming as complete news to you, it might be good to go back and try booting a few recently INITED disks and see if you have HIMEM:\$9000. In Applesoft, display \$73-\$74;, in Integer, \$4C-\$4D. If you find any, one quick way to fix them is to BRUN MASTER CREATE or UPDATE on them. The new DOS written onto each disk will boot up with the standard boundary values.

ARRESTING THE LANGUAGE CARD KILLER

Whoever thought this one up at Apple Computer Inc. ought to think up one more and then quit... On your 48K system, boot DOS 3.3 and examine the sequence of instructions reached after DOS is loaded:

```
>POKE 72,0
>CALL-151
*B721L
```

See that "JMP \$BFC8" at \$B741? Type "BFC8L" and see what's going on. After doing a PR#0 (JSR \$FE93), as in Version 3.2, DOS 3.3 now write-enables the Language Card, if you've got one, and puts a \$00 at the location \$E000, that later tells whether Integer or Applesoft BASIC resides there. In short, it throws away the language card's contents every time you boot, thus FORCING you to include on your disks one or both of the giant FP/INTBASIC images, plus the long-winded HELLO program procedure necessary to re-load the card. How obnoxious.

Here's how I changed my DOS 3.3 Master about 2 hours after I got it:

```
>RUN DAN'S DISK UTILITY
?O,9R
?CE:4C 44 37 (forces return
              after PR#0 and LDA
              $COB1)
?W
```

Master Create can then fix DOS 3.3 disks you've already made. Hacked-up DOS versions can be dangerous, but this was worth it to me.

SECTOR SIZE OF AN APPLESOFT PROGRAM

In Applesoft, type the following line to see how many sectors the current program would occupy on disk:

```
PRINT"SIZE=";INT((513+PEEK(175)+256*P
EEK(176)-PEEK(103)-256*PEEK(104))/256
```

Obviously that's a lot to type, but make it a Program Line Editor escape-macro and you can summon this statistic with two keystrokes.

ANOTHER LINE-INPUT ROUTINE FOR APPLESOFT

One of the nice things about programming the Apple is that there are usually three or four good solutions for every problem. In this case, the task of inputting a string containing embedded commas, quotes and colons. Here's a method I recently thought of. It is based on the close internal connection between the INPUT and READ statements in Applesoft.

```
10 CALL 54572: POKE 125,254: POKE
126,1: POKE 511,34: READ.A$:
RETURN
```

Just incorporate this line into your program, call it via a GOSUB and retrieve the string from A\$. The actual input is done by the CALL -- the two POKES afterward set the DATA pointer to the

line-input buffer, the next POKE precedes the string read with a quote-mark and the READ assigns the string to A\$. Note: The value 54572 assumes you have Applesoft in ROM. Also, the current DATA pointer's value is lost by this routine, although you could change it to preserve and re-POKE those values if you need to.

PAYMAR ADAPTER WITH PASCAL 1.1

Pascal users with Paymar Lower-Case Adapters (or other compatible equivalent) can force the screen I/O drive in Apple Pascal 1.1 to send lower-case characters directly to the screen rather than converting them to inverse or normal upper-case, by making three one-byte patches to the BIOS. Although dynamic memory-patch programs have appeared from time to time, I prefer to just patch my APPLE1: and be done with it. (The changes occur in SYSTEM.APPLE, so you can keep a copy of the original file just in case you have to run Pascal on a non-LCA Apple.) This patch is simpler than the ones I've seen anyway. It's only appropriate to use Dan Paymar's Disc Utility to do it:

```
?1,9R
?A8:80
?AE:7F
?W
?1,8R
?9A:0
?W
```

The foregoing assumes that the SYSTEM.APPLE resides on the object disk starting at block 6.

The above article was excerpted from POKE-APPLE of Cincinnati, Ohio by the River City Apple Corps of Austin, Texas, and republished in their February 1982 journal, The Apple-Dillo.

The LINE-INPUT routine should be used with caution. The POKE 511,34 places a quote (") at the beginning of the 'DATA STRING' which identifies the DATA as being a STRING. Therefore, any quote (") appearing in the actual input will terminate that STRING and bomb the routine.

32K RAM CARD REVISITED

by Ken Slingsby

Recently I purchased the software for the Saturn Systems 32K Ram Board that provides the extended functions advertised for the board. For my evaluation of the basic Ram Board see the November 1981 Mini'app'les Newsletter.

(Also see *New Products* in this edition)

This software is offered as an upgrade. That is it is not required for operation of the board but it does have some advantages! The software comes on a disk which is accompanied by 25 pages of documentation. The documentation is meant to be added to the existing operations manual included with the board.

This brings up a pet gripe of mine. The original manual was bound with one of those plastic comb (GBC) binders. I swear they were invented by a person that wanted to get even with someone. The update was titled and numbered to become chapters 5 and 6 of the Operations Manual. It was not punched for the comb binding but then, have you ever tried to replace one of those binders? One soon learns a foreign language if you try! I copied the whole works, put it in a 3-ring binder and put the original on the shelf.

The Upgrade consists of two separate utilities: Ramexpand and Pseudo-Disk. Ramexpand patches the operating system to allow part of the Ram Board to be used for program or variable storage. Pseudo-Disk patches DOS to allow the Ram Board to operate like a disk drive. There is a demonstration program for Ramexpand included with the Upgrade kit. Pseudo-Disk does not require a demonstration as it is self-evident.

Ramexpand saves and recalls programs or data in named independent areas of the extended RAM called segments. These segments appear to be variable length, dynamically allocated as they are defined. The user program interfaces with Ramexpand by setting up a command string and a call. The command string identifies one of 14 functions to be executed, the segment name, error status, start, and end of the area to be transferred. Not all parameters are used for all functions. That is, the transfers of programs do not need start and length parameters. Transfers of subroutines use starting and ending line

numbers. For array transfers, the array length is reported by Ramexpand. Arrays are identified by their name (ie, the D% array). The transfers occur instantaneously. I was not able to detect any delay from the time the command was issued until the function was completed. This utility has possibilities for any program that is too large for a 48K Apple, even an Apple that has DOS moved to a language card. The program must be written such that:

1. segments can be removed when not needed for program swapping
2. data arrays need not always be present.

The only drawback I could see here was that portions of the program must be rewritten to handle the code/data swapping.

The other utility, Pseudo-Disk, patches DOS such that the system thinks there is an additional disk drive attached to the system. This second drive is accessed just like a disk (ie for a one drive system, the pseudo disk is S6, D2). This pseudo disk has 125 sectors if the entire 32K is used. Some of this room must be reserved for the directory, say two or three sectors. The pseudo disk is loaded not by inserting a floppy (there is no slot in the Ram Board!) but by transfers from the lower 48K. The Apple supplied utility File Developer (FID) works nicely for this. The transfers are not as fast as those made with Ramexpand. This is so because the RWTS routines of DOS are used. I have not verified it, but I believe that the data may be "nibblized" before storing on the pseudo disk. During the process of installing Pseudo-Disk, a binary file is established which can be used to restore the pseudo disk. Thus if the system is booted, the contents of the pseudo disk are not lost if this file is BRUN. This makes it possible to convert files from DOS 3.2 to 3.3, although this is somewhat cumbersome.

Pseudo-Disk is readily useable with very little or no rewriting of the user program. For instance, I was able to use FID to transfer several File Cabinet files to the pseudo disk then run File Cabinet with no modifications. This made file loading much faster than if a real disk drive had been used.

Both utilities allow the use of one or more real disk drives, one or more Saturn 32K Ram Boards, a 16K board, and/or a firmware board. Thus they will work for either an Apple II or an Apple II+ with or without the alternate BASIC present.

GOTO 16



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WHAT NEXT?

On Home Control and Such Things

by Jeff Hilgeman
i/e associates
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Now that you've been using and programming your Apples for awhile, it's time to sit back and ask yourself "what next?". You have balanced your checkbook and formulated your budget, so now you're ready to get into some real applications; interfacing your computer with the world around you.

There are a multitude of things your computer can do when it has access to real life data. Environmental control, alarm systems and lab functions are a few. There are also a number of ways to obtain this data for your Apple. One way is by using the proper circuitry to directly connect your Apple, through sensors, to the outside world. Another way is through the use of a programmable controller (PC). A PC is a separate computer that performs three functions:

- it obtains data from sensors
- it interprets that data according to your program
- it then reacts to the results of this program.

Using a PC to interface your computer frees the personal computer to do those home management and other tasks. With the continual decline in hardware prices this approach will likely become predominant.

i/e associates, a Minneapolis based firm, currently has a programmable controller in the testing stages that is designed to work with the apple II. It is programmable in a language similar to basic which is compiled and downloaded into the PC. The PC then operates independently of the Apple.

As mentioned, this is but one method of interfacing your computer. There are certainly others that have been barely explored. I would like to hear from those of you interested in hardware interfacing. If there is enough response I think it would be appropriate to meet and possibly set up a special interest group to explore this area.

If you are interested in this subject, give me a call (number above).

TURNING THE PAGES

with David E. Laden

BYTE -- MARCH 1982

Byte's topic this month is printers. Several printers are reviewed including Integral Data Systems Prism Printer, and the Base 2 printer. Also included is the BYTE Printer Directory.

Byte's Arcade: Apple Panic by Gregg Williams. Pages 68-69. This is software review.

Modify your Paper Tiger for Different Paper Thicknesses by R. P. Sarna. Pages 158-160.

Epson MX-80 Print-Control Program for the Apple II by Bill Starbuck. Pages 166-170.

Hardware Review: John Bell Engineering's Apple II Parallel Interface Board by Ned W. Rhodes. Pages 414-430.

Finding Words That Sound Alike The Soundex Algorithm by Jacob R. Jacobs. Pages 473-474. Written in Applesoft.

COMPUTE! -- MARCH 1982

Apple Addresses by Bill Grimm. Pages 163-167. This is an Applesoft program used to convert "addresses" from one language to another (Integer, Applesoft, and machine language).

This issue also contains many other recreational and educational type programs written in a version of Microsoft BASIC.

MICROCOMPUTING MARCH 1982

Effective with this issue, Kilobaud Microcomputing has dropped Kilobard from its title.

Apple to Earth by Joseph Willson, Ph.D. Pages 30-35. This article discusses the use of an Apple II on the space shuttle.

Designer's Delight by David Carew. Pages 54-63. The author discusses a technique called structured english.

Logo: Not Just for Kids by Harold Nelson. Pages 96-107.

Parti-Colored Printers from IDS by Jim Hansen. Pages 110-120.

GOTO 16

DOM #12

by Ken Slingsby

The Disk Of the Month for March 1982 contains the IAC disk #12, some programs from the Dallas Apple corps DOM, as well as some contributions by local members. The IAC contributions are from the Ottawa (Canada) 6502 User Group.

The programs on the DOM are:

MIMI'APP'LES

The hello program for this DOM.

LOGO

This is the banner for the DOM (not to be confused with the LOGO language). The design was contributed by Tim Pfaff. He uses a Versawriter to create the hi-res display.

APPLESOFT LISTPRINTER

and APPLESOFT LISTER INSTRUCTIONS

This program formats applesoft listings to the printer. Each line will be 60 characters long (less for shorter lines). The program name and a page number are printed on each page. Pagenation is used so the printer does not print on fold lines. From the IAC.

AUTHORSHIP

This program will establish credit lines at the end of your Integer Basic program. To use it, RUN AUTHORSHIP, make the desired changes by typing or tracing the form provided. Then RUN it again (with no program name) to 'hide' the lines. Load the Integer Basic program you want the credit lines appended to and CALL 785. The credit lines will be numbered greater than 40000. From the IAC.

CALENDAR

This program will print a calendar for the year on a printer assumed to be in slot 1. From the IAC.

CONCENTRATION

Here is a card version of that favorite game. The program has excellent hi-res graphics. You may play against the Apple or watch the Apple play against itself. From the IAC.

CONNCTION

Make four sides to form a box to earn points. This game may be played by two players or one against the Apple. From the IAC.

CRIBBAGE

The Apple plays against you and keeps score. Good use of graphics is made in moving the cards. The Apple always seems to be able to get scores. From the IAC.

HEXCON

Displays both hexadecimal and base 10 (decimal) values of the entered number. Also displays the negative of the entered number. From the IAC.

HOOVER DAM

A simulation of the operation of a hydro-electric generating plant. The game progresses much like the game from Muse Software called "THREE MILE ISLAND" even down to the displays themselves and the method of calling the displays. From the IAC.

PAGE DUMP

Will dump a "page" (256 or \$100 locations) of memory to the screen at a time. The arrow keys control scrolling of successive pages. The dump can be formatted to be in either hexadecimal or ascii. from the IAC.

SOFSYMREF SOFSYMREF.S

This program, when BRUN will print a symbol crossreference for the Applesoft program in memory. The program is currently targeted to run at \$6D60 (28000). The source code is provided to allow the user to assemble it for other locations using the S.C. Assembler. Program from the IAC. Conversion of source code to S.C. format by Dan Buchler.

STOCK TRADER

A game of trading stock to make a profit or suffer the losses. One of the most active stocks is, of course, Apple. From the IAC.

TEDISSEMBLER.S

The source for a disassembler (?) in S.C. Assembler format. From the IAC.

VIDEO TEST

A program which will display the classic television test patterns used to adjust color TV sets. From the IAC.

PUSNG

A binary "print using" routine. See lines 10 to 25 of the program IRA (below) for an example of how to use. Contributed by Al Peterman.

GOTO 16

DOM #12 Continued from page 15

IRA

This program will figure the amount accumulated in an IRA account or regular savings plan for different interest rates and numbers of years. Will give a table output on the screen or printer. Printer output assumes an Epson MX-80 connected in slot 1. By Al Peterman.

AUTO-REDIAL

This program will allow the Hayes Micromodem to dial a number and keep redialing it at user selected intervals until a connection can be established. A very useful routine for those busy bulletin boards. By Al Peterman.

METRIC CONVERSION PROGRAM

A program to convert metric to anglo or anglo measurements to metric. Contributed by Warren Ostlund.

MUFFIN CATALOG

This program will catalog your DOS 3.2 disks on a 3.3 equipped system. You will need the Muffin program supplied with your 3.3 master disk. If you find the correct disk and want to muffin the programs to 3.3 the Muffin Catalog program will exit to Muffin.

ROM MOVER

A program to move the contents of the Apple's ROM to lower RAM addresses. Contributed by Warren Ostlund.

**SLOW AUTO BREAKOUT
FAST AUTO BREAKOUT**

This is the original breakout program modified to run by itself. The fast program is a compiled version using Mike Laumer's Integer Compiler. It is included here for cultural purposes. Note that although the compiled version is more than four times longer (in this case), it runs much faster. This is in general the way it is with basic compilers verses the inteperted versions. From the Dallas Apple Corps.

VISICALC FILE CHECKER

This program will dump the formulas from a Visicalc file to the screen or printer. From the Cedar Press Sept/Oct 1981 issue.

ERROR HANDLER

This program will handle the error messages that might be otherwise missed if the ONERR GOTO . . . is used especially during program development. If an error is detected this program portion will print the text of the error message and allow the user to edit the offending line or continue, ignoring the error. From the Dallas Apple Corps.

DISK SCAN 1.0

Here is a program that will initialize a disk, check it for bad sectors, and mark the VTOC appropriately if any bad sectors are found. The program may be run on disks full of software, however do not save the VTOC on these disks unless you have good backups. From the Dallas Apple Corps.

Turning the Pages Continued from Page 14

**POPULAR COMPUTING
APRIL 1982**

A special feature this month is software. Articles include:

Buying Software by Mahlon G. Kelly. Pages 26-31.

Choosing the Right Business Software by Phillip Good. Pages 32-38.

Software: Is the Shakeout at Hand? by Joanne Tangorra. Pages 42-45.

Software Piracy and Protection by Jane Willman. Pages 98-106.

Software Review: Home Safe Home by Heidi Copeland. Page 108.

A First-Time User's Review of the Apple II Plus The origins of Apple fever by Steve Ditlea. Pages 112-116.

This issue also includes articles on such topics as Disk Systems, Disk Files, Local Networks and others of general interest.

Well, I am all out of time so that will have to do it for this month. More pages next month.

32K RAM Board Continued from page 12

I was somewhat disappointed that these utilities did not include a means to load/save files or data on a track by track basis. This would greatly speed up the file handling, especially in the case of Pseudo-Disk. I guess you can't have everything.

In summary, I am quite impressed with the software capabilities. The software is well done and has plenty of good help from the manual including good examples. I now wish I could afford more 32K boards!

PERF-SKIP

Epson MX80, MX100 and other Printers

by Dan Buchler

Some printers like the Paper Tigers and MPis allow one to skip over the perforation between sheets by simply throwing a conveniently located switch. Other printers like the MX-100 rely more on software. The most popular printer, the MX-80, has no provision for skip at all. If you occasionally or frequently LIST programs that are more than one page long, then you may find it desirable not to have your printer LIST right across the perforation between pages.

Accompanying this article are two short Applesoft programs which will create TEXT files that may be EXEC'd at any time without destroying the resident Applesoft or Integer BASIC programs. One is for use with the MX-100. The other will work with most printers using conventional Interface cards such as the Apple Parallel, Epson, Tymac, etc. The program won't work with the Grappler, but if you have a Grappler, you already have the capability.

To use either program; RUN the program. RUNMX100 creates a TEXT file called MX100. RUNMX80 creates a TEXT file called MX80. These text files are only 2 sectors each long, so they take up little space on your disk.

First position paper in your printer at top of form; then, just EXEC MX80 (or MX100) and, the printer will print some extraneous #'s and J's, eject a page, then start LISTing with line length set to 70 characters. If you want some other line length, change the 70N in stmt 70 to whatever value you want before running the MAKE program.

If you want some other page length than 66 lines (11 inches), and your Printer is an Epson MX80 or MX100, you may add a statement to the MAKE program which changes the page length as per following example:

```
66 PRINT "PRINT CHR$(27);CHR$(67);
  CHR$(51)"
```

The 51 in this example represents 51 lines for 8.5" paper. It may be any number you wish. Note that the execution of that statement created by line 66 will also reset top of form.

Note: The EXEC process for the MX80 version deposits a small machine code program starting at address \$300. Normally this area is not used, though there are a few utility type routines that do use that area of memory.

```
1 REM MAKE MX80
5 REM Makes text file MX80
6 REM to skip over perforations.

7 REM
Run this Program.
8 REM
EXEC MX80 to LIST
9 REM
YOUR Program.
10 D$ = CHR$(4)
30 PRINT D$;"OPEN MX80"
40 PRINT D$;"WRITE MX80"
50 PRINT "CALL -151"
60 PRINT "300:C9 8D D0 15 CE 1C
   03 D0 10 A9 0C 20 02 C1 A9 8
   D 20 02 C1 A9 3C 8D 1C 03 60
   4C 02 C1 3C"
64 PRINT "3DOG"
65 PRINT "PR#1"
70 PRINT "?CHR$(9);"; CHR$(34);
   "70N"; CHR$(34)
75 PRINT "POKE 54,0:POKE 55,3:CA
   LL 1002"
80 PRINT "?CHR$(12)"
90 PRINT "LIST"
100 PRINT D$;"CLOSE"
110 END
```

```
1 REM MAKE MX100
10 D$ = CHR$(4)
20 PRINT D$;"UNLOCK MX100"
30 PRINT D$;"OPEN MX100"
40 PRINT D$;"WRITE MX100"
50 PRINT "PR#1"
60 PRINT "?CHR$(27);"; CHR$(34)
   ;"E"; CHR$(34);";CHR$(27);"
   ; CHR$(34);"N"; CHR$(34);"
   ;CHR$(6)"
70 PRINT "?CHR$(9);"; CHR$(34);
   "70N"; CHR$(34)
80 PRINT "?CHR$(12)"
90 PRINT "LIST"
100 PRINT D$;"CLOSE"
```

a plea

by Dan Buchler

This applies to all of you - Beginners and Advanced. Business Users, Hobbyistseveryone.

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every effort to get the DOM running. For
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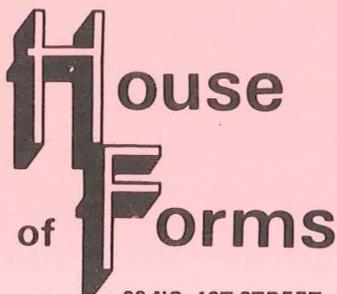
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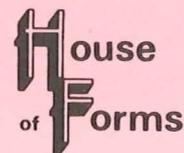
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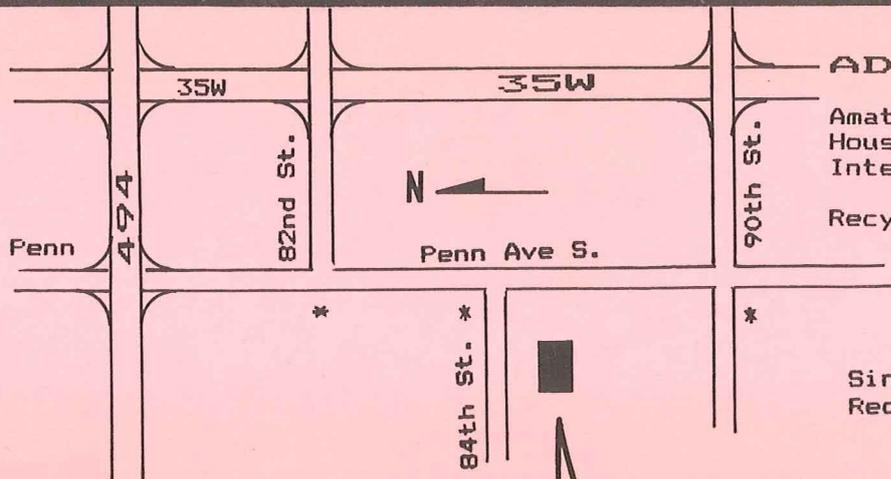


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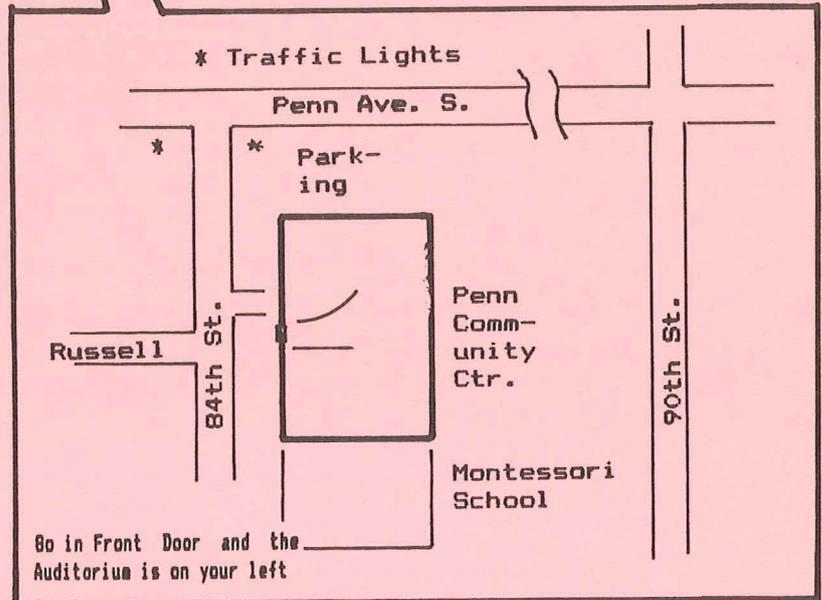
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