mini'app'les

apple computer user group newsletter

VOLUME VI No 11 NOVEMBER 1983

CALENDAR CALENDAR CALENDAR

WHICH	WHEN	WHERE	WHAT
Pascal Note 1	Wed Nov 2 7:30pm	Minnesota Federal 9th Ave S Hopkins	Regular Regular Pascal Special Interest Group Meeting.
St. Paul Branch - Note 3	Tue Nov 8 7pm-10pm	Mahtomedi Fire House Hallam & Stillwater.	
Dakota County Branch	Tue Nov 8 7pm-10pm	St. John Neumann Church 4030 Pilot Knob Rd, Eagan	General branch meeting. Note 7
Board Meeting Note 2	Wed Nov 9 7:30 pm	Norwest Bank S 1st St., Hopkins	General club business. Meeting is open to all members.
Educational SIG	Thu Nov 10	After Regular Mtg.	Note 12
Business Note 10	Thu Nov 10 7:00pm	Minnesota Sch of Bus's 11 S 5th, Mpls	Byron Gilman on Proj. Mgmt. HP Color Plotters.
REGULAR MINI'APP'LES Note 2 Map inside	WEDNESDAY Nov 16th Prgm-7:30pm SIGS-8:30pm+	UNIVERSITY MINNESOTA ST. PAUL Room B45 Bldg 412 Near State Fair Ground	Doug Hawkinson of Anderson Companies on Artificial Intelligence For beginners and advanced!
Investment SIG	Wed Nov 19	After Regular Mtg.	Public Domain Software - Note 4.
CP/M SIG Note 5	Wed Nov 23 7:00pm	Softwaire Centre Southtown	The Public Domain
Minnetonka Branch	Wed Nov 23 7:30pm	Glen Lake Community Ctr 14300 Excelsior Blvd	Note 8
St. Paul Branch - Note 3	Tue Dec 6 7pm-10pm	Mahtomedi Fire House Hallam & Stillwater.	
Pascal Note 1	Wed Dec 7 7:30pm	Minnesota Federal 9th Ave S Hopkins	Regular Pascal Special Interest Group Meeting.
Business Note 10	Thu Dec 8 7:00pm	Minnesota Sch of Bus's 11 S 5th, Mpls	Graphics & Color Monitor Michel Fraese.
Dakota County Branch	Tue Dec 13 7pm-10pm	St. John Neumann Church 4030 Pilot Knob Rd, Eagan	Note 7
Business Note 10	Thu Dec 15 7:00pm	Minnesota Sch of Bus's 11 S. 5th St., Mpls	
REGULAR MINI'APP'LES Note 2 Map next month	WEDNESDAY December 21st Prgm-7:30pm SIGs-8:00pm+	NW College of Chiropractic (old PENN CENTER) 84th & Penn Bloomington	Demo of Alpha Sentauri and perhaps other equipment. Carols?
Education SIG	Wed Dec 21	After Regular Mtg.	Software Demos - Note 12
Medical SIG	Wed Dec 21	After Regular Mtg.	Note 13
Minnetonka Branch	Wed Dec 28 7pm-10pm	Glen Lake Comm. Ctr. 14300 Excelsior Blvd	Note 8
CP Note 5	Thu Dec 29 7:00pm	Softwaire Centre Southdale	

Notes: (See back page of mail list for telephone numbers.)

1. John Schoeppner
2. Chuck Thiesfeld
3. Pete Halden
4. Eric Holterman
5. W. Scott Ueland
6. Dan Buchler
7. Bob Pfaff
8. Martin Thames
9. Mike Carlson
10. Subir Chatterjee
11. Bill DeCoursey
12. Jane Chatterjee
13. Stewart Haight

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

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Director & NL Editor	Daniel B.Buchler 13516 Grand Avenue S. Burnsville, MN 55337	890-5051
Assistant NL Editor	Jo Hornung	922-7665
Contributing Editors	Arsen Darnay	933-0399
	Rita Wetzel	474-5725
Composition	Joan Kistner	
Advertising layout	Eric Holterman	454-5628
Mailing Coordinator	Hugh Kurtzman Steve George	

Circulation this issue: 2000

INFORMATION

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

Membership
Applications for membership should be directed to the Membership Co-ordinator: Ann Bell 544-4505
8325 39th Avenue N.
New Hope,
Minnesota, 55427
$12 buys membership for one year. New members and persons renewing after letting membership expire, pay a $5 administration fee. Members receive a subscription to this newsletter and all club benefits.

DOMs and MSDs
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. MSDs are $15/disk at meetings or $17.50/disk by mail. Contact
Terry Schoeppner,
Box 241, Inver Grove Heights
MN, 55075 (455-8613)
Members may have DOMs copied to their own media. Contact Chuck Thiesfeld - details within this newsletter.

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 preferred, but any form will be gratefully accepted. Deadline for publication is the 1st Wednesday of the month preceding the month in which the item might be included. An article will be printed when space permits if, in the opinion of the Newsletter Editor, it constitutes suitable material for publication.

Advertising
Direct Advertising inquiries to our co-ordinator Eric Holterman at:
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Eagan, MN, 55121
612-454-5628

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SOFTGRAPH

A REVIEW of "a unified graphing system"

by Kenneth V. Ruzek, Jr.

Editor's note: this program may be issued as a DOM!

SoftGraph is, as the author describes it, "a unified graphing system". The system allows for the entry, editing, storing and retrieval of data, creation, display, storing and retrieval of bar and/or line charts and pie charts.

SoftGraph was written by David Durkee and appeared in a series of four articles of SOFTALK (January through April, 1983). It is also available for $8 from:

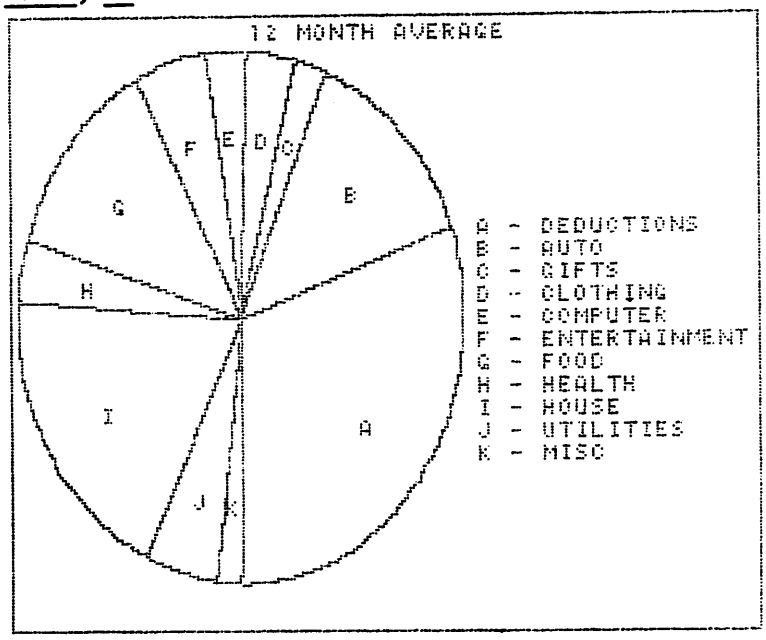
SoftGraph
Box 60
North Hollywood, CA 91603.

SoftGraph is written in Applesoft with a couple of machine language subroutines, operates under DOS 3.3 and requires an Apple II with 48K, monitor and 1 disk drive. The software as written does not support a printer, but if you have a method of printing hi-res graphics screens which have been saved on disk, you can print the graphs.

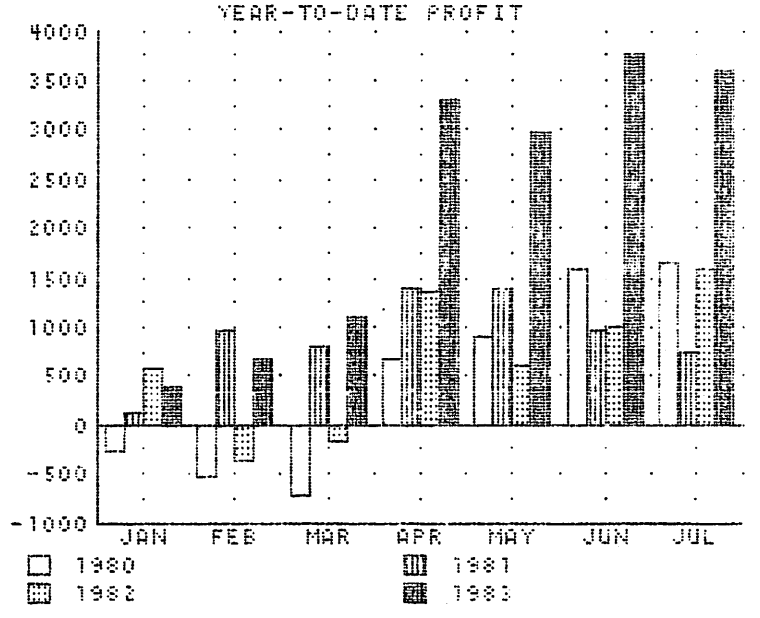
SoftGraph is menu driven and consists of four major parts: data editor, pie chart generator, bar/line chart generator and disk utilities.

The data editor allows for the entry and maintenance of 4 columns of 18 rows of data, 4 column headings of 16 characters each, 18 row descriptions of 8 characters each, and a couple of handy data handling features such as adding or deleting a row. The row descriptions can be increased to 16 characters for pie charts at the expense of a column of data. The data fields are 8 characters long including decimal point and negative sign if required. No formatting is done on the data fields. This means that the upper limit for data is 99,999,999 (without the commas). This limitation presents no real problem since greater resolution would not be discernible on the screen or to the human eye, anyway. Larger numbers can be entered in powers of 10 (such as in thousands) and labeled as such when displayed.

The pie chart generator allows one column of the data in memory to be displayed as a pie chart. Options on the display of the pie chart include: one or two column row labels (remember the option in entering row descriptions in the data editor); column to be charted; sort by value, row label or not at all; color or black and white; screen orientation (sideways or upright); rotation (position of the circle to start creating pie slices).



The bar/line chart generator allows the data in memory to be displayed as bars or lines on a Cartesian coordinate two-dimensional grid. The options here are numerous. You can select which columns are to be plotted as bars, lines or not at all, the beginning row to be plotted (this applies to all columns selected), the ending row, the title of the chart, the upper and lower limits of the chart (provided they are inclusive of the data selected), the increment between the grid lines defining the data portion, the grid density (the lines, dots or nothing at all defining the values and data names on the grid) and selection of colored or black and white bars.



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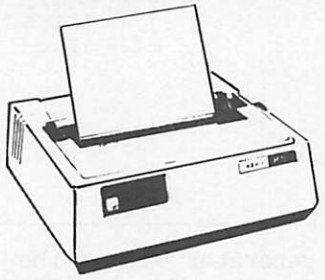

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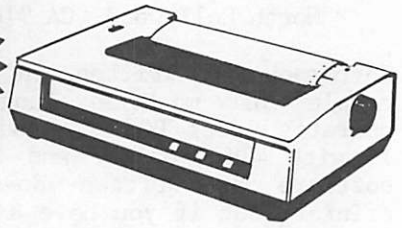

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PASCAL AND THE PRINTER

A Pascal Tutorial

by John Schoeppner

As Co-ordinator of the Pascal Special Interest Group, I get many telephone calls from Pascal users with questions about the operating system. The one question asked more than all the others combined is, "How do I send data to my printer?" Or "Is there any way to send a directory list to the printer?"

The problem is not that a printer is hard to use in Pascal, it is that all Pascal I/O devices are treated as files, not hardware connectors of the Apple][. If you want help from the manuals, you might look for a reference to the printer in the index, but you won't find any reference to the printer at all. The printer is a specific file and manuals do not cover specific aplications.

There are four ways to send data to the printer using Pascal. They are the System Utilities like the Filer, and from a program "WRITE" or "WRITELN", "UNITWRITE" or a machine language subroutine.

Let's look at some examples of where Pascal asks for a file name and see just what files will work. The first example is the Editor. I picked this one first because the Apple][and the Apple /// Editors operate differently. When your text has been entered and you Q(uit the Editor you are given a list of options. On the Apple][one of the options is: "W(rite to a file name and return". Here the Editor writes a disk file and your options are which disk drive or diskette and the disk file's name. If you type "PRINTER:", the Editor responds with "ERROR: This is not an editor function Please press <spacebar> to continue." Sorry, not printer option here; you must use the Filer.

The same is not true on the Apple ///. When you Q(uit the Editor, it prints on the screen: "to store Text file on disk, type: Write to a new file name." This would lead you to believe that it must be a disk file just like on the Apple][, but this is not true. SOS is still running, so when you quit the Editor, the file name is passed to SOS which will send the file to any legal pathname. The SOS Driver, ".printer", is a legal pathname so your file is printed on the printer and you are returned to the Editor. This might not be an intended option, but it works and might save you some time.

Our next example, the Filer, works the same on both the Apple][and the Apple ///. To L(ist directory to the printer is the same as T(ransfering a file to the printer. The syntax of the L(ist command is:

L(ist<directory name>,<file name>.

So, to list the directory of the disk in the boot drive, just type: "L#4,PRINTER:" or "L:,#6". The listing could be sent to any file name like a disk file or out a serial port with the filename REMOUT:.

Now we come to using the printer from within a running program. The first thing you must do is declare a file in the VAR statement. We will call this file "P" for printer. The next question is, what type of file should it be? Most of the time you will see it declared "file of char", but it is better to declare it to be "interactive". If "file of char" is used and you open the file while the printer is printing, your program halts until the printer is ready; but if the file is interactive, the program will run until you actually send data to fill the printer buffer.

The next step is to open the file and give it a file name. This is done with the RESET statement like this: "RESET(P,'PRINTER:')". At this point there are two interactive output files open. The first is "OUTPUT", which was opened when the system disk was booted. The second is "P", which was opened with the RESET statement. The file name for OUTPUT is CONSOLE:, so anything written to it will be sent to the screen.

Now WRITE or WRITELN can be used to send text to the screen or the printer. The syntax for the WRITE or WRITELN is:

WRITE((file>,<variable>,<'text'>);.

If a file is not named, the default file, OUTPUT, is assumed. Two examples might help here:

```
WRITE(P,'THIS TEXT WILL GO TO THE PRINTER.');

WRITE('THIS TEXT WILL GO TO THE SCREEN');
```

Here is a short program that writes to the printer:

```
PROGRAM testprint;

VAR
  P : INTERACTIVE;

BEGIN
  RESET(P,'PRINTER:');
  WRITELN(P,'THIS LINE WILL BE SENT TO
   THE PRINTER.');
  WRITELN('THIS LINE WILL BE SENT TO
   THE SCREEN.');
  CLOSE(P);
END.
```

GOTO 22

Strictly for Beginners

by Jo Hornung

A sincere and wholehearted welcome to the 139 new members who joined Mini'app'les at the recent computer show (and also to any who may have joined since). We're glad you did, and I can assure you that you will be glad too, particularly if you take advantage of the many benefits the club offers.

Attending meetings and joining SIGs (Special Interest Groups -- see the front cover for meeting info) will help you get to know other Apple Users. If there are topics which you would like to see covered at these meetings or in this newsletter, speak to any of the board members at any of the meetings (You'll recognize them by the special name tags they wear) or write to Dan Buchler, the newsletter editor.

If you have an immediate problem with which you need help, call Stephen K. Johnson. If you are a relative beginner at Apple computing or if you have recently added peripherals or new software which may be causing you some grief and/or frustration and you'd like someone to commiserate with, feel free to phone me. Call me, too, if you want me to try to direct you to someone who might be able to help you with a problem.

If you are one who has achieved a state of near madness trying to make something work or trying to understand a given manual or piece of documentation, it might make you feel better to know there are zillions of others out here in the same condition. Know that you are NOT dense. You are NOT stupid. YOU ARE NOT ALONE! I have been both amazed and gratified by the number of people who have called to tell me to keep on writing for beginners, doling out reassurance and recommending fortitude.

In other words: hang in there. We're in this together.

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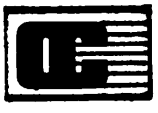

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Softgraph Concluded from page 5

The disk utilities selection allows the user to load a data file, save the data file in memory (user supplies the file name), load a chart, save a chart (again the name is user supplied), view the hi-res screen, or catalog the disk.

SoftGraph creates good looking bar/line charts and pie charts. You can create some rather busy looking charts with about as much data as you would care to see on the hi-res screen at one time. The data editor shows you all of the data on the screen at one time and with that goal in mind does a good job of handling its function. The entire system is generally easy to use and friendly. Although the prompts are abbrievated and there are no help screens, the system does a lot of checking of the user entered data to prevent problems.

In the data editor, any destructive or critical entry will have to be verified by responding to another more descriptive prompt. The error trapping of user and equipment problems appears to be excellent.

For $8 or the time to enter the programs (if you are not a programmer, I would suggest that the $8 is not a bad investment and not a bad investment even if you are) SoftGraph is worth further investigation if you have a need for such graphing capabilities. By the way, when the system is purchased from SOFTALK it comes with documentation which can be printed out, and two sample data files. If you spend the time to read the documentation, it should do a good job of getting you through. If you have some programming abilities SoftGraph is even a better deal. The system is described by the author at the end of the series as "a solid foundation on which to build an even larger system". The programs are not copy protected and furthermore they are expandable. The author mentions enhancements such as scatter plots, histograms, a VisiCalc file converter, and printer interfacing that a programmer user could add. In my opinion, we could use a few more systems like this one; inexpensive, friendly, gets the job done and expandable. I know I've paid a lot more for other programs which do a lot less, perform inadequately and have no economical way of being changed to be more useful.

SoftGraph has to receive at least a good rating: that is, it has no major problems and should prove usable in day-to-day use for its intended purpose of generating bar/line and pie charts. However, if you have programming abilities and are looking for a firm beginning on which to create a unified graphics system : if you looking for a graphics system such as this and are not sure what you need and want to experiment with one for awhile, I would have to rate SoftGraph as excellent.

LETTER TO EDITOR

Dear Editor;

It occurs to me that our club publication should have a regular column to answer written questions, on the order of a "Readers Ask" column. The question and answer sessions at various meetings are very valuable and a much liked part of meetings. However, not all questions can be asked in the meeting format as they may get involved, and also the meetings invlove 200 - 300 persons at the most. A regular column would open up this resource to all members.

A column in which members may ask questions and get replies from other readers, or have their question referred to the person most capable of answering it, with the answer being printed in the column, would, I think, be heartily received.

Is there a member who would be willing to coordinate such a column, and act as editor for the column?

Dick Marchiafava

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PBS PERSONAL BUSINESS SYSTEMS, INC.

DOM #27

by Alan Peterman

This month's DOM has some programs written by our members and some from the Adam & Eve user group of Madison, Wisconsin. While I prefer to put out disks that are entirely original material OR re-release other groups disks, there was not enough good material from any one source for this release. This DOM should have something on it for almost everyone as it includes games, useful routines, business programs and programming utilities.

I am glad to have found on the disk from the Adam & Eve User's group disk some very interesting programs, including some from Mini'app'le DOM's.
There is a very good font editor and display system that allows one to create custom character sets. Also, there is a program to input and edit machine code for those of you into machine language programing. They also provided a routine to relocate machine language programs and a program to search APPLESOFT programs for any given string. For beginner programmers there is a program that gives examples and helps show the proper use of DOS text files for storage and a program that helps to explain and visualize how arrays are defined. Lastly, there is one of the best 'LIFE' systems I have ever seen which allows one to store beginning positions.

Our club is very lucky to have some excellent programmers who are willing to share their programs with us. Mr. William Buending has given us four programs that include a decimal to hexadecimal converter for very large numbers, a rounding display routine, a program to calculate the amount of disk space a random access text file will occupy and return-on-investment program. The last mentioned program is very slick and will allow editing of data, hard copy printout, and storage of data for later retrieval. Dave Nordvall has given us a program to input and edit machine code using 16 of the Apple's keys as a hex key pad. I suspect that this program may NOT work on a IIe.

Finally to round out this disk I chose some games from that Will Schneider submitted from various sources. There is a program that analyzes sentences for reading difficulty and is much like 'FOG INDEX' from DOM #5. There is a graphic bowling game in INTEGER BASIC (needed for speed) and an adventure game in text.

The detailed descriptions of the programs are as follows:

BIG NUMBER HEX-DEC

A program by WILLIAM BUENDING that turns large numbers into hexadecimal to save space in storage. It will handle much larger numbers than Applesoft!

DECIMAL-DISPLAY

A nice program by W. BUENDING to display as many decimal digits as wished. As in many of these programs it may be useful as a subroutine to round numbers within another program. It can round off at up to 10 decimal places.

CALC-DISK-REQUIREMENTS

A program that calculates the number of sectors that any RANDOM ACCESS file will require. You input how many records to store and the size of each record and it will show how many sectors will be used. Again by WILLIAM BUENDING.

ROI-CALCULATION

An excellent program to calculate the return on investment. It allows editing of the input numbers and will print hardcopy results if desired. By WILLIAM BUENDING.

HEX KEY PAD

DAVE NORDVALL'S input program for HEX entry of machine code. It turns a grid of the APPLE'S keys into a 4x4 hex key pad. It also has editing and storage capabilities for the hexadecimal data entered.

DISK FILE ROUTINES

A program from the Adam & Eve user's group that shows the use of DOS storage commands. It gives examples for RANDOM and SEQUENTIAL files and even has an example mode that stores and retrieves data in real time. This should be a great aid in learning the use of text files in Applesoft programming.

INLINED.DOC

The documentation program for 'INLINED'. This program is another input line editor for machine language programs. It was written by John Rogers of the Madison group.

GOTO 11

DOM #27 Concluded from page 10

INLINED

The actual editor program.

RELOADER.DOC

The documentation for the 'RELOADER' pgm from the Adam & Eve group. This is a routine to relocate machine language code to different areas of the Apple's memory and keep straight the refrences.

RELOADER

The RELOADER program for relocating binary programs.

HIRETEXTDEMO/3

This program from the Adam & Eve group is a lot like HIGHER PRINT in that it allows you to display as text special custom fonts on the HIRES page. The documentation is quite complete and uses the higher text routines. All of you will be able to have true upper and lower case using this routine with no additional hardware. The machine language program that allows this magic is named HIGH-RES-TEXT/3.

DEMOTEXT/3 The text file of the demo for the 'HIRETEXTDEMO/3'.

CHARACTERS

A character font generator program to create your own special fonts. It has
full storage and retrieval capabilities and has most of the features of HIGER TEXT. It creates fonts compatible with the HIGH-RES-TEXT/3 system. By John Rogers of the Adam & Eve users group.

ROMAN FONT CHARACTERS

A character set much like the standard Apple set.

SOFTFIND.DOC

The documentation program for the SOFTFIND program from the Adam & Eve users group. SOFTFIND will search APPLESOFT programs for strings and can be used to debug or modify programs. Nearly GPLE for free!

ARRAYS

A program to show and test your knowledge of how arrays are constructed. By John Faldi of the Wisconsin group.

LIFE

A very good version of the life system where pixels form or destroy 'children' according to set rules. This version will allow single step, walls or wrap around, and storage and retrieval of initial positions. There are several seed files for the LIFE system. When loading one of these from disk you don't need to put in the leading 'L.' Again from the Adam & Eve group.

APPLEBOWLER

An INTEGER program that acts as a bowling game. It uses the paddle (or joystick) button to release the ball. Submitted by Will Schneider who attributes it to Phillip Case of COM-Soft.

MONSTER COMBAT

An adventure/combat game in text from Will Schneider, source unknown. Use N, E, W, and S to move around the grid and take the challenges as they come.

HOW TO COMPRESS

The documentation for COMPRESS. This program will get rid of all wasted spaces and REM statements from APPLESOFT programs. It has certain limitations on the number of statements and complexity of program that it can handle. These limitations are well explained in this program. From MICRO magazine of SEPT 1982 & Will Schneider.

COMPRESS

The COMPRESS program. BRUN it and then after loading the program invoke the program with a CALL 36875.

READING LEVEL

A program to analyze sentences for readability. After typing in some text, the program will decide what reading level is needed for comprehension. If the program is really accurate, we need better reading skills in this country! This program was originally in Creative Computing in March 1981 and was submitted by Will Schneider.

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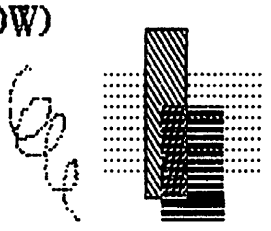

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DOS SECTOR ORDER

by Peter Harrison

Reprinted from Apple-Gram
Sept 1981, Vol 3 No 3
Relayed via the IAC Compiler

It is well known that the sectors on a disk do not follow one another in the expected order, that is, 0 through 15. Further, the order determines how fast a routine can read a series of sectors into memory. This article attempts to explain why this is so. I am assuming that the reader has some knowledge of how DOS formats a diskette in tracks and sectors.

Assume for a moment that the sectors needed were 1, then 2, 3, 4 and 5. If the sectors were found in order, then the program could read them into memory consecutively for the fastest access. However, since only one buffer is usually used for one file, the information in that buffer (one sector long) must be moved into a safe place in memory before another sector can be read into the buffer again. Since the disk continues to spin, the desired sector has already gone past before the program has moved the buffer of data and is ready to read in the next sector.

For this reason, the concept of 'interleaving' was developed, to allow time for the program to prepare to read another sector. But in order to make this work, an estimate must be made of the time an AVERAGE program will need between sector reads. Naturally, this time will not be constant, as some programs don't do much work between reads, while other programs are written in machine language and require less read time, etc.

All this means that if you want to get the fastest read for a series of sectors, you will have to do some calculations and set up your sector order appropriately. The sector order is held in two places in DOS: at $BFB8 (for normal operations), and at $B64D (for boot). Each of these 16 byte tables contain the same information: 00 0D 0B 09 07 05 03 01 0E 0C 0A 08 06 04 02 0F. This means that if you are trying to recover sector 3, you will really be looking for the sector held in sector order 9 (third value in above table). Thus it can be seen that the ACTUAL sector order is:

00 07 0E 06 0D 05 0C 04
0B 03 0A 02 09 01 08 0F.

So who cares? Well, it should be readily apparent that if the program could read consecutive sectors WITHOUT PAUSING then we should arrange the sector order such that the sectors needed follow one another immediately. Let's solve each of these problems one at a time.

First, the ability to read in sectors without pausing: clearly, the buffer cannot be moved fast enough, even in machine language. But the buffer POINTERS can be altered very quickly—these are found in the IOB and can be altered using only a few instructions in mahine language. Then the second sector comes up, and the sector will be read into another part of memory. Natually, none of this can be done in Basic.

Second, we need to be able to re-order the sectors to suit our purpose. Well, we could simply arrange things so that the sectors we need would follow the conventional order, that is 00 07 0E 06... (as above, but it might be more elegant to simply change the tables to reflect the order wanted. I leave this exercise to the reader: simply boot up a standard disk, alter the table in memory and INIT a new disk. Some surprising things will happen — some programs will load faster, some slower, and the boot speed will change.

The above method is exactly how the boot process works: the "buffers" are just the appropriate blocks where DOS will reside.

Of course, in the real world, it is not possible to have unlimited buffer space, and so it will be necessary to develop another method. What we need is a fast method of moving a buffer to a safe place in memory; then we could find out how long this takes, and arrange the sector order so that the NEXT NEEDED SECTOR was just about to pass under the head as we are ready to read it. I suggest that the interested reader look at the monitor move routine located at $FE2C for a fast move. The destination is $42-$43, the start is $3C-$3D, and the finish is $3E-$3F. These registers must be set before calling $FE2C. Now it becomes a matter of testing to determine how many sectors will be skipped before the program is ready to read the next sector. A free copy of any of the Club diskettes will be given to anyone who tells me the correct answer, and can show how it was obtained.

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PUZZLE #2

An Exercise in Programming

by Ron Androff

Wow! From the number of entries, I'd say there is a growing interest in these contests and we should have some more of them. We had three candidates for the first one, and around 25 for this one. At the last meeting, one person put forth the idea of a contest for a computer generated Christmas card. That is a good idea, timely and would be a real challenge for many. But, I'm afraid I can not schedule it in time for Christmas. Not enough time to organize it and get it announced in the newsletter etc. Good idea, but I can not fit it in.

Let's discuss possible solutions to the farm problem offered in the September newsletter. You may recall we wanted to find out how many of each animal we would buy by spending $100 and obtaining 100 animals. There were cows that sold for $10, pigs that cost $3 and chickens at $0.50 each. First of all, the straight forward or brute force method could be used. The solution can be to simply try every combination, saving those that satisfy the terms of the problem and throwing out all the others.
There are three variables, so three FOR-NEXT loops, each ranging from zero to 100 and nested together thus:

```
FOR COW = 0 TO 100
FOR PIG = 0 TO 100
FOR CHICKEN = 0 TO 100
—
logic to test values
—
NEXT CHICKEN
NEXT PIG
NEXT COW
END
```

will suffice. For this problem it is satisfactory, because it minimizes the amount of time it takes to write the program. The time it takes to run this program will not impress anyone, as it will take hours, but on the other hand, you will only run it once. Let the Apple run all night and when you come back in the morning; it will have the solution(s). And some of you thought you had to be clever to write a program - not so. Admittedly, if one were to use this program often, or if it were a routine called thousands or even hundreds of times in some program; then any speed improvements would be desirable. And, for this contest, "brute force" does not fare so well either. So what can we do to improve it? Well it so happens, a gentleman from New York sent me a listing of his effort and asked me why it does not work. It is listed verbatim below.

```
10 FOR C = 1 TO 8
20 FOR P = 1 TO 33
30 FOR CH = 1 TO 200
40 IF (C + P + CH) <> 100 THEN GOTO 80
50 IF C*10 + P*3 + CH*.5 < > 100 THEN
   GOTO 80
60 PRINT C;" COWS   "P;"PIGS";CH;
   "CHICKENS
70 END
80 NEXT CH
90 NEXT P
100 NEXT C
```

Actually it does work (with some minor problems), it is just slow, so perhaps he did not give it enough time. Let's use that program as our example. We see some differences right away, for example, he does not look for solutions when the number of cows is greater than eight or when the pig count exceeds 33. Why? Well, I don't see how our friend arrived at eight cows, but since cows cost $10, any more than ten would exceed the $100 cost maximum and surely could not give a solution to the problem. Of course, more than 33 pigs at $3 each would also exceed the $100. In the chicken loop, he continued that logic, and reasoned he could have 200 chickens before he reached the $100 limit, but he forgot the other restriction; only 100 animals were allowed. Obviously ten cows will not yield a solution to this problem, nor will 33 pigs or 100 chickens for that matter, but they are demonstrable limits. I mention that, because our friend from New York may have had some good reason to limit cows to eight; I just don't see it. Finally, he runs his loops from one to some maximum, but by doing this, he will not find any solutions containing a zero value for any animal. He also ends the program when he finds the first solution. Both are mistakes. Let us make these changes then.

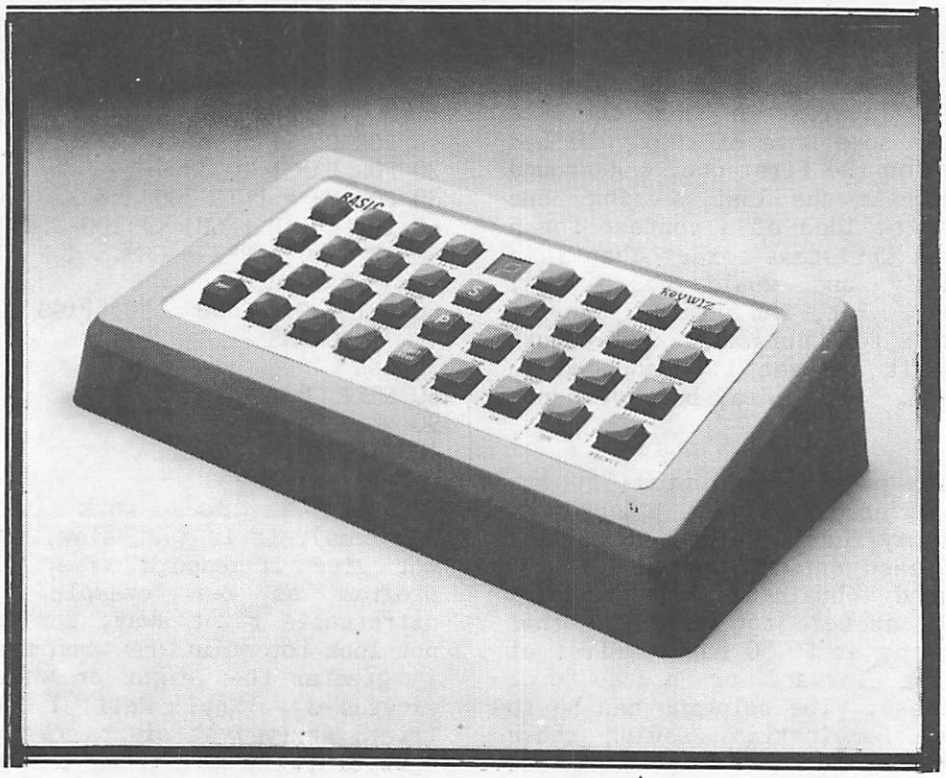
```
10 FOR C = 0 TO 10
20 FOR P = 0 TO 33
30 FOR CH = 0 TO 100
```

The three large nested loops (brute force method) would have provided the solution, so what we are now trying to save is running time. So how much time have we saved? In our first program we had three nested loops each made 101 passes (0 thru 100 = 101) thus 101 X 101 X 101 or more than 100,000 loops. In the second program we have 11 X 34 X 101 or

GOTO 17

NAME THAT KEY

(ALL 248 OF THEM!)



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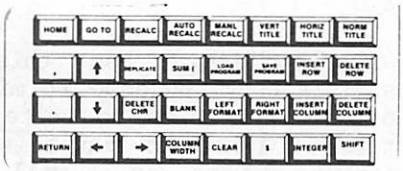

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Puzzle #2 continued from page 15

37,774. We reduced the time by about two thirds. Can we do any thing else? How about that inner loop (the chicken loop), why don't we test only those combinations that equal 100 animals?

```
30 IF C * 10 + P * 3 + (100 - C - P) * 0.5
   = 100 THEN PRINT "THERE ARE ";C;" COWS ";
   P;" PIGS AND ";100-C-P;" CHICKENS"
```

With the above statement we eliminate four statement lines and more importantly, the largest remaining FOR-NEXT loop. Number of loops now, 11 X 34 or 374.

That is probably improvement enough for most of us, but another trick we could use is to limit the number of pigs tested. After all, when ever we add a cow to the combination there are ten fewer dollars left to buy pigs with.

```
20 FOR P = 1 TO 33 - INT(10 * C / 3)
```

Another astute observation one might make: the sum of cows and pigs must always be an even number. The reason for this is based on a mathematical rule. It goes something like this:
Rule 1. If two even or two odd numbers are added to, or subtracted from, each other the result will be an even number.
Rule 2. If an even and an odd number are added to, or subtracted from, each other the result will be an odd number. Observe that the sum of cows, pigs and chickens is 100; and 100 is an even number. Chickens will always be bought in pairs to have the price come out in whole dollars. Another even number. Therefore, though we may not know if the number of cows or pigs will be even or odd, we do know that the sum of them must be even. Now if we can make use of that bit of information we can shave off some more time because now the pig loop can be stepped by two (testing only even or only odd numbers of pigs depending on whether the number of cows is even or odd). Our problem is to find a way to start the loop with either a zero or a one depending on the value of cows. In Integer BASIC (from back in the stone ages) there was a command called MOD that would have been handy. It was a function that gave the remainder from a division. Thus 10 MOD 2 would result in 0 (ten divided by two equaled five with a remainder of zero), and 9 MOD 2 would result in 1 (nine divided by two equals four with a remainder of one). So we could have something like:

```
10 FOR C = 0 TO 10
15 A = C MOD 2 : B = 33 -
   INT(10*C/3)
20 FOR P = A TO B STEP 2
```

We can not use C MOD 2 because Applesoft does not have the MOD command but we can build it (Applesoft Reference Manual p.104).

```
10 FOR C = 0 TO 10
20 A = INT(C/2-INT(C/2)+0.5) :
   B = 33 - INT(10*C/3)
30 FOR P = A TO B STEP 2
```

And now the number of loops is only 96. By eliminating extraneous tests we reduced the number of loops from over 100,000 to just 96. Did we sacrifice anything? Sure, some extra time to write the program, that's obvious. We also sacrificed another quality we sometimes want in a program - generality or general purpose. Suppose you wanted to see how many ways you could buy other combinations of animals, with different prices or other limits. It would be doubtful if you could, with this program. We tailored it to do exactly one thing, and we will use it exactly once. One last thing, so far nothing had been included for the case of no solution. So putting all the pieces together a listing could look something like this.

```
10 TRUE = 1:FALSE = 0:ANSWERS = FALSE
20 FOR C = 0 TO 10
30 A=INT(C/2-INT(C/2)+0.5):
   B=33-INT(10*C/3)
40 FOR P = A TO B STEP 2
50 IF C*10 + P*3 + (100 - C - P)*0.5
   = 100 THEN PRINT "THERE ARE ";C;
   "COWS ";P;" PIGS AND ";100-C-P;
   "CHICKENS" : ANSWER = TRUE
60 NEXT P : NEXT C
70 IF ANSWERS = FALSE THEN PRINT
   "THERE WAS NO SOLUTION."
80 END
```

Oh by the way there were two solutions to the problem. The government would lend you money if you wanted to buy five cows, one pig and 94 chickens, or if you decided to buy 20 pigs and 80 chickens. Contest winner will be announced at the December meeting. And sponsoring this contest as they did the last one, is SOFTWAIRE CENTER in the South Town Shopping Center in Bloomington on 494 and Penn. I appreciate their generosity and thank them for sponsoring our contest.

Now a Halloween/Christmas tale to announce our next contest. It was about the year 1100 A.D., and the great King of England had invited his silversmiths to spend the Christmas Holiday with him at Sarem Castle (a little south of what is now Canterbury). These were privileged men, licensed to mint the Kings coins. They were excited about the coming festivities and no doubt speculated on what honors the King might be planning to

GOTO 19

Pie Notes

Using Apple Pie and Pie Writer with the Epson.

by Thomas E. Militello, M.D.,
Mini'app'les member in Rancho Palos Verdes

Editor's Note: This article deals with a very specific problem, but the techniques employed are usable for other similar situations.

Part 1. An Introduction

Although the following instructions will be very detailed in explaining how and why to press certain keys, and will appear to be intended for a first-time user of Apple Pie, in fact, it is intended for the experienced user of Apple Pie whose configuration is as described above and who has been unable to find the exact sequence of keypresses to generate the null code.

The problem for users of the original Programma Apple Pie with the Double Vision 80 column board is that it is impossible to generate an inverse @ sign that will perform the null function. The text file NULL contains a supply of them and these instructions will show two ways to put one of these little goodies into the buffer. (If anyone else needs a text file containing nulls, call me - Editor). Once in the buffer, it can be moved to the location where it is needed.

The null is needed not only to turn OFF underline, but also to turn ON superscript, turn OFF unidirectional and to turn OFF double width after double width has been permanently turned on. Obviously, the use of these wonderful features is limited if one does not have the ability or know-how to turn off a feature when its use is no longer needed.

I will give the basic instruction for the underline function. Once the general method is understood, its use for the other functions is easy.

Credit for the background of this article goes to Dan Buchler of Mini'app'les. His two original articles in the October, 1982 issue of the Mini'app'les Newsletter let me know the NULL was possible from Apple Pie.

The following instructions are for systems with two disk drives. For systems with only one drive, omit D1 and D2 where they appear.

I am using Apple Pie from Programma. Pie Writer from Hayden is not available for Doublevision.

Part 2. The Tutorial

You must have the NULL Text file, which is available from Dan Buchler at Mini'app'les.

1. Turning ON the underline feature is the easy part; just use the following character string:

CTRL SHIFT M	Press CTRL key, SHIFT key, and M key all at the same time)
ESC	(Press the ESC key)
-	(Press the - key)
1	(Press the 1 key)

   From that point on, all text will be underlined until underline is turned off. The remainder of this section will show how to turn OFF underline.

2. Load the file to be worked on or TYPE EY to start a new file.

3. From the Command level, TYPE <<NULL,D1 This will append the NULL text file from the Apple Pie disk in Drive #1 to the bottom of your document and add three lines of text.

4. Go to these three lines and position the cursor over one of the @ signs.

5. PRESS CTRL P (enter insert mode).

6. PRESS SHIFT CTRL M (gets Apple Pie ready to accept an ESC character).

7. PRESS <ESC>.

8. PRESS - (the underline character, to the left of the reset key).

9. PRESS CTRL P (this turns off insert mode).

10. PRESS CTRL L (this moves the character string into the buffer).

11. Now move the cursor to the spot where you want the underlining to end and press CTRL O. This puts the contents of the buffer (the character string) into that spot.

    Notes:
    The spot selected to turn off underlining must be the first character of a line, so you will have to arrange your lines of text to allow for this.

    Once the character string for the null is in the buffer, it will stay there and can be used as many times as needed until you exit the program or change the buffer contents.

12. Go to the end of your document and dele the lines of the NULL file.

GOTO 19

Pie Notes Concluded from page 18

13. Now Type CTRL SHIFT P to exit to command mode.

14. Type SAVE FILENAME,D2 (Filename is the name of your document)

    Note:
    I use the 'SAVE' and 'LOAD' commands rather than '>' and '<' for saving and loading files. The 'SAVE' command saves a file as a (B)inary file rather than a (T)ext file. Binary files load faster and also can be accessed directly from disk using the 'D' answer in Format. I only use '>' command if I specifically want to save a file as a text file.

15. AT THIS POINT, BE SURE YOUR EPSON PRINTER IS TURNED ON!!!

16. Type F (this loads the FORMAT module).

17. Answer questions to FORMAT as usual except answer D to last question. For FILENAME? Type FILENAME,D2 (Filename is the name of your document)

That's all there is to it!

Part 3. Using the Technique For Other Functions

A. SCRIPTS

CTRL SHIFT M ESC S 1	Turns on Subscript
CTRL SHIFT M ESC S @	Turns on Supersc'pt
CTRL SHIFT M ESC T	Turns off either Script

B. UNIDIRECTIONAL

CTRL SHIFT M ESC U 1	Turns on Unidirectional printing
CTRL SHIFT M ESC U @	Turns off Unidirectional printing
CTRL SHIFT M ESC T	Turns off Unidirectional printing

See the Epson Manual (Graftrax Plus Edition) for uses of Unidirectional print.

Puzzle #2 concluded from page 17

bestow upon them. They chose their wardrobes carefully and planned their travel arrangements, surely they were in high spirits by the time they arrived with their families at Sarem.

The King, unfortunately, lacked Christmas spirit. He was obviously in a sour mood, for when he got them all into his castle, he accused them of shaving the coins they minted. Stealing!, he charged. He produced samples of their work and each lot was carefully weighed. Those hapless men whose work failed this test were led out to the block where the King's axman waited to shorten their right arms by a hand.
Justice was swift if bloody in 1100 A.D.

The King requests you, nay he commands you, write a program that will help him expose these thieves, bent upon depriving him of his rightful wealth. A program that will determine which of a dozen coins is heavier or lighter than the others. The King has reasoned that if the coin is light, then the silversmith was stealing and surely must be punished, on the other hand if the coin is heavy then the smith was careless, and is wasting the King's silver and (you guessed it) must be punished. The test is made on twelve coins, one of which is either heavier or lighter than the others (which should all be equal, the King insists). The King only allows the use of a balance and then it can be used only thrice - oh, excuse me, I got a little carried away - three times. The program must chose the coins to be tested and ask the user to specify whether the scales are tipped right or left or balanced. It must be able to determine within three uses of the balance which coin is heavier or lighter than the others. Graphics are not necessary, but will certainly be considered. Also statements during the weighing that explain the thought process being followed would also be advantageous.

Do program with care though for some man's right hand may depend upon its accuracy - or perhaps your head?

Deliver your entries in person at Sarem Castle, or if that is not convenient send your entries to our Editor.

Naturally the deadline for your entry is December 23. The King has heavy plans for Christmas Eve you know.

APPLE PROMOTED INSURANCE POLICY
SEE ANNOUNCEMENTS

WHAT DOES THIS POLICY COVER?

The policy is "All Risk" coverage for your entire Apple system. The system is insured in your home, and in transit, anywhere in the world.

The "system" refers to your computer, hardware, software and accessories. "All Risk" refers to a direct physical loss to the equipment from any external cause except those specifically excluded.

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WHAT ARE THE EXCLUSIONS?

War, nuclear reaction, wear and tear, rust, freezing, error in programming, delay, loss of use, fraud, error in design, manufacture or workmanship, and data erasure caused by or resulting from magnetic injury or electrical disturbances.

DOES THIS INSURANCE COVER WARRANTY WORK?

No. This policy picks up where your Apple Extended Warranty leaves off. Your insurance policy covers losses from external causes, while your warranty covers errors in design, manufacture, or workmanship in your system.

HOW MUCH WILL THE INSURANCE COMPANY PAY ON A CLAIM?

If a covered loss occurs, the Insurance Company will pay for repair or replacement with new equipment, without deduction for depreciation, up to a maximum of $25,000.

IS THERE A DEDUCTIBLE?

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HOW DO I INSURE EQUIPMENT PURCHASED AFTER I BUY THIS POLICY?

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WHAT IS THE DURATION OF THIS POLICY?

Coverage is effective for one year from the postmark date of your application.

WHEN I HAVE A CLAIM, WHO HANDLES IT:

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HOW DO I RENEW MY POLICY?

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5. Make check or money order payable to Emett & Chandler in the amount of annual premium or charge to your credit card. Mail application and payment to Emett & Chandler, P.O. Box 6720, San Francisco, CA. 94101.
6. If you are financing the purchase of your Apple and your lender also desires insurance protection, include the name of such lender or other loss payee._____

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Signature_____

Date_____ Telephone (area code)_____

Your Name and address.

"APPLE TECH NOTES" NOTES

DOS MANUAL ERRORS

by John L. Hansen

For some months Mini'App'les has had a copy of APPLE TECH NOTES. We have also received at least three sets of updates. It is obvious that one copy (very thick) will not circulate very well among 1900 members. I plan to go through the notes to extract items that might be useful to members and publish them in our newsletter. The first category I have selected consists of errors that have been found in THE DOS MANUAL. The information will consist of the manual page number and the error. Not all of these errors are especially critical.

- Page 41 — The last item should read, "Using the MASTER CREATE Program."
- Page 62 — In the program at the top of the page, there are no characters between the quotes in Lines 100 and 110.
- Page 103 — Note 3 should refer to Table 1, not Table I.
- Page 105 — Note 7 should refer to Table 2, not Table II.
- Page 106 — Applesoft CHAIN does an IN#0 and PR#0. It also resets LOMEM: to the top of the new program.
- Page 130 — Relative byte 22 of a Directory entry is always $00.
- Page 141 — The left label reading "Lowest RAM memory address:" should be at the bottom of the diagram and the address at the arrow where it is now should read "1024 ($0400)".
- Page 156 — The FP command assumes you have a Language Card, Apple II Plus, Applesoft firmware card, or the old RAM Applesoft on the diskette in the last-used drive. RAM Applesoft is no longer available. The FPBAS file on the Master Diskette will work only with a Language Card.
- Page 157 — The first and third paragraphs are the same.
- Page 166 — Under RECOVERING FROM ACCIDENTAL RESETS, the seventh word should be "then".
- Page 171 — The second word under CHAINING IN APPLESOFT should be "RUN".
- Page 178 — LOADAPA and the "&S" command mentioned in the first paragraph are not part of the DOS package. LOADAPA is in the "DOS Tool Kit". The Applesoft program on page 151 of the DOS Manual can be used to find hidden control characters.

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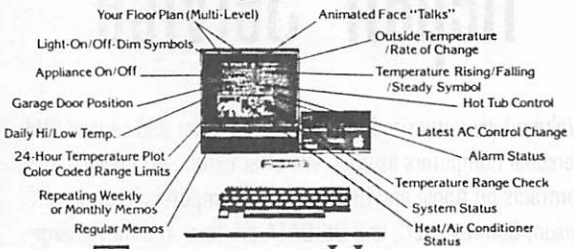

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Outstate Branches?

Reflections After Computer Fest

by Dick Marchiafava

I had the opportunity to work at the club booth during Computer Fest at the Minneapolis Convention Center on September 16th. We helped many Apple owners join our group. Most of them stated that they felt in need of the support that a user group like ours offers.

But some of them said "I live in Duluth (Mankato, Grantsberg, etc.), why should I join; what benefit will I be able to get? We answered that question the best way that we could at the time.

But the best reply to that question would be to refer these persons to a Mini'app'les branch that is near them. This is the subject I wish to raise here.

I feel that an effort to inform members in outstate areas, where there are significant numbers of members, on how to form a Mini'app'les branch could result in better service to our outstate members, and an organization that can serve Minnesota and not just the metro area.

Persons involved in the club in outstate areas would find it easier to set up a branch than to start a user group from the ground up. They would not have to deal with putting out a newsletter, and perhaps the group could help them with their programs, with suggestions and some speakers to get them started.

I think that the time has arrived for our user group to branch out!

A final reflection: the most numerous group of persons stopping at the booth to ask questions were concerned about or involved in education!

Pascal Concluded from page 7

There is a situation where WRITE or WRITELN cannot be used. Pascal traps some of the control characters, like ASCII 16. To send data containing these characters, you must use UNITWRITE or a machine language subroutine. UNITWRITE is a dangerous procedure which can cause loss of data if not used correctly. The procedure is an absolute command without any safety checks. If you tell the computer to do the wrong thing, there is no recovery. It will be covered in detail in a future article.

Machine language subroutines can be used to send anything to the printer. They are assembled separately and linked to the host program. Machine language subroutines are not normally used for printer drivers in Pascal because they make the program machine dependent. I would use machine language when speed is required, like in a graphics dump.

We solve the problems of the problem-solvers.

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DAYTON'S

ANNOUNCEMENTS

NEW GENERAL MEETING START TIME

Begining with the next meeting the start time will be 7:30 instead of 7:00. This will allow time for club business before the program, and ease the rush.

PENN COMMUNITY CENTER NAME CHANGE

Northwestern College of Chiropractic has purchased the Penn Community Center, and naturally want to name the building after themselves. Same building, same place - new name.

PUZZLE!!!!!!!!

The September Puzzle is closed herewith to further entries. We have received about 25 responses and will bring you the winner in the December issue. We are very gratified by the interest generated by the puzzles. See article in this issue for the new puzzle.

Help Wanted!

Your newsletter editor needs help. The growing size of the newsletter, together with a greater demand on time from job, has necessitated a need for more help if we are to continue at our current size and, it is hoped, quality!

If you are willing to help in any way, please call Dan Buchler at 890-5051.

4 or 5 jobs are open! The hours are bad, the pay is worse, but the self-satisfaction is great! Though not required, if you have a modem and/or you live near Burnsville, you automatically have additional qualifications worthy of consideration.

Apple Insurance

by Dan Buchler

Apple Inc. recently sent out a brochure which many of us did not receive. This brochure, printed elsewhere in this newsletter, describes the policy and includes an application form. Generally, your homeowner policy will not insure a computer used for any business purpose.

Apple Inc. are promoting this particular policy as a service to their customers. Inasmuch as the deal offered recently by the IAC cost almost twice as much, it appears to be a good deal.

Special Deals on Magazine Subs

by Dan Buchler

Reduced rates are available to club members for the following magazines:

Call A.P.P.L.E.

You can join A.P.P.L.E. and receive a year's subscription to Call A.P.P.L.E. for $20 annual dues plus $5 Apple-Cation fee ($25 total). The Apple-Cation fee is normally $25. This will be in effect until Jan 1, '84. Send self-addressed, stamped envelope to:

Hugh Kurtzman at PO BOX 796
Hopkins, MN 55343

for application form. Make checks payable to Mini'app'les.

GOTO 25

Mini'app'les Software Disks
MSDs

3 Great Disks:

- Mini'Scrip Checkbook Financial System - MSD #1. A home and small business checking and accounting package by Leighton G. Siegel.
- Micro-mailer - MSD #2. Mail list program by Juris and Paula Ozols of Prairie Microsystems Inc. Magic Window though not required works well in conjunction with Micro-mailer.
- Higher Text Extensions - MSD #3. Contains Higher Print by Dan Buchler, Message Maker by Charles C. Boody and Higher Word-processor by Don Hagberg.

Higher Print provides a high density print capability with a selection of fonts and more if you own Higher Text from A.P.P.L.E. The newsletter headers and logo are printed with Higher Text.

Message Maker requires that you own HIGHER TEXT. It serves as a tool to create and display, on your screen, messages which scroll up and down, left and right and do other useful things.

Higher Word Processor is a easy to use line oriented text editor suited to letter writing and everyday home use. It integrates with Higher Print.

All MSDs are available at meetings, to members only, for $15, or by mail from Terry Schoeppner for $17.50. See classified ads.

COPY PROTECT 'YOUR' DISKS

General interest

by Martin Piercey

Reprinted from: The Maple Orchard
PO Box 696, Station B
Willowdale, Ontario, M2K 2P9
Relayed via the IAC Compiler #2

Residing within DOS is the 'RWTS' (Read or Write a Track and Sector). When you initialize a disk, DOS calls the 'RWTS' which writes the address and data marks for each track and sector. If you change the address or data marks in the 'RWTS' core then any disk you INIT from this core will have the changed address and data marks and will be uncopyable (at least by normal methods).

The locations for DOS 3.3 are 47413 and 47262. These are only two of a number of locations. The normal values at these addresses are 222. When you change this byte, be sure to change both locations to the same value. Use a value between 160 and 250.

Follow this routine:

1. BOOT NORMAL DOS
2. LOAD YOUR 'HELLO' PROGRAM
3. INSERT A BLANK DISK IN YOUR DRIVE
4. POKE 47414,(NEW NUMBER)
5. POKE 47262,(NEW NUMBER)
6. INIT (NAME OF YOUR HELLO PROGRAM)

You now have a protected disk! The normal APPLE copy programs will not work on this diskette. To use it you must boot this disk. This will load the changed DOS.

In order to 'LOAD' programs onto this disk you must change the two new locations that you POKEd earlier.

Follow these steps:

1. BOOT NORMAL DOS
2. LOAD YOUR PROGRAM
3. POKE 47413,(NEW NUMBER)
4. POKE 47262,(NEW NUMBER)
5. INSERT THE PROTECTED DISK IN DRIVE
6. SAVE (PROGRAM NAME)

Now, transfer all your programs to the new copy-protected disk.

After you have transferred all your programs to the protected disk, you need to consider one final point. In order to get the full benefit of this method of copy protection, a special 'HELLO' program should be used. This program should set the RUN flag as well as lock out the RESET switch and 'CTRL-C', and then it should RUN your program.

An example (Insert these lines ahead of your 'HELLO' program.):

```
LINE 0 ONERR GOTO 1

LINE 1 POKE 214,128: POKE 1010,102
       POKE 1011,213: POKE 1012,112
       :PRINT CHR$(4)"RUN (YOUR
       PROGRAM NAME)
```

LINE 0 and 1 sets RUN command, locks out 'CTRL-C' and RESET switch and auto runs your program.

The final step for true copy protection... Now you must add a line in front of your program to change the two locations back to the original values.

```
LINE 0 POKE 47413,222 : POKE 47262,222
```

LINE 0 changes DOS back to normal. If by chance someone were able to stop your program, they would not be able to access your disk!

I trust these techniques are of some interest. Be certain to practice them using disks which do not contain valuable data!

Apology

by S. K. Johnson

If this month's newsletter doesn't look as professional as usual, that is because we really don't appreciate how much work it takes to put together one months newsletter.

With Dan off to England, Ron Androff, Joan Kistner, and myself volunteered(????) to get this issue out. Dan supplied most of the prepratory work and an excellent set of directions, without which you never would have received this issue on time.

Thanks alot to Dan Buchler for his sustained effort in continuing to make MINI'APP'LES one of the best newsletters in the country.

Announcements Continued from page 23

DOMs by Mail

Continuing Service for Mini'app'les Members

by Chuck Thiesfeld

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

Make up a package containing the following:

1. Blank diskette (or diskettes if more than one is desired).
2. Mailer. Diskettes will be returned in same protective device used to send the diskettes, provided such will fit in the mailer.
3. Send correct postage in stamps - do not send money in lieu of stamps.
4. Self-addressed return label.
5. $1.00 copying fee per DOM or disk.
6. A note indicating which DOMs are desired.

Send to:

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

Please allow 60 days for delivery in USA. Incomplete packages will not be returned. DOMs 1 thru 26, except 18, EAMON #3, and 8 Pascal disks are currently available. Mini'app'les Software disks (MSD) are not available! General questions about DOMs should be addressed to Terry Schoeppner. Questions on DOM content should be addressed to Al Peterman, our DOM editor.

Please note that DOMs may also be purchased on club-supplied media by sending $7.50 to the software sales coordinator. See back of membership list. The first 3 Mini'app'les Software Disks (MSD): #1 - Mini'scrip; #2 - Micro Mailer and #3 - Higher Print/Higher Word Processor/Message Maker are available by mail from Terry for $17.50. Or, the latest DOMs are available at regular meetings, and at some Branch meetings, for sale to members at $5 each, and the MSDs for $15 each.

Tax Programs

by Dan Buchler

Tax season draws nigh!' HowardSoft, the market leader, has started advertising again, and claims that they will be ready early in '84. Others are making same claim. Last year, every software house delivered at last minute (HowardSoft around April 1) or not at all.

Two of us in the club bought the VisiCalc package from "The Taxman" of Huntsville, Alabama. They took our money and delivered nothing, claiming that the US Government had forced them into a corner with the late delivery of tax changes. They did deliver IBM software, so they are not criminals. Though we have yet to receive a refund, they claim that they will pay up (or ship '84 software, if customer so requests) by beginning of '84. At least it was tax deductible!

GOTO 26

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"THE LITTLE GUY WITH THE BIG DEAL! "

Announcements Continued from page 25

Business SIG

by Subir Chatterjee

The Business SIG met at the Minnesota School of Business on Sept. 8th when Ken Ruzek demonstrated SoftGraph and his modifications. The program is a business graphics package priced at $8.00 from Softalk (It will also be available as a Club DOM). Ken has written a review of SoftGraph - see elsewhere in this issue. Our thanks to Ken for an excellent demonstration.

This month's meeting will be held at the Minnesota School of Business on November 10th, starting at 7pm. Byron Gilman will demonstrate a project management package called Milestone. Its purpose is to enable the user to create and analyze Critical Path and PERT charts. We are also hoping to be able to demonstrate Hewlitt-Packard's color plotters.

For all those of who missed the main meeting on Sept 21st, when Computer Professionals demonstrated LISA, I want you to know that we are working on arranging a LISA demo for the Business SIG - a bank draft of $8000 will assure you of a front row seat! Perhaps our first bulk purchase ought to be the LISA - please contact me if interested!!

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APPLE TRICKS

For programmers at all levels

by Craig Crossman

Reprinted from THE ABACUS][, Feb 1980
Relayed via the IAC Compiler

Here is another 'Apple trick', this one from Craig Vaughn of Peripherals Unlimited in Signal Hill, California. This is a way of making your Applesoft program UNLISTABLE. It is really a clever method and quite easy to do.

First, write or load the program you wish to make unlistable. Next, place a REM statement on line 0. Then type in POKE 2049,1. Try to list your program and see what happens. Then try running it and the program should execute as normally. You just won't be able to list it.

It would be nice to be able to just SAVE it to disk, but unfortunately DOS corrects that byte to its proper format. However, there is a way to overcome that, too. After you have typed in the POKE statement, enter the monitor by typing CALL -151. Next, type AF.B0. You should see two sets of numbers; they represent one byte past the last byte of your program. Note these, remembering that the two numbers represent the low order byte first and the high order byte second. For example, if after typing the above you saw 90 08, the actual location is 0890 (in hexadecimal). Because Applesoft programs begin at $800, this program is $890-800 = $90 bytes long. Then for this example, you would type:

BSAVE program name, A$800, L$90

You have now saved the Applesoft program as a binary file.

To run the program from Applesoft, simply BLOAD the binary program. It will be loaded as an Applesoft program. Do not BRUN it — it doesn't work. Just type RUN. If you try to list it before running, it won't list, but it will still run. In most cases, the program will also self-destruct upon completion of execution.

Mini'app'les Software Errata

(Cumulative from last month)
by Dan Buchler

Just as a new car has bugs when a new model comes out, so does software - Confucius Buchler, 1983. Well, here's where you hear about the bugs and how to fix them. We apologize for any inconvenience - but where else but in a User Group would you get such rapid communications and attention?

1 Mini'scrip and Micro Mailer documentation.
Problem: Both sets of documentation were produced with Magic Window which uses a CTRL-C to mark the end of the file. Unfortunately, the Okidata Microline printers, IDS Paper Tigers and Prisms, and perhaps others use CTRL-C to turn on graphics mode. It's sort of hard to read the text after that happens.
Solution A: Use a different printer!
Solution B: We will test for the CTRL-C in a later edition of the software. If you have one of those printers and need a modified file, call Dan Buchler. (For more information on Mini'Scrip errata see article in this issue.-Ed)

2 Micro/Mailer.

Micro/Mailer will work with //e, but not at all conveniently. The Shift keys are ignored.

Problem: If you go into the middle of a file to update an entry, you may end up losing all of those records that follow the one being corrected; the record count is set equal to the record number being updated.
Solution:
BOOT DISK and EXIT to BASIC
LOAD MICRO/MAILER DOM.2 [Return]
Type in following:

```
71 GOSUB 33: GOSUB 44: GOSUB 503: GOTO 56
503 GOSUB 362: GOSUB 366: FOR E = 1 TO 8:
    PRINT CHR$(34);I$(E): NEXT: GOSUB 365
```

SAVE MICROMAILER DOM.2 [Return]

[Return] means hit RETURN key.

3 Higher Print. A couple of new problems have surfaced since October issue.

A line was accidentaly edited-out of the HELLO program which would affect those of you with the older EPSON and TYMAC interface cards and which have not been modified to work with 8 wires of the print head.

Boot Disk
Exit to BASIC

Type

```
966 PRINT "6  EPSON WITH 7 WIRE INTERFACE -":
    PRINT "   EPSON, TYMAC AND OTHER
    INTERFACES"
```

UNLOCK HELLO [Return]
SAVE HELLO [Return]
LOCK HELLO [Return]
Now when you get to menu with various printer options you will see:
6 EPSON WITH 7 WIRES.
Use this option as mentioned above.

Configuring disk.

The operational menus on the disk have confused at least 2 people. You must go through the CONFIGURE option before trying to PRINT the documentation. Otherwise, the disk does not know what combination of printer and interface card you have and will not work unless you have a C. ITOH with certain interface cards.

Documentation for EPSON

Page 2: Just before LOADING FONTS, Characters/line should read characters/inch.

Page 4: Last Paragraph - Delete reference to CTL-X and -Z.

Page 5: Last paragraph - Delete.

Problem published last month -

Problem:

If you own a Grappler, Higher Print will not work with the version supplied.
Solution 1: If you are using an Epson MX-80 or MX-100, do the following:
Boot Disk and take EXIT to BASIC.
Type:
BLOAD HIPRNT EPSON-GRAPP [Return]
CALL -151 [Return]
8616 [Return]
You should see 8616 - 0E. If not, do it again!
8616:C [Return]
BSAVE HIPRNT EPSON-GRAPP,A$8600,L$331[Return]
Now RUN HELLO and and go through configuration process for EPSON with Grappler.

GOTO 28

SOFTWARE TIPS

Mostly for beginners.

by Julian St. Martin

Software comes on a diskette and loads into the computer's memory — and once the program is 'resident' in memory, you don't need the diskette any more. You can take it from the drive and put it away.

Right? Well, son, not necessarily.

Yes — software must be in memory before it'll run. But many programs are too large to fit all at once. The authors have left large chunks of code on disk, and when the time comes they load new code to perform added functions.

Data base systems sometimes load an input program. Once your inputs are in memory, they load sorting, editing, or printing programs to manipulate the data. In such cases the Master Diskette must remain in the drive so that the main program can call various routines.

Because of this, some people think that all software must be left in the drive at all times — which isn't true. One tip on using software: know how the package is designed so that you'll know whether the precious Master Diskette can be put away after booting or not.

Many programs require that you 'configure' the program in some way before it will perform. Example: Most word processing programs must be told how you want text to be printed. Margins must be set; the right sequence of characters must be sent to the printer; and so on. Another example: Many data base systems want to be told before you enter data how many 'fields' of data you want to enter and how long each field is going to be. The program needs this information to set up random access files on your storage diskette.

Now all this is perfectly sensible — but if you're unprepared, if you don't know what to expect in advance, you're likely to be frustrated. After all, aren't computers smart? The damn thing should know that you've got a Zapper-Rip-The-Dot-Matrix-Supreme attached. It shouldn't have to be told!

Wrong. Computers are machines. So another tip is to study the software's requirements before you turn on the machine. In my experience, once I'm at the keyboard, I'm likely to be impatient and shoot from the hip. And sometimes huge blocks of data are erased because I want my satisfaction now!

I hesitate to say this — some people would rather go to jail than do it — but it really pays to read the manual. I don't know why we resist this straight-forward suggestion, but we do. I read the manuals — but usually in the wake of a disaster . . .

The best way to read a manual is after you've looked at the program on the screen, have played with it a little. But the reading should be done away from the computer. Why? You'll need your full attention. Working on the keyboard, while reading, leads to muddle. You're likely to skip over parts that explain the background. Out on the deck, you're less likely to skip.

Working tutorials is also a good idea. And that's done at the machine. Tutorials are typically insipid — but they let you get a feel for the environment.

No matter how good the manual, no matter how clear the instructions, there will always be some ambiguity, some unanswered question. The final tip, consequently: Dare to experiment.

It's smart to do this with dummy data rather than with 'real' data you've spent an hour keying in. It's smart to do it with the Master Diskette safely tucked away somewhere — lest you erase what you paid $200 for. It's smart to do it on a 'scratch' diskette you don't mind clobbering. When the manual says that you're to put the 'target diskette into the drive,' and you don't know which diskette into which drive, try Drive 1 and see what happens, Drive 2 and see what happens.

Chances are you'll learn a whole lot more from this than calling Digital Land Shack (or whatever) only to be told that the clerk who knows this software 'cold' is 'with a customer.'

Mini'app'les Software Errata

Concluded from page 27

Solution 2:
If you are using a C. ITOH, do the following:
Boot Disk and take EXIT to BASIC.
Type:
BLOAD HIPRNT CITOH-GRAPP [Return]
CALL -151 [Return]
8616 [Return]
You should see 8616 - 0E. If not, do it again!
8616:C [Return]
BSAVE HIPRNT CITOH-GRAPP,A$8600,L$2F1[Return
Now RUN HELLO and and go through configuration process for C. ITOH with Grappler.

ERRATA FOR MINI'SCRIP CHECKBOOK

FINANCIAL SYSTEM VERSION 2.4
by Leighton Siegel

ERRATA # 1

The disk labels were mis-printed. The correct title is MINI'SCRIP and not MINI'SCRIPT. The word "SCRIP" means a document used as evidence that the holder is entitled to receive something. "SCRIPT" usually just means something written.

Use a soft felt-tip pen to correct the DISK LABEL.

ERRATA # 2

A few printers (including my new IDS PRISM - gasp) are thrown into their graphics mode by the ETX or CHR$(3) character placed at the end of the documentation text files by MAGIC WINDOW with which they were written. The following patch will prevent this problem. It will also delete the third documentation file correctly when a checking account is started. Make these changes in the ORIGINAL MINI'SCRIP DISK only and not on a MASTER ACCOUNT DISK which is created when you start a checking account.

From BASIC type:

```
LOAD SCREEN INPUT <return>
305 PRINT CHR$(4) "DELETE
DOCUMENTATION PART 3" <return>
670 &IS$: IF IS$ <> CHR$(3) THEN PRINT
IS$ <return>
675 GOTO 670 <return>
SAVE SCREEN INPUT <return>
```

If the file named "DOCUMENTATION PART 3" is found on your MASTER ACCOUNT DISK you can delete it. While it is not harmfull it is also not needed on that disk. Do not remove it from the ORIGINAL MINI'SCRIP disk where it is needed.

From BASIC type:

```
DELETE DOCUMENTATION PART 3 <return>
```

ERRATA # 3

The documentation does not directly state how to VOID A CHECK. The E)NTER TRANSACTIONS mode has an U)PDATE A PREVIOUS TRANSACTION option. Select this and change the amount of the old check to $ 0.00. Don't bother about the codes. With a zero dollar amount the codes will be ignored.

ERRATA # 4

USING DIVERSI-DOS WITH MINI'SCRIP

Yes, you can use DIVERSI-DOS with MINI'SCRIP but you must make some changes in two files. If you make these changes the program will no longer work properly with APPLE DOS 3.3.

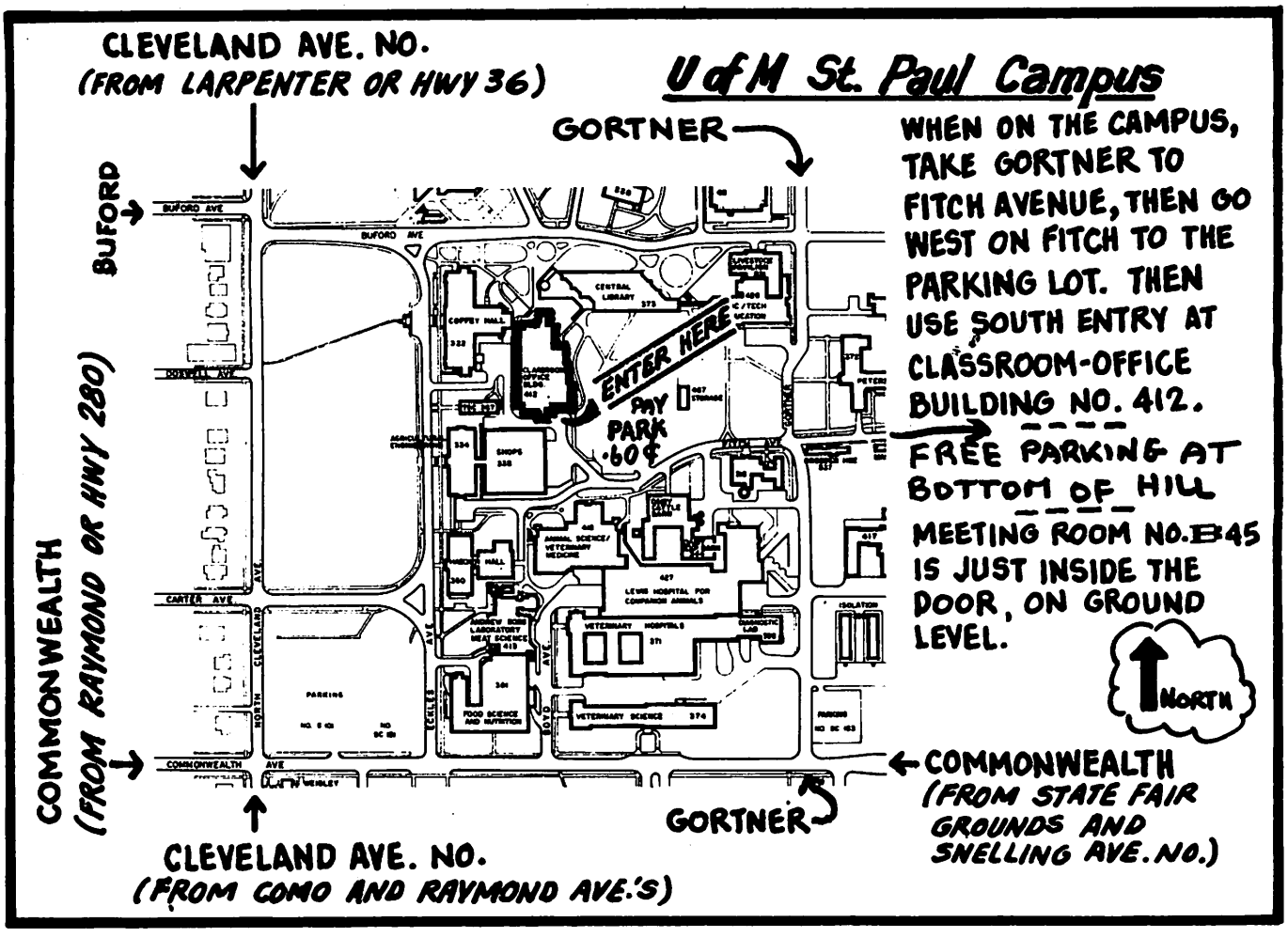
WARNING: Do not use any DIVERSI-DOS version earlier than 2-C.

BOOT the DIVERSI-DOS disk and use it to put DIVERSI-DOS on the ORIGINAL MINI'SPRIP DISK. I suggest you make a copy and keep a version with DOS 3.3 and a version with DIVERSI-DOS.

For DIVERSI-DOS, type the following from BASIC.

```
UNLOCK INITIALIZE A DATA DISK <return>
LOAD INITIALIZE A DATA DISK <return>
410 P(1)=PEEK(42348):
P(2)=PEEK(44723): P(3)=PEEK(46922)
<return>
420 POKE 42348,22: POKE 44723,4: POKE
46922,96 <return>
440 POKE 42348,P(1): POKE 44723,P(2):
POKE 46922,P(3) <return>
SAVE INITIALIZE A DATA DISK <return>
LOCK INITIALIZE A DATA DISK <return>
UNLOCK YEAR END REPORT <return>
LOAD YEAR END REPORT <return>
1080 P(1)=PEEK(42348):
P(2)=PEEK(44723):
P(3)=PEEK(46922)<return>
1090 POKE 42348,22: POKE 44723,4: POKE
46922,96 <return>
1170 POKE 42348,P(1): POKE 44723,P(2):
POKE 46922,P(3) <return>
SAVE YEAR END REPORT <return>
LOCK YEAR END REPORT <return>
```

Thats all for now.



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Dick 853-8820

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Vince Goodnough 425-1603

Apple II+, 48K, 1 drive, integer basic, LCA, monitor, fan, joystick, software and other acc. $1350.
Tony 922-6260

Disk drive and Controller for Apple; Micro Sci A40. 35 or 40 track operation with documentation and software. $220.
Dick 445-7911 (eve/wkend)

Apple II+, 64K, 1 drive, videx 80 col, Grappler + , Monitor, etc; $1200. Format II $100, Data Factory $100, PFS:File $50, Home Accountant $50, & more - call for prices.
Murray 459-7742

Cleaned House and want to sell Apple stuff: Interger Card $50; 24 2K memory chips for Apple II or II+ $12; 3" fan, needs wires, $8; Apple II carrying case, blue fiberglass $45; Flip 'n File/50 $25. Software: Apple Pilot $50; Gulp & Arrow Graphics $20; Frenzy Flip Flop $20; Alien Counter and Face Flash $20; Xmas Story $12; Little Red Riding Hood Kidventure $5; Rubik's Cube, JawBreaker, Juggler, Lazer Silk, $15 each. Books: 6502 Assembly Language Prog $5; Computer's For Kids $2; Computer Station's Programmer's Handbook for Apple II $10. ASCII keyboard with keypad in case $25.
Janelle Norris 920-1430

ORDERING DOMs or MSDs

A reminder that Disks Of the Months (DOMs) and Mini'app'les Software Disks (MSDs) are available by mail: DOMs at $7.50 each; MSDs at $17.50 each. Send your order to:

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

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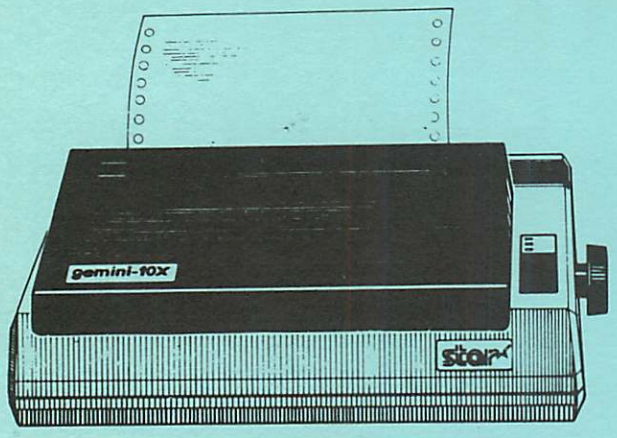

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