mini'app'les

apple computer user group newsletter

VOLUME V No 7 JULY 1982

CALENDAR CALENDAR CALENDAR

WHICH	WHEN	WHERE	WHAT
Pascal Note 1	Wed Jul 7 7:30pm	Minnesota Federal 9th Ave S Hopkins	Regular *Pascal* Special Interest Group Meeting.
Business Note 10	Thu Jul 8 7.00pm	Dayton's Warehouse 701 Industrial Blvd	General Ledger Systes
VisiCalc Note 9	Tue Jul 13 7.00pm	PBS 4306 Upton Ave S.	Versacalc - A Visicalc Utility
Dakota County Branch	Tue Jul 13 7pm-10pm	St. John Neumann Chch Pilot Knob Rd, Eagan	Word Processing Note 7
Minnetonka Branch	Wed Jul 14 7pm-10pm	Fox Meadow Offices Room 201 (conf) 3131 N Fernbrook Ln.,>>	General meeting Note 8 Plymouth
REGULAR MINI'APP'LES Note 2	WEDNESDAY JUL 21st Prgm-7:00pm SIGs-8:00pm+	UNIVERSITY MINNESOTA ST. PAUL Room B45 Bldg 412 Near State Fair	*Dr John Tilleli* - Patient Monitoring System (Ref Veep's views in this issue.) Map Back Cover
Genealogy Note 4	Sat Jul 24	Lexington Library 1080 Univ., St. Paul	Genealogical Computing Special Interest Group
St. Paul Branch	Tue Jul 27 7pm-10pm	Minnesota Federal White Bear Lake Shopping Center	General meeting Note 3
Pascal Note 1	Wed Aug 4 7:30pm	Minnesota Federal 9th Ave S Hopkins	Regular *Pascal* Special Interest Group Meeting.
Dakota County Branch	Tue Aug 10 7pm-10pm	St. John Neumann Chch Pilot Knob Rd, Eagan	Note 7
Minnetonka Branch	Wed Aug 11 7pm-10pm	Fox Meadows Offices Room 201	General meeting Note 8
Business	Thu Aug 12	Note 11	
REGULAR MINI'APP'LES Note 2	WEDNESDAY AUG 18th Prgm-7:00pm SIGs-8:00pm+	PENN COMMUNITY CENTER 84th & Penn	Computer education for children as a Community Service.
Apple— Fest 82	Sep 16-19 Note 6	Auditorium and Convention Center, Mpls	A Huge Exposition devoted exclusively to Apples Mini'app'les will have a booth. We need help- before and during show.

Note 1. Contact- *John Schoeppner*
2. see pg 2 *Chase Allen*
3. for tel. *Pete Halden*
4. nos. *Bill Decoursey*
5. *Ron Androff*
6. *Dan Buchler*
7. *Bob Pfaff*
8. *Martin Thames*
9. *Mike Carlson*
10. *Subir Chatterjee*

MINI'APP'LES

The Minnesota Apple Computer Users' Group, Inc.

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Hopkins, MN 55343

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INFORMATION

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

Questions

Please direct questions to appropriate board member or 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 (Disk 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 are prefered, 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

Full Page	$40/issue
Half Page	$25/issue

Circulation 1200 (approx)

DOM #13

by Al Peterman

As the new program editor, I would like to thank Ken Slingsby for the excellent work he has done in setting up the format for the disk of month and it's documentation. His work will make mine much easier.

To assemble the programs for the DOM, in a manner that will provide the best final product, I will need input from the members of this club in both selection of the kind of material to be 'published' and contributions of the program themselves. I especially would like suggestions on what kind of materials to put on the disks. Please feel free to contact me about the types of software you want to see. Also, it is very important that if you have developed any programs that you are not going to copyright, that you submit them to me for possible use in the DOM. This will give me the greatest selection and allow me to choose better software for the DOM's. I have a large amount of old material that I may have to use if the new material isn't enough to fill the DOM's as they are produced.

Since I got the materials for DOM #13 (nice lucky number to start on!) at the May meeting, and as there was no way to get the documentation for this DOM to Dan in time for the June newsletter, it is appearing a little late. The DOM features a DOS modifier to create custom commands such as 'FILL' instead of 'LOAD'. There is also a lovely system to create screens of text using a binary load of the screen page of memory, a technique that can save lots of memory space. For those of you who use Applewriter, there is a conversion program from Applewritter to or from standard text files. And finally for those of you who might dare to use your Apple in a non-serious mode for gaming, there are some new MADLIBS, and an AWARI game among the other programs on this DOM.

LOGO
Logo for DOM - Created by Tim Pfaff using a Versawriter.

DOS MODIFIER II
A program to create your own custom DOS. This will allow you to tailor DOS error messages and commands to your own words. It is much like 'Doss Boss' with a few extra twists thrown in. From the IAC.

REMINDER GENERATOR
A program to create REM statements into a text file that can be 'EXEC(ed)' into your program with ease. From the IAC.

DISK ZAP
A general purpose disk access utility to examine and modify information on a diskette sector by sector. From our 'old library' and the IAC.

ROWTSER
An Applesoft diskette examiner-/modifier. It allows sector by sector examination with modification and printout capability. From the IAC.

PERPETUAL CALENDAR
This program will produce calendars for those of you who might need one for the year 2004! Another fine product from the International Apple Corps.

TXFILER
A machine code program that will allow the conversion of standard ASCII DOS text files to Applewriter format and vice versa. Very useful for the many of us who use Applewriter!! Requires software contained on the Applewriter program disk. From the IAC.

TXFILER INFO
An information program that will explain the uses and capabilities of 'TXFILER'. From the IAC.

INVERSE FIELD INPUT
Using INVERSE fields, this utility demonstrates a method to prompt on the screen the limits of a response expected from the user. From the IAC.

SCREEN WRITE INSTRUCTIONS
Instructions for the SCREENWRITER System. From the IAC!

SCREEN WRITE 2.1
Binary screen machine language driver.

SCREEN EDIT
The screen edit/create program for the 'SCREENWRITER' system. This program allows you to save/restore to/from disk copies of the TEXT page on your screen. With the editor, cursor control is provided to modify the screen at any point, inserting lines in NORMAL, INVERSE or FLASH mode. From the IAC.

GOTO 4

VEEP'S VIEWS

by Chase Allen

As I write this, the first meeting under the new format is history, and I was encouraged in that everyone seemed to be participating in one discussion or another. We will continue the effort for another month at least, unless I get a lot of unfavorable feedback in the meantime.

Special thanks go to Bill Irish, who gave an excellent presentation on his work with the St. Paul Water Utility. I think there is a fellow who has great capability, and who is enjoying his work immensely.

The meeting for July will feature another remarkable effort by Dr. John Tilleli, who is the director of the intensive care unit at Children's Hospital in St. Paul. John has a PhD in Physics, and spent several years in Electronics developing digital systems for NASA. He tired of that and went back to Medical School, where he received his Doctor of Medicine, and is now melding his two careers, developing a Patient Monitoring System which will be the subject of his paper. The system is based around the Apple [, and uses a Corvus Disk for mass memory. I think this will be a very good program you will not want to miss.

Please keep the communication lines open. If you have any suggestions for program subjects, I am looking for ideas to pursue. Also, I am most interested in feedback on our meeting format, subjects you feel need covering with Cluster groups, and others that need treatment by a specially scheduled seminar. This is your club for your benefit, and we want to serve your needs. Let's hear from you.

DOM

DOM #13 Continued from page 3

LIFE EXEC
An 'EXEC' file to set the HIMEM and the LOMEM values for the life program. This is a good example of using an 'EXEC' file to set parameters and run a program. To use it type 'EXEC LIFE EXEC'. From the IAC.

LIFE
(LOMEM 3072:HIMEM 8172)
The game (or should I say science) of LIFE in which dots propagate and die according to very set rules. This has produced many interesting studies on the topology of such sets of figures. 'Generations' are displayed on a LORES screen. From the IAC and various other sources.

MADLIB
This will liven up your next party with a new set of very funny 'Madlibs' (or fill in the blanks with blind stories). They are new and have a nice routine to print on the screen in black and white. From the IAC.

AWARI
This cute little game is based on a not so obvious strategy. The game revolves around moving 'stones', shown on a LORES screen, from bin to bin. You compete with the computer. It is suitable for children as well as adults and is a good game to show elementary preplanning. From the IAC and the 'old library'.

DECISION
An excellent decision making program. It will evaluate many options or products with many factors and weigh the factors according to importance. It can save data to disk or tape and allows one quite easily to make changes in the factor, items, importance or grading. From the IAC.

COMPUTERS.DECSN
An example of a binary file of data for the 'DECISION' program. This example shows how to choose a personal computer.

ARITHMETIC TAC DOUGH
This children's game can help teach the four basic arithmetic operations in a fun game of Tic-Tac-Dough. Two persons play on a LORES Tic-Tac-Toe board which displays the results of your arithmetic skills. From the IAC.

HERB'S CALCULATOR
This program will turn your $2000 apple into a $25 full function calculator. It has square root and exponential functions and even looks like a calculator! From the IAC.

STATE CAPITALS
If you need a little help with your U.S. geography this program will help you remember the capitol of West Virginia (or any other state). Uses a LORES color map of the USA. From the IAC.

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HARDWARE

Epson MX-80 F/T w/GFTX+	$599.00	Epson MX-80 w/GFTX+	$519.00
Epson MX-100 w/GFTX+	$729.00	Graftrax +	$70.00
IDS Prism 132 w/color	$1599.00	IDS Prism 80 n/color	$1199.00
Grappler printer card	$137.00	PPI Micro Buffer II	$229.00
D.C. Hayes Micro Modem	$295.00	D.C. Hayes Smart Mod	$229.00
Novation Applecat II	$339.00	Novation Autocat	$21 .00
Zenith 12" Grn. Mon.	$119.00	Amdek Color I Mon.	$35 .00
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EPSON NEWS

GRAFTRAX PLUS

by Dan Buchler

In last month's column, I mentioned the new Graftrax Plus. All MX-80s and 100s will from now on have the Graftrax Plus.

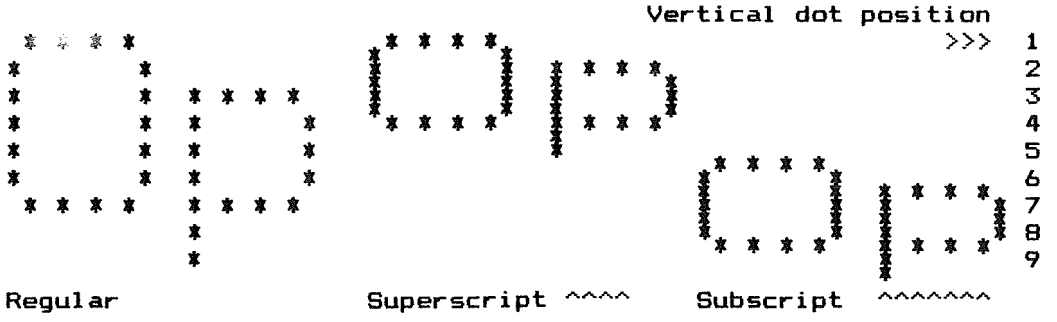
A new manual comes with the printers. Written again by David Lien, he persists with his horrible chaty-chat and bad jokes which I and others think distract from what should be a manual and not a comic book! Other than that complaint, the manual is less TRS-80 oriented than before and does seem to be complete.

Contrary to the beleif of some of our members, there is no built in screen dump. Epson does furnish a disk, which has the same dump program most of you have already seen.

We now have had a chance to analyze the technical content of the manual and here is what we found.

(The parenthesis at end of each paragraph shows the control codes for the mode just described)

1. The features of the MX-80 and MX-100 are now identical except for the longer line capability on the MX-100.
2. A sub- super-script (SS) character set has been added. The SS characters are created from the same 9*9 dot matrix as for the regular charater set, except that the dots in the vertical direction are printed at 1/2 dot intervals instead of one dot intervals. The superscript occupies the upper 4.5 dot positions in a row; the subscripts the lower 4.5 dot positions as shown below for the word "Op": (Each * represents a dot).



Note that as with all Epson characters, 1/2 dot spacing is used in the horizontal direction (Thats how they get 9 dots of precision in 4.5 dot space for the condensed mode) Since the print wires are at one dot spacing, the SS characters are printed in 2 passes using doublestrike. That's why the bottom dot of the descender on the p in the subscript is 1/2 dot below the bottom dot of the regular p. The SS characters can be printed in regular or compressed mode. (Esc S N; N = 0 for superscript; N > 0 for subscript)

3. An underline mode in which the underline is printed at the same time the remainder of the character is printed. (Esc - N; N>0, underline on; N=0, underline off)
4. Italics for MX-100; same as before for MX-80. (Esc 4, On; Esc 5, Off)
5. 1/3rd dot line spacing for MX-100; same as before for MX-80 (Esc 3 N). Also 1/3rd dot line spacing for one line only. New for MX-80 and 100. Useful for special once only effects. (Esc J N)
6. Home printhead for MX-100; allows one line unidirectional print. Same as before for MX-80. (Esc <)
7. Set form length in inches instead of lines for MX-80. Same as before for MX-100. Very useful when changing vertical spacing in middle of page! (Esc C N)
8. Set for skip-over-perforation at bottom of page for MX-80. Same as before for MX-100. (Esc N N, on; Esc O, off)
9. Set column width. New for MX-80; same as before for MX-100. (Esc Q N)
10. Multiline unidirectional printing. New for MX-80 and 100. Great for

GOTO 7

RECYCLED MUSIC SYSTEMS FEATURE PRODUCTS

There have been some significant new products and some good price reductions in the last 2 months so I am putting down some of them as examples. If you are interested in other products please call!

PRINTERS:	
EPSON MX-80FT/III with GRAFTRAX+ (Superscript etc.)	$580
PRINTER COMPANION letterhead carrier for MX-80	$ 10
DISPLAYS:	
BMC 12A high resolution (15 mhz) monitor	$105
AMDEK 300 18 Mhz monitor with non-glare screen	$165
DAN PAYMER LCA-2 lower case chip with software	$ 27
MEMORY:	
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Epson News Continued from page 6

condensed mode to eliminate ragged line edges! (Esc U N; N>0, On; N=0, Off)

11. Double width printing on all the time. New for MX-80 and 100. Now you can LIST in double width. (Esc W N; N>0, on; N=0, off)
12. Line graphics for the MX-80 and 100. Instead of the MX-80 block-graphics (TRS-80 owners lament!), there area set of 11 'line' graphic codes which contain horizontal and vertical line segments, corners and intersections. ASCII codes 134, 1nd 149 thru 159 (less 155 the Esc) are used.

FEATURES ELIMINATED

The following features have been eliminated:

a. Block graphics on MX-80 The ASCII codes previously used for the Block graphics are now used for the Italic character set. However Italics may be selected with the old Esc 4 sequence (which probably just sets the high order bit inside the Epson).
b. Some of the foreign language characters available in the MX-100 through software and the MX-80 through switches. 5 new special symbols are included via ASCII codes 129 through 133. The Japanese MX-80 Katakana is no longer included.
c. The MX-80 high-speed double density graphics which was previously of dubious use has been eliminated.

SUMMARY

The new Graftrax Plus sounds pretty good. There are some nice additional features. The most useful to me are the set forms length in inches and the superscripts. If you do alot of underlining, the enhanced underline feature is much faster than the old backspace/underscrore method which homed the printhead.

For MX-100 owners, the 1/3rd dot spacing feature improves the Graphics capability.

Currently Epson offers no trade-in on your old Graftrax chips. However some pressure has been applied to their marketing dept. to perhaps persuade them to change their minds!

APPLEFEST/BOSTON

by S.K. Johnson

A Quick Look At Something To Look Forward To In Minneapolis In Sept

I was thrilled to have an opportunity to spend only four hours on Friday May 14 at the Applefest in Boston. Mind you, four hours was not enough time to spend with all the Apple related equipment, hardware and ,software for your eyes to behold, but that was all the time my schedule would allow.

This was the second year for the Applefest in Boston. This year was alot bigger than last. There were fourteen aisles with over 200 exhibitors, and seminars were held hourly.

I had a chance to meet Val Golding, editor of Call-A.P.P.L.E., and Ken Silverman, President of the IAC. It was interesting to meet these people after reading articles they had written. Neither fit my preconceived picture of what they should look like. Both were very much like you and I, Apple owners.

Apple Computer had a booth showing off some of their new software. They did not have any new hardware to show nor would they tell me anything about what new products are coming.

While there, I was able to meet representatives from some of the New England area computer clubs and set up some newsletter exchanges. The major magazines (NIBBLE, MICRO, etc.) were there with examples of their publications and people to answer questions. Softalk publishing Inc. was there with copies of their new Softline magazine and Softdisk magazette.

Several companies had new software and games to show off. It would of taken all three days of the Applefest just to try all the demos.

If the Applefest scheduled for September 16-19 in Minneapolis is anything like the one in Boston was, you will probably want to reserve more than one day to see it all. I, for one, am looking forward to the upcomming Applefest with great expectations. See you there.

TOUR

CUSTOM BUSINESS FORMS

by Dan Buchler

Right here in the Twin Cities is an interesting resource for users of Personal computers who might need customized forms. Custom Business Forms of Minneapolis is the largest manufacturer of computer forms in the area and appears to be a very innovative operation. House of Forms is a subsidary of Custom Business Forms.

Frank Miske, the company manager, was kind enough to take us on a quick tour. We were really suprised at the multi floor operation in that old, but very strongly built, warehouse on Hennepin Avenue near the Mississippi river. Paper, acquired from various manufacturers, arrives in huge rolls of different widths. Highly automated machines cut the stock to the tight tolerances required by computer printers, make perforations, sprocket holes, and, as required, print custom or standard (such as green bars) information on the forms.

What was most impressive was some of the more innovative things they are doing. For example, they have an experimental 9 1/2 x 11 stock with half inch tear-off on each side. What is special is that the tear off perforations have been improved such that, after tear-off, the edges are more like good quality bond, than the typical hairy tab-stock. Thus, the perforated stock may be used for correspondance where you might have hesitated in the past.

For the very finicky consumer, they make a sprocket fed carrier with a glue on it, to which are stuck high quality bond paper, on which you may optionally have a letter head printed. The bond peels off very easily without hardly a trace of the glue on the backside.

Some very complex multi-part forms with partial-carbons or NCR paper were seen. Card stock such as for membership cards with special perforations is easy for Custom Business Forms. What surprised me is that many of the runs were short (1000 copies). If you have some special application, consider having a custom form cut and or printed.

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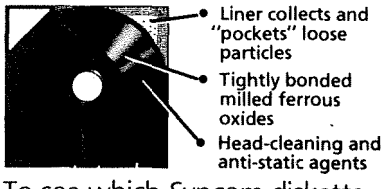
And the non-woven jacket liner, more than just wiping the surface, provides thousands of tiny pockets to keep what it collects.



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GLOBAL PROGRAM LINE EDITOR

A review

by John L Hansen

Owners of the original PROGRAM LINE EDITOR, the one that came from Call A.P.P.L.E., authored by Neil Konzen, know how valuable it is to anyone typing in a BASIC program. If your technique is like mine, you will make a mistake on the third line of a four-line statement and hit <RETURN> before you discover it. PLE allowed you to edit such lines easily, using insert, delete, and a variety of other commands. It also had a set of Escape functions that permitted you to:

list a program by typing ESC L,
type ESC 0 to get CALL -936,
copy a forty-character line with ESC ->->->->->,
enter lower case letters in PRINT statements or REMS,

plus numerous others. In addition you could create and modify your own Escape functions. Unfortunately, none of them could be used in the Edit mode.

You can have all these useful functions (I've named only a few of them), be able to use the Escape functions in Edit mode, and several new features in Neil's new program, GLOBAL PROGRAM LINE EDITOR from Synergistic Software. (Also available from Call A.P.P.L.E.) Additions to the program include:

-Global Editing (including search and replace, search and display, and search and edit),
-ability to designate a 64-character typeahead buffer,
-Cornelis Bonger's DOS MOVER to permit you to move DOS to a 16K ram card,
-ability to edit the Escape functions without a separate program,
-automatic use of language card if available,
-80-column capability with VIDEOTERM, SUP'R'TERM, SMARTERM, VISION-80, and WIZARD-80 cards,
-control listing by page or line.

When GPLE is loaded to a 48K Apple, pointer changes set HIMEM: 4096 bytes lower than normal and GPLE is loaded between DOS and the I/O buffers. When a Slot 0 RAM card is present, GPLE is loaded into the second bank and the alternate BASIC into the first bank. When DOS MOVER is used, the alternate basic is replaced by DOS and the DOS file buffers -- only one BASIC is available.

In the Edit mode, you can:

-insert and delete characters,
-insert control characters,
-move the cursor to the beginning and end of the line,
-use a FIND function to move the cursor to the Nth occurrence of a character in the line,
-delete (ZAP) all the characters up to a specific character,
-RESTART the edit process on the original line,

and eight other commands (including use of lower case if you have a lower case adapter). These are initiated by CTRL-E followed by a line number or range of line numbers.

The Global Editor, which is also entered by CTRL-E, includes search, edit, and replace functions. A few examples are:

EDIT 10,50	Edit lines 10 through 50.
EDIT 10,200,"TAB"	Edit all lines from 10 through 200 that contain "TAB".
EDIT 10,50,"I","INDEX"	Rename variable "I" to "INDEX" in lines 10 through 50.

In this format, the search string normally does not match a string within another string. The second example above would not stop at "VTAB". If a "/R" is added to the instruction, "VTAB" would also be found by the search. If a "/F" is used, the replacement or listing will be made without entering the Edit mode.

CTRL-A toggles between upper and lower case and the single-wire shift key modification works when in lower case. However, if you don't have a lower-case adapter or 80-column board, you may have trouble reading the "code" on the screen.

There are many Escape functions in addition to those mentioned above. You can define your own and they can be handy. I apparently forgot to read a lot of the old PLE manual, because I never realized that ESC 1 would catalog Drive 1. A note says, "The Escape

functions are now available during Edit mode. This was not possible on the earlier PLE." This seems to promise more than is delivered. Cursor movements (ESC I,J,K,M) do not work in the Edit mode; ESC -> does. Escape functions can also be nested to eight levels.

As mentioned, the disk includes DOS MOVER. It also includes three programs called FIX FID, FIX MUFFIN, and FIX RENUMBER to modify these programs to run with DOS on the Language Card. A configuration program lets you select your 80-column card and enable the typeahead buffer.

Unfortunately, the excellence of the program is not matched by the manual. For example, the first step is "Just insert the included disk in your drive and boot it normally." Well, what's normal for an Integer Apple with Language Card? With SUPER TEXT 40/80, which needs Applesoft, I boot the 3.3 Master and do a PR#6 to boot the program. When I did this with GPLE, I was suddenly Applesoftless; it had disappeared from the Language Card.

The Integer and Applesoft PLE programs have been replaced with three binary files: PLE.48, PLE.LC, and PLC.DM. The manual does not explain what these are. Being "skilled" in the art, I deduced that these must be 48K, Language Card, and DOS MOVER versions.
(Dr. John Hansen Watson -- Ed)
The boot programs, one Applesoft and one Integer, both BRUN PLE.48. Does this automatically load the Language Card? I wasn't sure so I booted the 3.3 Master again, did a BRUN PLE.LC, and finally had both GPLE and Applesoft.

The three binary PLE files are unlocked so that they can be modified with the Configuration program. It appears that each PLE program can be configured as desired. Unless PLE.48 contains a procedure to search for the Language Card, I don't understand how the Language Card can be loaded automatically. No information is given as to whether the boot programs should be changed to BRUN PLE.LC with the Language Card or BRUN PLE.DM with DOS MOVER.

The Edit Commands are clearly defined. However, in an example to demonstrate how to use them to edit a program line, three incorrect uses of the CTRL-F (Find) function are shown. The character to be found is shown only once instead of the two or three times needed to achieve the desired result. The letter "O" and number "0" are confused in the text twice. ESC O will give CALL -936; ESC 0 will not. Many Escape functions are not documented.

The FIX FID, FIX MUFFIN, and FIX RENUMBER programs are text files and, unless instructions for their use are included in DOS MOVER, none are given. I rediscovered that DOS MOVER still does not load into my Apple, but gives the "Language Not Available" message that it did when I typed it in from CALL-A.P.P.L.E.

My criticisms of the manual should not be allowed to distract from the quality of GPLE. It is an excellent utility that is a must for anyone working with BASIC programs. I intend to buy it as soon as I can.

There are two versions. That from Synergistic Software is $64.95 and available in disk or ROM versions. The original PLE disk, manual, and $35.00 can be exchanged for the new version only through Synergistic. The A.P.P.L.E. version will be available to members only for $38.50 sometime in June.

My thanks to Tom Jefferson of Computer Professionals who let me borrow his Synergistic original for this review.

Peeks, Pokes & Calls Continued from page 17

```
* APPLESOFT "&" COMMAND:

      & CAUSES AN UNCONDITONAL JUMP TO $3F5. ONE CAN MAKE
      &3F5 AN UNCONDITIONAL JUMP TO AND ADDRESS OF A MACHINE
      LANGUAGE PROGRAM. ANOTHER WAY TO GO FROM FP TO MACHINE
      LANGUAGE. REFERENCES:

            MICRO 14:41
            SPPLE ORCHARD 1:16
            CALL APPLE MAY 80:26
            S.S. NEWSLETTER #7:6

(PTRGET)  $DFE3   CALL APPLE MAY 80:26

INTEGER BASIC HIMEM ADDRESS:

            >PRINT PEEK(76) + PEEK (77)*256

LAST PROGRAM LINE ADDRESS (PROGRAM POINTER):

            >PRINT PEEK(202) + PEEK(203)*256

INTEGER BASIC LOMEM ADDRESS:

            >PRINT PEEK(74) + PEEK(75)*256
```

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PEEKS, POKES & CALLS

NOTE: THIS MATERIAL STILL UNDER DEVELOPMENT. "?" INDICATES UNCERTAINTY.
This article was downloaded from 'PMS - PALO ALTO'.

SCROLLING WINDOW

```
POKE 32,L      SETS LEFT SIDE  OF SCROLLING WINDOW (L=0 TO 39)
POKE 33,W      SETS WIDTH OF SCROLLING WINDOW (W=1 TO 40-L)
POKE 34,T      SET TOP OF SCROLLING WINDOW (T=0 TO 23)
POKE 35,B      SETS BOTTOM OF SCROLLING WINDOW (B=0 TO 23;B>T)
```

CURSOR POSITION

```
POKE 36,CH     SETS HORIZONTAL CURSOR POSITION (CH=0 TO 39)
POKE 37,CV     SETS VERTICAL CURSOR POSITION (CV=0 TO 23)
```

CHARACTER DISPLAY

```
POKE 50,255    WHITE ON BLACK
POKE 50,63     BLACK ON WHITE (INVERSE)
POKE 50,       BLINKING
```

SCREEN FORMAT

GRAPHICS

```
POKE -16304,0  SET COLOR GRAPHICS
POKE -16303,0  SET TEXT MODE
POKE -16302,0  CLEAR MIXED GRAPHICS
POKE -16301,0  SET MIXED GRAPHICS
POKE -16300,0  CLEAR DISPLAY PAGE 2 (BASIC COMMANDS USE
               PAGE 1 ONLY)
POKE -16299,0  SET DISPLAY TO PAGE 2
POKE -16298,0  CLEAR HIRES GRAPHICS
POKE -16297,0  SET HIRES GRAPHIC MODE
CALL -1994     Clears upper 20 lines of PAGE 1 to REVERSED
               @ Signs. If in LOW-RES Graphics MODE, this
               clears the upper 40 lines of Graphics Screen
               to Black (PAGE 1 only).
CALL -1998     CLEARS ENTIRE TEXT PAGE 1 TO REVERSED @ SIGNS.
               IF IN PAGE 1 LOW-RES GR, THIS CLEARS THE
               ENTIRE SCREEN TO BLACK.
CALL -12274    CLEARS CURRENT HI-RES SCREEN TO BLACK
CALL -12270    CLEARS CURRENT HI-RES SCREEN TO HCOLOR
               MOST RECENTLY PLOTTED.
```

TEXT

```
CALL -936      HOME CURSOR AND CLEAR SCREEN (ESC-@)
CALL -958      CLEAR FROM CURSOR TO END OF PAGE (ESC-F)
CALL -868      CLEAR FROM CURSOR TO END OF LINE (ESC-E)
CALL -922      LINE FEED (CTRL-J)
CALL -912      SCROLL UP ONE LINE.
```

KEYBOARD

```
X=PEEK (-16384)READ KEYBOARD; IF X<127 THEN KEY WAS PRESSED.
               ALWAYS CLEAR KEYBOARD STROBE AFTER READING
               KEYBOARD.
POKE -16368,0  CLEARS KEYBOARD STROBE.
```

SOUND

```
X=PEEK(-16336) TOGGLES SPEAKER (1 CLICK).
POKE-16336,0
```

CASSETTE

```
X=PEEK(-16352) TOGGLES CASSETTE OUTPUT ONCE (1 CLICK ON
               CASSETTE RECORDING).
```

GAME PADDLES

```
X=PEEK(-16287) READ PDL(0) PUSH BUTTON SWITCH. IF X>127 ,THEN
               SWITCH IS "ON".
X=PEEK(-16286) READ PDL(1) PUSH BUTTON SWITCH. IF X>127 ,THEN
               SWITCH IS "ON".
X=PEEK(-16285) READ PDL(2) PUSH BUTTON SWITCH. IF X>127 ,THEN
               SWITCH IS "ON".
POKE -16296,1  CLEAR GAME I/O AN0 OUTPUT (OFF-3.5V HIGH).
POKE -16295,0  SET GAME I/O AN0 OUTPUT (ON-.3V LOW).
POKE -16294,1  CLEAR GAME I/O AN1 OUTPUT (OFF-3.5V HIGH).
POKE -16293,0  SET GAME I/O AN1 OUTPUT (ON-.3V LOW).
POKE -16292,1  CLEAR GAME I/O AN2 OUTPUT (OFF-3.5V HIGH).
POKE -16291,0  SET GAME I/O AN2 OUTPUT (ON-.3V LOW).

POKE -16290,1  CLEAR GAME I/O AN3 OUTPUT (OFF-3.5V HIGH).
POKE -16289,0  SET GAME I/O AN3 OUTPUT (ON-.3V LOW).
CALL -1250     MONITOR S/R TO READ PADDLE - X-REG CONTAINS
               PADDLE # (0 TO 3)
```

LO-RES

COLORS

```
0=BLACK            1=MAGENTA        2=DARK BLUE
3=LIGHT PURPLE     4=DARK GREEN     5=GRAY
6=MEDIUM BLUE      7=LIGHT BLUE     8=BROWN
9=ORANGE           10=GRAY          11=PINK
12=GREEN           13=YELLOW        14=AQUA
15=WHITE

CALL -2048     PLOT A POINT (AC:Y-COORD  Y:X-COORD).
CALL -2023     DRAW A HORIZONTAL LINE.
CALL -2008     DRAW A VERTICAL LINE.
CALL -1998     CLEAR LO-RES SCREEN 1 CLEAR SCREEN-GRAPHICS
               MODE.
CALL -1994     CLEAR UPPER 20 LINES OF TEXT PAGE 1 TO REVERSE
               @. IF IN LOW-RES GR THIS CLEARS UPPER 40 LINES
               TO BLACK (PAGE 1 ONLY).
CALL -1977     CALCULATE GRAPHICS BASE ADDRESS.
CALL -1953     INCREMENT COLOR BY 2.
CALL -1948     ADJUST COLOR BYTE FOR BOTH HALVES EQUAL.
CALL -1935     MONITOR S/R TO GET SCREEN COLOR (AC:Y-COORD
               Y:X-COORD). SEE CALL-APPLE DEC 1978.
```

HI-RES

```
POKE 800,H     SETS HORIZONTAL COORDINATE. H=MODULUS 256
POKE 801,H/256 H=0 (LEFT) TO 279 (RIGHT).
               BOTH POKE 800 & 801 ARE REQUIRED.
POKE 802,V     SETS VERTICAL COORDINATE.
               V=0 (TOP) TO 159 (BOTTOM)
POKE 804,S     STARTING ADDRESS OF SHAPE TABLE. S=MODULUS 256
POKE 805,S/256 BOTH 804 & 805 ARE REQUIRED.
POKE 28,C      COLOR OF SHAPE.
POKE 806,S     SETS SCALE OF SHAPE S<1.
POKE 807,R     SETS ROTATION OF SHAPE (R=1 TO 64).
               0=RIGHT SIDE UP, 16=90 DEGREES CLOCKWISE.
```

0=BLACK 1 (0)	1=GREEN (85)	2=VIOLET (170)
3=WHITE 1 (255)	4=BLACK 2	5=ORANGE
6=BLUE	7=WHITE 2	

GOTO 14

Peeks, Pokes & Calls Continued from page 13

```
POKE 812,X      SETS COLOR FOR HI-RES.
                X=NUMBER OF COLOR IN PARENTHESIS.
CALL 3072       "INIT"-INITIALIZES HI-RES (-12288).
CALL 3986       "CLEAR"-CLEARS THE SCREEN (-12274).
CALL 3780       "PLOT"-PLOTS A POINT ON THE SCREEN (-11580).
CALL?3761       "POSN"-POSITIONS A POINT ON THE SCREEN.
   ?(-11527) MICRO    ?(-11599) P8       ?(-11780) SHELDON
CALL?3786 P8    "LINE"-DRAWS LINE (X0;Y0;COLOR)
   ?(-11500)  MICRO  ?(-11574)   P8       ?(-11465)   P8
CALL -11780 M   "FIND" OR ? POSITION
    -12272 S    "FIND" OR BACKGROUND
                (HCOLOR 1 SET FOR BLACK BACKGROUND).
CALL -11471     HI-RES GRAPHICS BKGRND (PARAM=COLOR)

CALL 3805 P8    "SHAPE"-DRAWS PREDEFINED SHAPE.
    (-11555) P8
CALL -11462     HI-RES DRAW1(X0;Y0;COLOR)
CALL -11335     HI-RES SHLOAD
224-226         HI-RES GR X&Y COORDINATES
228             HI-RES GR COLOR BYTE
```

OTHER

```
POKE 72,0?P8    GO TO MONITOR
CALL -151       GO TO MONITOR
CALL -3318      CONTINUE
CALL -3774      SAVE
CALL -3776      SAVE INTEGER PROGRAM TO TAPE.
CALL -3973      LOAD INTEGER PROGRAM FROM TAPE.
CALL -4116      RUN INTEGER (KILLS VARIABLES).
CALL -6090      RUN INTEGER (SAVES VARIABLES).
CALL -6729      PLOTS A POINT ON THE SCREEN.
CALL -6739      NEW
CALL -8117      LIST INTEGER PROGRAM.
CALL -8192      RESET INTEGER BASIC. KILLS VARIABLES AND CLEARS
CALL -2458      TURN ON MINI-ASSEMBLER.
CALL -2423      SWEET-16 INTERPRETER ENTRY.
CALL -1906      MONITOR S/R DISASSEMBLER ENTRY.
CALL -1728      MONITER S/R-PRINT CONTENTS OF X & Y (REG 9 AS 4
                HEX DIGITS.
CALL -1716      MONITOAR S/R PRINT X BLANKS (X REG CONTAINS #
                TO PRINT).
CALL -1402      MONITOR S/R-IRQ HANDLER.
CALL -1390      MONITOR S/R-BREAK HANDLER.
CALL -1321      MONITOR S/R TO DISPLAY USER REGISTERS.
CALL -1233      MONITOR S/R SCREEN INIT.
CALL -1223      MONITOR S/R SET SCREEN TO TEXT MODE (DESTROYS
                ACCUMULATOR).
CALL -1216      MONITOR S/R SET GRAPHICS MODE (GR) (DESTROYS
                ACCUMULATOR).
CALL -1205      MONITOR S/R SET NORMAL WINDOW.
CALL -1181      MONITOR S/R MULTIPLY ROUTINE.
CALL -1148      MONITOR S/R DIVIDE ROUTINE.
CALL -1087      MONITOR S/R CALCULATE TEXT BASE ADDRESS.
CALL -1052      MONITOR S/R SOUND BELL.
CALL -1036      MONITOR S/R MOVE CURSOR RIGHT.
CALL -1027      MONITOR S/R OUTPUT A-REG. AS ASCII ON TEXT
                SCREEN 1.
CALL -1008      MONITOR S/R TO MOVE CURSOR LEFT.
CALL -998       MONITOR S/R TO MOVE CURSOR UP.
CALL -990       MONITOR S/R PERFORM A VERTICAL TAB TO ROW IN
                ACCUMULATOR.
CALL -980       MONITOR S/R PERFORM ESCAPE FUNCTION.
CALL -936       MONITOR S/R HOME CURSOR & CLEAR SCREEN (DESTROYS
                ACCUMULATOR AND Y REGISTER).
CALL -926       MONITOR S/R PERFORM A CARRIAGE RETURN.
CALL -922       MONITOR S/R PERFORM A LINE FEED.
CALL -912       MONITOR S/R SCROLL UP 1 LINE (DESTROYS ACCUM.
                AND Y REGISTER.
CALL -868       MONITOR S/R CLEAR TO END OF LINE.
CALL -856       WAIT LOOP
CALL -756       GET KEY INPUT FROM KEYBOARD (DESTROYS ACCUMUL.
                AND Y REGISTER). WAIT FOR KEY PRESS.
CALL -741       MONITOR S/R KEYIN ROUTINE.
CALL -715       READ KEY & PERFORM ESCAPE FUNCTION IF NECESSARY.
CALL -670       PERFORM LINE CANCEL.
CALL -665       PERFORM CARRIAGE RETURN & GET LINE OF TEXT.
CALL -662       GET LINE OF TEXT FROM KEYBOARD (X RETND WITH
                NUMBER OF CHARACTERS).
CALL -657       WAIT FOR INPUT.
CALL -626       PRINT CARRIAGE RETURN (DESTROYS ACC. & Y-REG.).
CALL -622       PRINT A1H,A1L. EXAMPLE: 10 POKE 60,A1H
                                        20 POKE 61,A1L
                                        30 END
                .......THEN RUN,  CALL -622
CALL -550       PRINT CONTENTS OF ACCUM. AS 2 HEX DIGITS.
CALL -541       PRINT A HEX DIGIT.
CALL -531       OUTPUT CHARACTER IN ACCUM. (DESTROYS ACC. &
                Y-REG COUT).
CALL -528       GET MONITOR CHARACTER OUTPUT.
CALL -468       PERFORM MEMORY MOVE A1-A2 TO A4.
                EXAMPLE: 10 POKE 60,LOB
                         20 POKE 61,HOB
                         30 POKE 62,LOE
                         40 POKE 63,HIE
                         50 POKE 66,LOD
                         60 POKE 67,HID
                ....THEN RUN,  CALL-468

          NOTE: LOB IS LO-BYTE OF BEGINING OF MEMORY TO MOVE
                HIB IS HIGH, LOE IS LO END, HIE IS HIGH, LOD
                IS LOW DESTINATION, HID IS HIGH.
CALL -458       PERFORM MEMORY VERIFY.
CALL -418       DISASSEMBLE 20 INSTRUCTIONS.
CALL -384       SET INVERSE MODE.
CALL -380       SET NORMAL.
CALL -378       SET I FLAG.
CALL -375       SET KEYBOARD.
CALL -336       JUMP TO BASIC.
CALL -333       CONTINUE BASIC.
CALL -330       MEMORY LOCATION "80".
CALL -321       DISPLAY A,S,Y,P,S REG. (CURRENT VALUES).
CALL -318       PERFORM MONITOR TRACE.
CALL -307       WRITE OUT CASSETTE TAPE.
CALL -259       READ FROM CASSETTE TAPE (LIMITS A1 TO A2).
CALL -211       PRINT "ERR" & SOUNDS BELL (DESTROYS ACCUM. &
                Y-REG.).
CALL -198       PRINT BELL (DESTROYS ACCUM. & Y-REG.).
CALL -193       MONITOR & SWEET-16 "RESTORE".
CALL -188       MONITOR "REGTRI"
CALL -182       MONITOR & SWEET-16 "SAVE".
CALL -180       MONITOR "SAV1".
CALL -167       ENTER MONITOR RESET, TEXT MODE, "COLD START".
CALL -155       ENTER MONITOR, RING BELL, "WARM START".
CALL -151       ENTER MONITER, NO BELL.
CALL -144       SCAN INPUT BUFFER (ADDRESS$200...).
```

ERRORS

```
POKE 216,0      RESETS  ERRFLG
X=PEEK(216)     IF X=127, ERROR DETECTED.
Y=PEEK(212)     Y IS ERROR CODE RETURNED IN DECIMAL.
    ?(222)MICRO
```

GOTO 17

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Peeks, Pokes & Calls Continued from page 14

```
* THE FOLLOWING STATEMENT SETS X EQUAL TO LINE NUMBER OF
  THE STATEMENT WHERE AN ERROR OCCURED IF AN ONERRGOTO
  STATEMENT HAS BEEN EXECUTED:

340X=PEEK(218)+PEEK(219)*256
```

DECIMAL VALUE	ERROR TYPE ENCOUNTERED
0	NEXT WITHOUT FOR
16	SYNTAX
22	RETURN WITHOUT GOSUB
42	OUT OF DATA
53	ILLEGAL QUANTITY
69	OVERFLOW
77	OUT OF MEMORY
90	UNDEFINED STATEMENT
107	BAD SUBSCRIPT
120	REDIMENSIONED ARRAY
133	DIVISION BY ZERO
163	TYPE MISMATCH
176	STRING TOO LONG
191	FORMULA TOO COMPLEX
224	UNDEFINED FUNCTION
254	BAD RESPONSE TO AN INPUT STATEMENT
255	CTRL C INTERRUPT ATTEMPTED

MESSAGES (?DOS3.1)

X=PEEK(222) X=ERROR CODE

DECIMAL VALUE	ERROR MESSAGES
4	WRITE PROTECTED
5	END OF DATA
6	FILE NOT FOUND
7	VOLUME MISMATCH
8	DISK I/O
9	DISK FULL
10	FILE LOCKED
11	COMMAND SYNTAX
12	NO FILE BUFFERS AVAILABLE
13	NOT BASIC PROGRAM
14	PROGRAM TOO LARGE
15	NOT BINARY FILE ERROR

DISK

```
CALL 976      ACTIVATES DOS IF IN MEMORY (3D0G).
CALL -16152   ADDRESS TO POWER DOWN DISK IN SLOT 6.
CALL -16151   ADDRESS TO POWER UP DISK IN SLOT 6.
```

GOTO 11

THANK YOU

by John Schoeppner

Thanks to Elmer Mattila for his talk on structured programming at last months Pascal SIG meeting.

MINUTES

BOARD MEETING

May 12th, 1982

Meeting, at Ron Androff's residence, was called to order by the president at 7:30pm.

OLD BUSINESS:

-Minutes were approved as printed.
-There was no financial report. John Hansen will get books from Marilyn Thomas and report at next meeting.
-Board member candidates were approved as printed with the following changes. Terry Schoeppner is the new Software coordinator. Ken Voss is the new Nibble coordinator. A new position of Advertising coordinator was created. Eric Holterman will fill this position.
-There was some discussion about the purchase of the Utility disk for DB Master. We will wait until rev. is firm.

NEW BUSINESS:

-After much discussion it was moved by John Hansen and seconded by Dave Laden:

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Motion passed
-Meeting places and dates were iscussed The second Wed should be reserved for board meetings Special interest and branches may set their meeting dates for their own convenience. We are looking for a permanent home - Chuck Boody will investigate.
-Chase Allen proposed a new format for the general meeting: one half of the meeting will be for the program the other half will be for small group sessions such as

- Beginners
- Apple tech facts
- Pascal
- Basic
- CP/M
- Visicalc
- Communication
- Etc.

Meeting was adjourned at 11 PM

Respectfully submitted

Hugh Kurtzman, secretary.

ANNOUCEMENTS

PROGRAMMING SEMINAR

LEARN HOW, WITH JUST A FEW HOURS OF INTENSE INSTRUCTION AND HANDS ON PRACTICE, TO:

1. Format inputs using FOR-NEXT, ON GOSUB, and ON GOTO routines.
2. Utilize the GET statement for INPUT and error trapping.
3. Create your own [illegible] output editing and correction routines.

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P.O.BOX 32
LORETTO, MN. 55357
479-3375 (HOME) 478-6014 (WORK)

BUSINESS SIG

The Business SIG met on June 10th. at Dayton's Warehouse to review Data Base Management systems. Art Miller lead a tutorial of DBMaster and the ensuing discussion compared this software to others. I would like to welcome the 20 people who attended.

We are planning to develop a directory of BUSINESS SIG members' with information on hardware/software and expertise. If there are any of you out there who wish to be included, knock once for 'Yes'...!! Alternately, please attend the next meeting, or contact me by phone.

The next meeting will be held on July 8th. at Dayton's Warehouse at 701 Industrial Blvd., N. Minneapolis. Earl Anderson will review GENERAL LEDGER systems. The meeting will start at 7 pm.

In order to develop the Business SIG into a strong group, I would like to encourage all members to promote the existance of the SIG to Apple users' in corporations and business. Please also encourage your favorite computer store to publicise our group. It is our plan to meet monthly, on the second Thursday but watch Mini'app'les calender for details.

CLASSIFIED

These ads are provided free to members for non commercial use, and are limited to 10 lines. Ads will be repeated on request only. Also, please notify editor if item is sold.

Apple II, Disk Drive and Controller, 16k RAM card, Sanyo 9" Monitor, IDS 440 Printer and interface card, Commercial insurance rating software package - Best offer over $1500.
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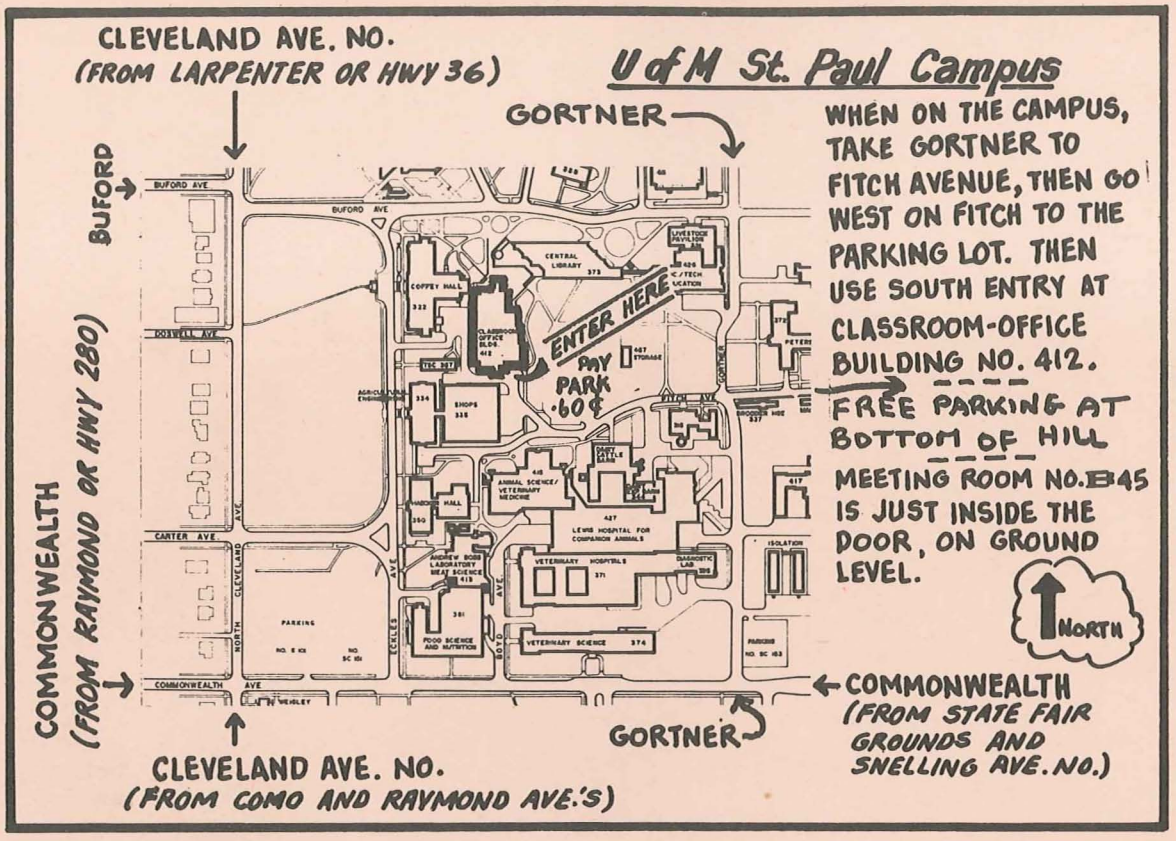

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THANK YOU

To Terry and John Schoeppner who devoted a whole Sunday to bring you this newsletter - Dan Buchler, Editor

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