



# mini'app'les

apple computer user group newsletter

VOL IV No 4

APRIL 1981

### OFFICERS:

President	Dan Buchler	890-5051	Vice President	Steve K Johnson	869-3447
		13516 Grand			
		Burnsville			
		Mn 55337			
Treasurer	Marilyn Thomas	872-7669	Secretary	A Michael Young	884-2841
		2735 Irving			9319 Elliot
		Minneapolis			Bloomington
		Mn 55408			Mn 55420

### MEMBERS-OF-THE-BOARD:

Newsletter Editor	Chuck Thiesfeld	831-0009	Librarians:		
		830-5020	-Acquisition	Keith Madonna	474-3876
		8416 Xerxes	-Organization	Terry Pinotti	786-7118
		Bloomington			
		Mn 55431	Consultants:		
Bibliographer	Chuck Boody	933-5290	-Communications	Nelson Capes	483-0414
Prg. Editor	Ken Slingsby	507-263-3715	-Technical	Jim Henke	869-0361
Les Co'r	Hugh Kurtzman	544-7303			

### NEXT MEETING

Wednesday, April 15th, 1981  
7:30 pm

Minnesota Federal Savings and Loan  
9th Avenue South  
Hopkins, Minn.

### ELECTION NIGHT

Members will vote on the modified By-laws, as published in this newsletter, and then elect the officers for 1981/1982. See elsewhere under 'Nominees'. No other formal program has been scheduled. If anyone has a good program to demonstrate, a new software or hardware product, bring it along.

### PASCAL SPECIAL INTEREST GROUP

Wednesday, MAY 6TH:, 1981 - 7.30 pm  
Minnesota Federal  
Savings and Loan

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**NOMINEES**

for Mini'app'les OFFICERS

by Dan Buchler

As reported in the minutes, there was considerable discussion at the board meeting regarding candidates for next years officers. This writer solicited input from all concerned, and after review of that information, is pleased to present the following slate for consideration by the membership at the April election meeting.

President Stephen K. Johnson  
 Past President Daniel B. Buchler  
 Vice President Chuck Thiesfeld  
 Treasurer Marilyn Thomas  
 Secretary Ron Androff

Assuming, there are no nominations from the floor, or other volunteers (and we still encourage more people to volunteer - there are plenty of things to be done to keep the club going), then, the new president will review the following list as a basis for appointment of board members.

Note: Refer to DUTIES of BOARD members elsewhere in this newsletter.

Newsletter Editor Dan Buchler  
 Bibliographer Chuck Boody  
 Librarian Terry Pinotti  
 MECC Librarian Dave Nordvall  
 Membership Co'tor Ann Bell  
 Program Editor Ken Slingsby  
 Software Distr. - Mail Hugh Kurtzman  
 Software Sales Hugh Kurtzman  
 Hardware Sales Al Peterman  
 Disk Sales Peter Gilles  
 Publicity Co'tor E. Michael Young  
 Spcl Interest - Pascal Keith Madonna  
 Spcl Int. - Genealogy Bill Decoursey  
 Spcl Int. - Nibble John Schoepner  
 Spcl Int. Z80/CPM Rick Gates  
 Meeting Hdw Support Rick Gates  
 Technical Advisers Dave Laden  
 and Jim White  
 Education Co'tor ?  
 Advertising Co'ord ?  
 Assistant Librarians- Bill Decoursey  
 Assistant Prog Editors Tom Edwards  
 and Rick Gates  
 Assistant Editors Tom Edwards  
 and E. Michael Young  
 Assistant Sales Co'tor Dave Nordvall

Note: Co'tor = Coordinator.

**PROGRAMMING SERVICES**

by Dan Buchler

As item 7, under notes from your president in thr March newsletter, was a solicitation for persons, interested in doing programing tasks, to identify themselves. It is apparent, that the outcome of this endeavour was not clear. Several persons have called up and identified themselves as willing to do programing tasks. We plan to print up a list of those persons and present it to certain retailers who have expressed interest in having such a talent source identified. The club does not intend to enter into the business of career bureaus. We will simply provide a list with very minimal information. If the retailer has a prospect who is looking to have some software written, a name will be selected and that person called directly.

**NORTHERN TIER**

Maybe an epilogue?

by Dan Buchler

Please read the minutes of the board meeting. Then...If any of you have any input as to meeting places, please call Al Peterman (721-3295) or Terry Pinotti (786-7118).

Note: What we need is a place with one large meeting room capable of holding say 300, and several satellite rooms each capable of holding about 50. We can pay for the meeting place, but not too much. Churches, Schools, Junior Colleges, VFWs, Community Centers are all potential candidates. Please call ASAP. Al and Terry are supposed to report at the next meeting.

**NOTES  
FROM YOUR PRESIDENT**

Please read the IAC newsletter included herein. The armed robbery of a Computer store in Washington State really disturbed me. If you see any used gear for sale, check the serial numbers!

# POPULATION DISTRIBUTION MINI'APP'LES MEMBERS

by John Schoeppner and Dan Buchler

Using his graphics tablet, and data obtained from the club mailing list, John put together a population density map of members living in the Twin Cities. Each number on the map represents the number of members living in a particular ZIP code area. The number (of persons) is positioned on the map as close as possible to the geographic center of the particular ZIP code area. The printout was obtained on John's Paper Tiger 440.

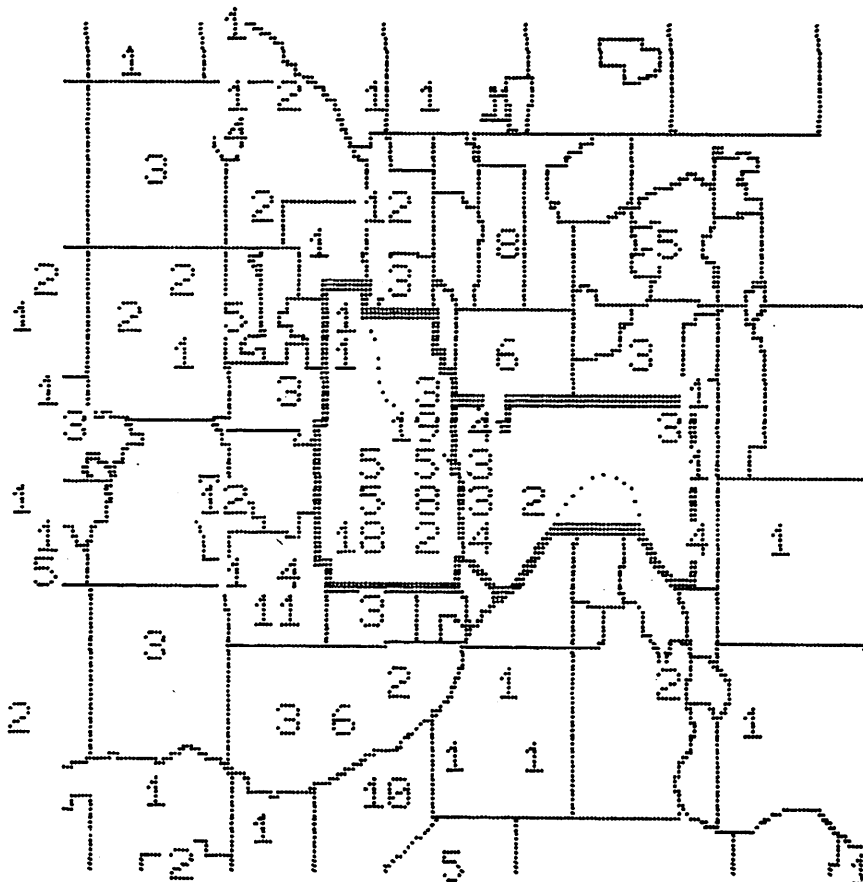
It is evident from the map, that the current population center is somewhere between Edina and downtown Minneapolis. However, lest anyone draw any wrong conclusions, it is probable that if we held meetings in the Northern suburbs, that the population center would move back towards the center of the Twin Cities.

## THANK YOUs

The President wishes to repeat the Thank You to Zim Computer which was a motion at the last board meeting. Jim Zimmerman went out of his way to provide excellent meeting accommodations and refreshments to all who were there. Thank you Jim.

The club wishes also to thank Chuck Boody for the excellent demonstration of the Alpha-SYNtauri music system. Chuck spent a frustrating half hour diagnosing a problem which temporarily disrupted the meeting. Thank you Chuck.

(The technical problem was the chairleg of steel sitting on the flat cable connecting the Alpha board to the keyboard. This probably caused capacitive coupling across the wires effectively shorting them. The chairleg being there was the result of clumsy placement by your president!)



MEMBER POPULATION CENTER

**HOWARD SOFTWARE  
TAX-PREPARER**

A mini review by Dan Buchler

I saw the recent advertisements for the Tax Preparer in several magazines. I have poo-poo-d most of the tax packages around because they didn't really seem to offer any labor saving or other benefits. However, the specification for the Tax Preparer immediately caught my eye!

It provided that one real important element

----Record Keeping

Well I bought it, and am not at all dissappointed. Some of the particularly interesting things it does are:

1. It handles the form 1040 and schedules A, B, C, D, E, F, G, R&RP, SE and TC; plus forms 2106, 2210, 3468, 4562, 4726, 4797 and 5695.

2. All schedules and files are linked together. For example, if you add a deduction to schedule A, it automatically recomputes your whole tax. All you have to do is rerun the 1040 without any retypeing of data.

3. The record-keeping feature is the key to the whole operation. At any time, one can go in and enter an update to any item associated with any schedule or form. This can be a single identified line item such as "Union Dues" on Schedule A, or it could be a new itemized list of contributions relating to a specific line item such as 21A (See example). This itemized list may be appended to a currently existing list, or a replacement or simply a new list.

4. You can compute your own tax in several ways, maintaining a record for each way. You can in fact have several different persons tax records. One or more disks may be used.

5. Error recovery is excellent. If you have the wrong disk in and it can't find the file, it tells you and allows you to mount the correct disk.

6. The software is written in Applesoft and uses TEXT Files for schedule/form definition/ person identification and actual tax data. One of my two criticisms is that one seems to wait a long time while reading those text files.

7. Printout is a separate process. It allows you to define unique characteristics of your printer. The schedules, forms (except for form 1040) and supporting statement may all be filed as printed with the IRS. Form 1040 must be printed onto preprinted forms, and the software for that is also provided. They do provide some sample tractor feed 1040 forms too.

8. Howard-Software claims that they will provide updates in January of each year to all registered buyers for a nominal fee. The update would probably be a TEXT file which redefines the forms. It should be possible to prepare next years return by modifying this years return!

It's a little late for 1980 returns, but I do recommend this to anyone who files several forms. The cost (lists at \$99) is tax deductible on your 81 return!

SUPPORTING STATEMENT FOR SCHED A (FORM 1040).....PAGE 1.....1980 \* 08  
JOHN A. AND MARY B. SAMPLE.....SSN 123-45-6789  
\*\*\*\*\*

SUPPORTING STATEMENT FOR  
CONTRIBUTIONS...

21A.CASH CONTR'NS W/ RECEIPTS .....	21A.	475.00
1. \$ 240.00 CONGREGATIONAL CHURCH		
2. \$ 25.00 GIRL SCOUTS		
3. \$ 35.00 RED CROSS		
4. \$ 25.00 SALVATION ARMY		
5. \$ 40.00 BOY SCOUTS		
6. \$ 35.00 Y.M.C.A.		
7. \$ 75.00 UNITED WAY		

SCHEDULE A (FORM 1040).....	ITEMIZED DEDUCTIONS.....	1980 * 08
JOHN A. AND MARY B. SAMPLE.....		SSN 123-45-6789
*****		
***** MEDICAL AND DENTAL EXPENSES... *****		
1. HALF OF MED INS PREMIUMS .....	1.	75.00
2. TOTAL MEDICINE & DRUGS EXP.....	2.	
3. 1% OF FORM 1040 LINE 31 .....	3.	223.72
4. NET MEDICINE & DRUGS DED'N.....	4.	
5. BAL OF MED INS PREMIUMS .....	5.	75.00
6A. DOCTORS; DENTISTS; NURSES .....	6A.	
6B. HOSPITAL EXPENSES .....	6B.	
6C. OTHER (ITEMIZED) .....	6C.	
7. TOTAL MEDICAL EXPENSES .....	7.	75.00
8. 3% OF FORM 1040 LINE 31 .....	8.	671.15
9. NET MEDICAL EXP DED'N .....	9.	
10. TOTAL MEDICAL EXP DED'N .....	10.	75.00
***** TAXES... *****		
11. STATE & LOCAL INCOME TAXES.....	11.	408.00
12. REAL ESTATE TAXES .....	12.	400.00
13. GENERAL SALES TAX .....	13.	35.00
14. PERSONAL PROPERTY TAX .....	14.	4.00
15. OTHER TAXES (ITEMIZED) .....	15.	
16. TOTAL TAXES .....	16.	847.00
***** INTEREST EXPENSE... *****		
17. HOME MORTGAGE INTEREST .....	17.	3,600.00
18. CREDIT & CHARGE CARD INT .....	18.	5.00
19. OTHER INT EXP (ITEMIZED) .....	19.	
20. TOTAL INTEREST EXPENSE .....	20.	3,605.00
***** CONTRIBUTIONS... *****		
21A. CASH CONTR'NS W/ RECEIPTS .....	21A.	475.00
21B. OTHER CASH CONTRIBUTIONS .....	21B.	
22. NON-CASH CONTRIBUTIONS .....	22.	
23. CARRYOVER FROM PRIOR YEARS.....	23.	
24. TOTAL CONTRIBUTIONS .....	24.	475.00
***** CASUALTY OR THEFT LOSS(ES)... *****		
25. LOSS BEFORE INSURANCE REIM.....	25.	
26. INSURANCE REIMBURSEMENT .....	26.	
27. NET UNINSURED LOSS .....	27.	
28. MIN OF \$100 & LINE 27 .....	28.	
29. TOTAL CASUALTY/THEFT LOSS .....	29.	
***** MISCELLANEOUS DEDUCTIONS... *****		
30. UNION DUES .....	30.	
31. OTHER MISC ITEMIZED DED'NS.....	31.	278.00
32. TOTAL MISCELLANEOUS DED'NS.....	32.	278.00
***** SUMMARY OF ITEMIZED DEDUCTIONS... *****		
33. TOTAL MEDICAL AND DENTAL .....	33.	75.00
34. TOTAL TAXES .....	34.	847.00
35. TOTAL INTEREST .....	35.	3,605.00
36. TOTAL CONTRIBUTIONS .....	36.	475.00
37. TOTAL CASUALTY/THEFT LOSS .....	37.	
38. TOTAL MISCELLANEOUS .....	38.	278.00
39. TOTAL DEDUCTIONS .....	39.	5,280.00
40. ZERO BRACKET AMOUNT .....	40.	3,400.00
41. NET ITEMIZED DEDUCTIONS .....	41.	1,880.00



# Apple Introduces the First Low Cost Microcomputer System with a Video Terminal and 8K Bytes of RAM on a Single PC Card.

The Apple Computer. A truly complete microcomputer system on a single PC board. Based on the MOS Technology 6502 microprocessor, the Apple also has a built-in video terminal and sockets for 8K bytes of on-board RAM memory. With the addition of a keyboard and video monitor, you'll have an extremely powerful computer system that can be used for anything from developing programs to playing games or running BASIC.

Combining the computer, video terminal and dynamic memory on a single board has resulted in a large reduction in chip count, which means more reliability and lowered cost. Since the Apple comes fully assembled, tested & burned-in and has a complete power supply on-board, initial set-up is essentially "hassle free" and you can be running within minutes. At \$666.66 (including 4K bytes RAM!) it opens many new possibilities for users and systems manufacturers.

## You Don't Need an Expensive Teletype.

Using the built-in video terminal and keyboard interface, you

avoid all the expense, noise and maintenance associated with a teletype. And the Apple video terminal is six times faster than a teletype, which means more throughput and less waiting. The Apple connects directly to a video monitor (or home TV with an inexpensive RF modulator) and displays 960 easy to read characters in 24 rows of 40 characters per line with automatic scrolling. The video display section contains its own 1K bytes of memory, so all the RAM memory is available for user programs. And the Keyboard Interface lets you use almost any ASCII-encoded keyboard.

The Apple Computer makes it possible for many people with limited budgets to step up to a video terminal as an I/O device for their computer.

## No More Switches, No More Lights.

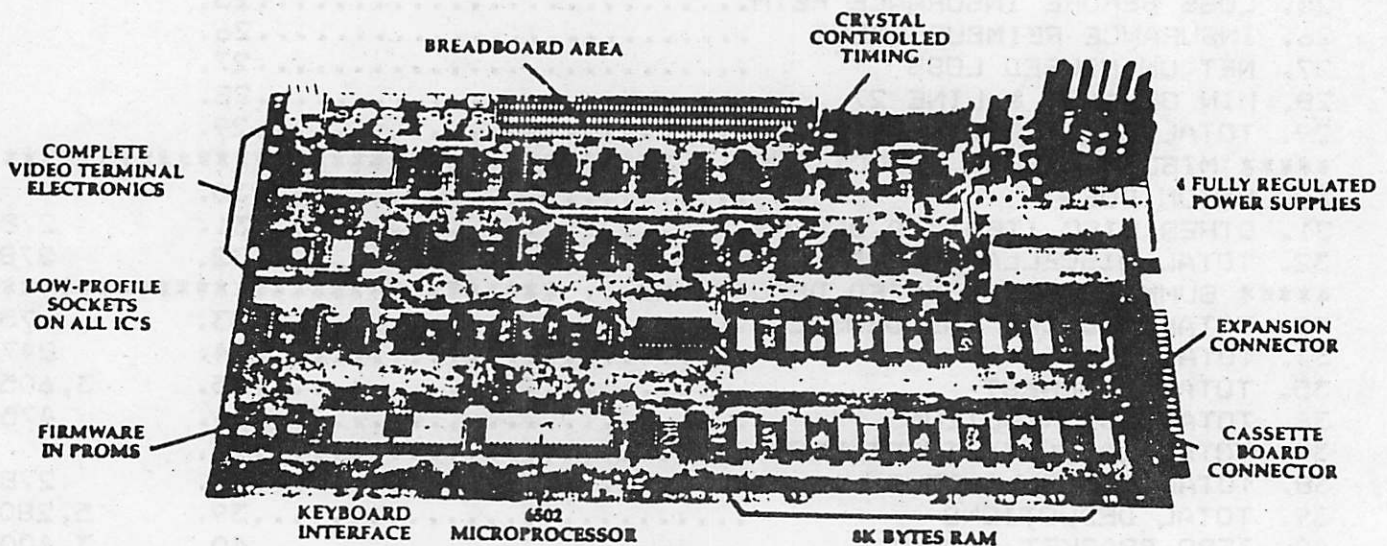
Compared to switches and LED's, a video terminal can display vast amounts of information simultaneously. The Apple video terminal can display the contents of 192 memory locations at once on the screen. And the firmware in PROMS enables you to enter,

display and debug programs (all in hex) from the keyboard, rendering a front panel unnecessary. The firmware also allows your programs to print characters on the display, and since you'll be looking at letters and numbers instead of just LED's, the door is open to all kinds of alphanumeric software (i.e., Games and BASIC).

## 8K Bytes RAM in 16 Chips!

The Apple Computer uses the new 16-pin 4K dynamic memory chips. They are faster and take 1/4 the space and power of even the low power 2102's (the memory chip that everyone else uses). That means 8K bytes in sixteen chips. It also means no more 28 amp power supplies.

The system is fully expandable to 65K via an edge connector which carries both the address and data busses, power supplies and all timing signals. All dynamic memory refreshing for both on and off-board memory is done automatically. Also, the Apple Computer can be upgraded to use the 16K chips when they become available. That's 32K bytes on-board RAM in 16 IC's —the equivalent of 256 2102's!



### A Little Cassette Board That Works!

Unlike many other cassette boards on the marketplace, ours works every time. It plugs directly into the upright connector on the main board and stands only 2" tall. And since it is very fast (1500 bits per second), you can read or write 4K bytes in about 20 seconds. All timing is done in software, which results in crystal-controlled accuracy and uniformity from unit to unit.

Unlike some other cassette interfaces which require an expensive tape recorder, the Apple Cassette Interface works reliably with almost any audio-grade cassette recorder.

#### Software:

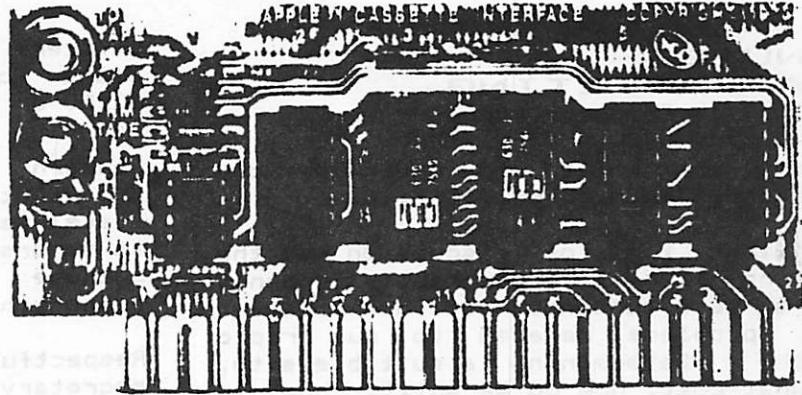
A tape of APPLE BASIC is included free with the Cassette Interface. Apple Basic features immediate error messages and fast execution, and lets you program in a higher level language immediately and without added cost. Also available now are a dis-assembler and many games, with many software packages, (including a macro assembler) in the works. And since our philosophy is to provide software for our machines free or at minimal cost, you won't be continually paying for access to this growing software library.

The Apple Computer is in stock at almost all major computer stores. (If your local computer store doesn't carry our products, encourage them or write us direct). Dealer inquiries invited.

Byte  
into an  
Apple



### The Apple Cassette Interface (shown actual size)



#### Prices

Apple-1 includes 4K bytes RAM	\$666.66
Apple Cassette Interface BASIC tape included	\$ 75.00
Apple 4K Byte RAM expansion memory	\$120.00

All Apple products are assembled, tested, and guaranteed to work.

Apple Computer Company • 770 Welch Rd., Palo Alto, CA 94304 • (415) 326-4248

(thanks to Maury Loket for this bit of HISTORY.)

**MINUTES  
BOARD MEETING  
3/11/81 ZIM Computer Store**

Meeting was called to order by our president, Dan Buchler, at 7:10.

The first item of discussion was the Northern Tier. There really doesn't seem to be a consensus of how to solve the problems related to our rapid growth. Determining a suitable site, at what cost, how do we split, how is it managed and administered, we seemed to raise more questions than answers. Several suggestions were made:

1. Fairview School (converted to a service center) would be a good location, but would cost.
2. Find a large room with adjoining rooms for special activities that would accommodate all of us (Dallas Club does this).
3. Noltee Center would be a good site. Suggest it be investigated!
4. Rotate the site from month to month perhaps using various American Legions or V.F.W.s.

Various schools are also possible sites.

A motion was made to table the Northern Tier question pending a search for suitable rotational sites to be reported on at the April meeting. Passed. Allen Peterman and Terry Pinotti will chair that search committee.

The next item of discussion concerned possible candidates for next years board. No action was taken.

Charles Majes reported on his efforts to set up a bulk purchase of disks from Control Data.

Motion was made we express our appreciation to Zim Computer for their providing both facilities and refreshments for our board meeting.

Motion was made that we buy a program that will allow us to provide DOM on disks which will be compatible with both 3.2 and 3.3 systems. Cost is \$15. Passed.

Officers approved the purchase of 500 disks for use on DOM. Disk cost of \$2.50 or less.

Concern was expressed that unauthorized distribution of MECC software to out of state users would cost the Minnesota taxpayers (you and me). This is because the out of state sales are supporting the program.

Respectfully submitted, acting  
secretary - Ron Androff

**MINUTES FOR MARCH 81**

The meeting was called to order at 7:40 p.m., by the president, Dan Buchler, who welcomed the newcomers. The first item that was approved was the minutes of the Febuary meeting. The idea of a Northern Tier group has been moved to committee. Terry Pinoti and Al Peterson are chairing the committee. There will be some changes in the bylaws soon, these changes will be advertised in the next newsletter.

**OLD BUSINESS**

PETER GILLES, is selling discs from a local source. At present he has SYNCOM discs, but he is able to get 3M discs also. Peter has also purchased discs for the disc-of-the-month. Steve Johnson stated that he has more copies of the survey forms, membership forms, for both new and old members to fill out. He also put out a call to all members, to find members that are lawyers, accountants, and insurance agents, to help serve the club in some of its functions, if you know of any, please have them contact Steve Johnson, the v.p.. Terry Pinoti made a call to the people that he sent library programs to, please return them as soon as possible so that next months DOM can be put together.

**NEW BUSINESS**

Dan Buchler stated that he bought the new "TAX PREPARER PROGRAM" which lists for \$99.00. He feels that the program is well worth the purchase. He went on to say that his computer is going to do his taxes this year. Chase Allen



announced the possibility of a technical seminar. The subject at present is "MACHINE LANGUAGE INTERFACE TO DISK". The problem is to get past the apple's operating system overhead.. There are large possibilities that this seminar could be an ongoing subject with similar special interests. Chase Allen's telephone number is 432-6245. A recent issue of Popular Electronics, had an article on converting a TV set to a monitor for computer purposes. Jim White announced that an apple dealer had been robbed, and the owner-dealer, killed. If anybody spots a shady deal involving three, -APPLE II computers, and one APPLE THREE computer, CALL THE COPS, OR CALL Jim White and be very cautious. A paddle fix was found for some of the paddle sufferers. First, the potentiometers could be dirty, this is usually remedied by tuner cleaner. Second, if the problem persists, every year Dayton's department store has a warehouse sale. In it, they sell excess Atari brand game computer paddles for \$2.00 a set. AXEMAN also sells them sometimes, these new paddles are a cheap replacement for the original. Someone stated that they have a problem with the Easywriter Pro word processor software. Others stated problems with the PROGRAMMA MAILIST PROGRAM. Dan Buchler stated that the club gets its paper products from MOORE BUSINESS FORMS. If anyone needs a good reasonable supplier of paper products, contact Dan Buchler.

The program was presented by Chuck Boody, on the Mountain Hardware Music Synthesizer board, and the Alpha Syntari Music System. Our thanks goes to Chuck, for an excellent presentation. Our thanks also goes to Rick Zuckman of TEAM ELECTRONICS, who offered the use of their APPLE II Computer, to help with the program.

MICHAEL YOUNG SECRETARY...

## DRIVER DEMO

BASIC "Driver" Demo Program to send block graphics to Epson MX-80. See Chuck on Printers (page 14).

THIS IS THE EXEC FILE CREATOR WHICH SHOULD HAVE ACCOMPANIED THE PROGRAM LIST FORMATTER ARTICLE IN THE WINTER ORCHARD

\*  
JLIST

```
10 D$ = CHR$(13) + CHR$(4): PRINT
    D$*OPENFP LIST*D$*WRITEFP LI
    ST"
15 PRINT "POKE 0,PEEK(103):POKE1
    ,PEEK(104):POKE2,PEEK(175):P
    OKE3,PEEK(176)"
20 PRINT "POKE104,PEEK(176)"
30 PRINT "IF PEEK(175)=255 THEN
    POKE 104,PEEK(104)+1"
40 PRINT "POKE103,(PEEK(175)+1)-
    INT((PEEK(175)+1)/256)*256"
50 PRINT "POKE PEEK(103)+PEEK(10
    4)*256-1,0"
60 PRINT "POKE PEEK(103)+PEEK(10
    4)*256,0"
70 PRINT "POKE PEEK(103)+PEEK(10
    4)*256+1,0"
80 PRINT "RUN PROGRAM LISTING FO
    RMATTER"
90 PRINT D$*CLOSE"
100 END
```

JLIST

```
10 PR$ = "THIS IS A TEST"
20 GOSUB 1000
30 END
1000 FOR PR = 1 TO LEN (PR$)
1010 WAIT 49601,128,128
1020 POKE 49296 + 6F, ASC ( MID$
    (PR$,PR,1))
1030 NEXT PR: RETURN
```

```
JRUN
THIS IS A TEST
J5 6F=1
```

```
JRUN
HTIS IS GRAPHICS
```

```
J10 PR$="HTIS IS GRAPHICS
```

```
JRUN
HTIS IS GRAPHICS
```

## MINI'APP'LES BYLAWS 3/6/81

1. The name of the organization is 'Mini'app'les'.

2. The purpose of the organization is to promote the dissemination of information concerning the Apple II or III computer and products related thereto, and to share the knowledge of members at large concerning their talents and information pertaining to computers and the Apple II Computer specifically.

3. The officers of Mini'app'les are

President  
Past President  
Vice President  
Secretary  
Treasurer

4. Except for the Past President, officers are elected for a term of one year. The term runs from May 1st to April 30th. The office of Past President will be automatically offered to the retiring President. If a president is elected for a second or subsequent term, the incumbent Past President will remain in office.

5. All officers are members of the "Board". In addition to the officers, other board members will be nominated by the president and approved by the elected officers. Board positions will be created by the president as the need arises and the duties of said board positions defined by the president and approved by the elected officers. Subsequent to the election of officers, the president will present the roster of board members and their intended duties to the membership at a regular meeting. The president will ask for suggestions and comments which must be considered by the officers before final acceptance of a new board position and/or candidate.

6. Board members are appointed for a term ending April 30th.

7. If an officer or board member resigns or otherwise relinquishes office, the president may appoint a replacement subject to board approval.

8. Changes to by-laws will be discussed at a board meeting and presented to the membership at regular meeting for ratification by simple majority.

9. The duties of the elected officers are in general

- To administer the by-laws of the club. To assure the financial well-being of the club  
- Perform the prescribed duties of the officers as follows

President -Presides over officers and other board members. -Nominates Board members. -Chairs Mini'app'les meetings. -Resolves Club problems.

Vice President -Organizes program for regular club meetings -Ensures that meetings are supported by appropriate hardware. -Organizes extraordinary events such as displays, symposiums etc. -Stands in for President in his/her absence.

Treasurer -Maintain the clubs financial records. -Produce a financial report at all board meetings. -Produce an annual budget. (this will be used to set dues for subsequent calendar year) -Be cognizant of and act upon requirements of the IRS.

Secretary -Writes the minutes of regular and board meetings. -Assists the president in correspondence as required

-All officers are signators of the club bank account.

9. The club will maintain an interest bearing account at a local bank.

Two signatures will be required to disburse funds from the account. Payments for items in excess of \$99.99 require the approval of the officers. Excluded from this requirement are disbursements for monthly reproduction and mailing costs for the club newsletter. Purchase for items over \$999.99 will require approval of the board.

10. Members of Mini'app'les are required to pay an annual dues. The actual amount will be set by the board.

Membership will not be denied on account of race creed or color. Members are expected to abide by the by-laws.

12. Membership in Mini'app'les is from Jan 1st to Dec 31st.

13. Members joining on or after July 1st will pay 50% of the current dues. Members joining on or after Oct 1st may pay full dues and thus be entitled to membership through Dec 31st of the following year.

14. Membership includes a subscription to the club newsletter.

15. Membership in Mini'app'les is required for --access to the club user bank --to be eligible to purchase Disks of the Month --to be eligible for participation in club activities such as bulk purchase plans.

16. The club will maintain a software bank. Every attempt will be made to exclude copyright programs from that bank.

17. Regular monthly meetings will be held.

18. The minutes of regular and board meetings will be published in the club newsletter not later than 90 days following the meeting.

19. A board meeting will be convened at least twice per year (once between Jan 1st and June 30th, one between July 1st and Dec 31st).

20. In the event of dissolution of the club, any assets shall be disbursed in a manner agreeable to a majority of members at a specially convened meeting.

## BOARD MEMBER DUTIES

Board members are appointed by the president and approved by the officers. Therefore, the existence of a particular board position will depend upon the desires of the incumbent president and the availability of suitable volunteers.

**LIBRARIAN** - maintains and organizes a master software library. -Maintains an archival copy of the library to which only the librarian has access. -Controls the copying of the software library and provides opportunity for members to copy the library or otherwise makes that software available to members. -With the assistance of the program editor, provides catalogs and abstracts of programs in the club library. Maintains related documentation as required. -Incorporates software from the Disk-of-the-Month into the library.

**PROGRAM EDITOR** - recipient of submittals of user contributed software -Recipient of IAC distributed software -Examines submitted software and rejects that which is copyrighted, unsuitable or inferior in quality. -Deals with technical problems, if required, resulting from making otherwise good quality submittals acceptable for use. -Sets software and documentation standards for submission of software. -Places accepted submissions on Disks-Of-the-Month (DOM). This is the normal mode of software distribution to the club. -Provides masters of DOMs to software reproduction coordinator and librarian. -Provides soft and hard documentation for programs contained on the DOMs. -Supports librarian as required in future documenting software on DOMs for use in the library.

**SOFTWARE DISTRIBUTION COORDINATOR** - Recipient of requests for distribution of DOMs or library copies by mail. -Arranges for distribution of DOMs or library disks by mail (Note cost to distribute will be born entirely by member ordering software).

**SALES COORDINATOR** - Software -Supports software and documentation sales at meetings. Provides treasurer with itemized lists of income.

**SALES COORDINATOR - Hardware** -Supports hardware sales at meetings. Coordinates hardware bulk purchases.

**SALES COORDINATOR - Disks** -Supports diskette sales at meetings -Coordinate diskette purchases for resale to members or for use with DOMs. -Coordinates reproduction of DOMs.

**SALES ASSISTANTS - Assists Sales Co-ordinators** as necessary.

**NEWSLETTER EDITOR** -Publishes the "MINI'APP'LES", the official organ of the club which is nominally a monthly newsletter. -Edits the newsletter -Writes articles for the newsletter -Arranges for Typesetting of the newsletter -Arranges for reproduction of the newsletter -Arranges for paste-up of the newsletter. -Arranges for mailing of the newsletter. This includes the procurement and payment of permits and yearly fee for bulk mailing. -Sets schedules for submission, publication, etc.

**ASSISTANT EDITOR(S)** -Assists the newsletter editor in any of the duties of the editor under the direction of the editor.

**ADVERTISING CO-ORDINATOR** - -Actively pursues advertising for the Club Newsletter. -Ensures advertisements are printed as ordered and that payment is made for those advertisements.

**PUBLICITY COORDINATOR** - -Actively promotes membership in Mini'app'les. -Maintains supply of club 'flyers' at all local dealers. -Notifies new dealers of Mini'app'les. -Communicates with ABBS and similar facilities. -Publicizes special meetings, seminars, educational meetings, special user groups, etc.

**MEMBERSHIP COORDINATOR** -receives applications for membership in Mini'app'les. -Maintains 'soft' file of membership. -Forwards membership dues to treasurer with supporting documentation.

**SPECIAL INTEREST GROUP COORDINATOR** -Will organize and chair a specific special interest group. -Will report to the president periodically about progress and problems in the group.

**TECHNICAL ADVISERS** -Technical advisers will be appointed for an identified discipline for which the adviser is qualified. -Acts as a resource person for board members and membership as a whole. -Reports on technical matters to the Newsletter Editor so that members may benefit from the person's experience.

**BIBLIOGRAPHER** - recipient of all newsletters from other Apple clubs. -Maintains and organizes those newsletters. -Makes content available to the membership through re-publication in the newsletter or other schemes. -Maintains library of other Apple related documentation and reports on same periodically to the membership.

**EDUCATION COORDINATOR** - Organizes Apple related education for the membership in the form of programing classes, special meetings, distribution of suitable documentation, etc.

**MECC SOFTWARE LIBRARIAN** - in as much that MECC provides software which is in the public domain for Minnesota residents, a separate responsibility will be maintained for MECC software acquired by the club and placed in its library.

**MEETING HARDWARE COORDINATOR** - Arranges for required hardware support at regular meetings. This includes Computers, Displays and audio-visual aids.

## DAN ON PRINTERS

Dan is currently a little biased on printers, having just purchased an MX-80. Anyway, here are some comments about the MX-80, after having played with it for a few days.

1. It really prints nicely (See January newsletter for comparison with MPI 888)

2. The block graphics are not directly usable with the Epson interface card. The Epson card, as delivered ties the higher order data line to ground. However, provision is made to jumper that line to the high order output bit. This may be associated with the forthcoming dot graphics capability. Non firmware type software drivers could easily output code that would allow the block graphics to be printed. Meanwhile, a couple of members have been experimenting with ways to overcome the problem. See Chuck on Printers elsewhere in Newsletter.

3. Dot-graphics. The machine comes with two vacant 2716 PROM sockets which are obviously there for expansion (dot-graphics). Rumour is that there will be an Epson chip set available by the end of March ! That chip set may also include a mod to the PROM on the interface board (and the above mentioned jumper?). Meanwhile, another company offers a non Epson approved chip set which, according to one source, doesn't work, and, according to another source, prevents use of the Emphasized print mode. Our advice to all, is to wait for the Epson version!

4. Epson compatibility with software which is dependent on printer availability. Most programs should work OK. The firmware is almost identical to that of the Apple Parallel board. However, a couple of minor glitches have been reported, which I believe are a result of differences in use of control codes. I personally have had no problems.

5. The Epson offers some little goodies associated with the block graphics. By outputting the high order bit (with modified Epson board, or other parallel board that allows high order bit control), and with selection of appropriate internal hardware switch

settings, one can output Japanese Katakana characters. Mike Murrell did this using his Epson which was interfaced to an SSM AIO board. See addendum to this article below.

6. Documentation: The user's manual is thick, but unfortunately, heavily oriented towards the TRS-80 (The block graphics is compatible with the TRS-80). This in itself is not so objectionable. What gripes several of us is the style of it's author David Lien, who distracts from the easy understanding by his colloquial chit-chat. A user manual should be precise and concise. This manual isn't. It's all there - just hard to find!

### ADDENDUM TO DAN ON PRINTERS by Mike Murrell

Using the SSM AIO board, the trick is to change the field which is EORed before sending the accumulator to the printer. The value of 00 will send the normal ASCII DATA. In order to send 160 to 224, the program shown below has been created. Line 75 of the program EORs the data with 128.

The other POKEs are to set line length and linefeeds and deactivate the Apple video.

Switchs 1-7 are used to select, Katakana, German, etc.

```

5 PR# 2
10 PRINT
11 POKE 1274,79
12 POKE 1146,192
13 POKE 33,33
15 PRINT CHR$(18)
35 C = 159
40 FOR I = 1 TO 5
50 C = C + 1
60 IF C = 225 THEN 900
70 PRINT C;" ";
75 POKE 1786,128
76 PRINT CHR$(C);
77 POKE 1786,0
78 PRINT " ";
80 NEXT I
90 PRINT : GOTO 40
900 PR# 0

```



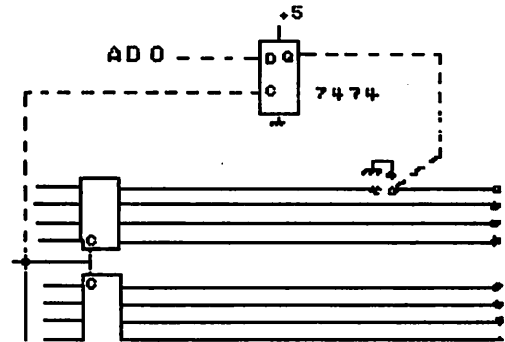
## CHUCK ON PRINTERS

by Thiesfeld

I received my printer purchased in the group of 22. I was so excited by the event that I unpacked and put together the few parts without reading the instructions. Amazed by the ease of assembly I bravely plugged it in, typed 'PR#1' and began listing programs. Ofcourse it worked. So I pulled all the stops and tried Pascal. It also was as easy as F T ABC,PRINTER:.

Great success story right? Well, close but no cigar. Just like the book says, it's easy for any dummy to use a printer, but to exploit it is another thing. I read the instructions first. Soon I realized as expected that the Epson has graphics capabilities. They're not the easiest to use, unless you unfortunately own a TRS-80. We lucky Apple owners, in our infinite flexibility, can adapt to the environment. After first reading the instructions then executing the above story, I removed my Apple card and added the integrated circuit shown in the diagram to it. Right in the center is a blank spot just begging for a 'dead bug' (upside down IC). I glued the 7474 to the board with white glue, so that when I get the Epson modification (so strongly recommended) that it can be steamed off. By banding the legs up it can be added top side up. Just add the five wires shown in the schematic. Don't forget power and ground. The pins I used were power=14, gnd=7, D=2, C=3, Q=5. The jumper wire at M4 must be removed or cut (don't worry no damage done). The result of all this is that we can control the high order bit of the ASCII data sent to the Epson. The normal printouts are sent to the printer by storing the character at #CON0 (N=9 for slot 1). The ADO line is 0 for these and so it the high order bit. Great now if we store at #CON1, the high bit is 1. Voix la, graphics. Now we just have to store the right characters. I've figured that out (see listings). One limitation is the size of the picture. To keep the right aspect ratio, the characters can't be compressed. So I printed the hi-res screen on it's side. This only allows a picture 160 dots high. The picture is 160 X 280 dots (8 X 15.5 inches). The circuit shown is

generated in this manner. It has been reduced to about 20% to fit. 64% reduction fits on an 8.5 X 11 sheet. To try your patience, figure out how to print the rest of the picture. As always there's a moral to the story. 'Ask not what your Apple can do for you, rather ask what you can do for your Apple'.



## CLUB INCORPORATION

A committee has been formed to look into the if and how the club should incorporate, that being a consideration voiced at the last board meeting. The committee consists of Bill Decoursey (574-9062) E. Michael Young (884-2841)

The advantages of incorporation are several including:-

1. Legality in the eyes of the IRS
2. Safeguarding of board members from financial shenanigans.
3. Protection of club name
4. Official recognition.

The committee will also recommend on Profit versus Non-Profit status.

```

1000 * EPSON GRAPHICS ROUTINES
1010 * TO CONVERT APPLE HIRES
1020 * INTO TRS-80 FORM FOR
1030 * PRINTING ON AN EPSON PRINTER
1040 *
1050 *
1060 C1 .EQ 7 TEMPS
1070 C2 .EQ 8
1080 PAG .EQ #326 HGR PAGE=20/40
1090 BASL .EQ #26
1100 BASH .EQ #27
1110 HPOS .EQ #10
1120 TEMP .EQ #11
1130 .OR #6000 OUT OF HIRES
6000- 4C AB 60 1140 JMP START
6003- A2 04 1150 GENC LDX #4
6005- 66 07 1160 GE1 ROR C1
6007- 6A 1170 ROR
6008- 66 08 1180 ROR C2
600A- 6A 1190 ROR
600B- CA 1200 DEX
600C- D0 F7 1210 BNE GE1
600E- 18 1220 CLC
600F- 69 A0 1230 ADC #160 OFFSET
6011- 60 1240 RTS
6012- 48 1250 VPOS PHA A=0-191
6013- 29 C0 1260 AND #C0
6015- 85 26 1270 STA BASL
6017- 4A 1280 LSR
6018- 4A 1290 LSR
6019- 05 26 1300 ORA BASL
601B- 85 26 1310 STA BASL
601D- 68 1320 PLA
601E- 85 27 1330 STA BASH
6020- 0A 1340 ASL
6021- 0A 1350 ASL
6022- 0A 1360 ASL
6023- 26 27 1370 ROL BASH
6025- 0A 1380 ASL
6026- 26 27 1390 ROL BASH
6028- 0A 1400 ASL
6029- 66 26 1410 ROR BASL
602B- A5 27 1420 LDA BASH
602D- 29 1F 1430 AND #1F
602F- 0D 26 03 1440 ORA PAG
6032- 85 27 1450 STA BASH
6034- 60 1460 RTS
6035- A0 00 1470 BIT3 LDY #0
6037- A5 10 1480 LDA HPOS

```

```

6039- 38 1490 SEC
603A- C8 1500 BI1 INY
603B- C8 1510 INY
603C- C8 1520 INY
603D- E9 07 1530 SBC #7
603F- 10 F9 1540 BPL BI1
6041- 18 1550 CLC
6042- 69 07 1560 ADC #7
6044- AA 1570 TAX
6045- 88 1580 DEY
6046- C9 05 1590 CMP #5
6048- B0 06 1600 BCS BI2
604A- 88 1610 DEY
604B- C9 03 1620 CMP #3
604D- B0 01 1630 BCS BI2
604F- 88 1640 DEY
6050- BD 69 60 1650 BI2 LDA TABL,X
6053- AA 1660 TAX
6054- B1 26 1670 LDA (BASL),Y
6056- 48 1680 PHA
6057- C8 1690 INY
6058- B1 26 1700 LDA (BASL),Y
605A- 85 11 1710 STA TEMP
605C- 68 1720 PLA
605D- 0A 1730 ASL
605E- 6A 1740 BI3 ROR
605F- 0A 1750 ASL
6060- 66 11 1760 ROR TEMP
6062- 6A 1770 ROR
6063- CA 1780 DEX
6064- D0 FB 1790 BNE BI3
6066- 29 07 1800 AND #7
6068- 60 1810 RTS
6069- 01 04 07
606C- 03 06 02
606F- 05 1820 TABL .HS 01040703060205
6070- AE C1 C1 1830 PRTA LDX #C1C1 PRINTER IN SLOT 1
6073- 30 FB 1840 BMI PRTA BUSY?
6075- BD 91 C0 1850 STA #C091 GRAPHIC OUTPUT
6078- 60 1860 RTS
6079- A9 A0 1870 PLIN LDA #160
607B- 38 1880 PL1 SEC
607C- E9 01 1890 SBC #1
607E- 48 1900 PHA
607F- 20 12 60 1910 JSR VPOS
6082- 20 35 60 1920 JSR BIT3
6085- 85 07 1930 STA C1
6087- 68 1940 PLA
6088- 38 1950 SEC
6089- E9 01 1960 SBC #1
608B- 48 1970 PHA

```

```

60BC- 20 12 60 1980      JSR VPOS
60BF- 20 35 60 1990      JSR BITS
6092- 85 08      2000      STA C2
6094- 20 03 60 2010      JSR GENC
6097- 20 70 60 2020      JSR PRTA
609A- 68      2030      PLA
609B- D0 DE      2040      BNE PL1
609D- A9 8D      2050      LDA ##8D
609F- 20 70 60 2060      JSR PRTA
60A2- A9 BA      2070      LDA ##8A
60A4- 20 70 60 2080      JSR PRTA
60A7- 60      2090      RTS
        2100 START
60AB- A9 00      2110      LDA #0
60AA- 85 10      2120      STA HPOS
60AC- A9 20      2130      LDA ##20
60AE- 8D 26 03 2140      STA PAG
60B1- 20 79 60 2150 ST1 JSR PLIN
60B4- E6 10      2160      INC HPOS
60B6- A5 10      2170      LDA HPOS
60BB- C9 5D      2180      CMP #93
60BA- 90 F5      2190      BCC ST1
60BC- 60      2200      RTS

```

```

COMBINE C1 & C2
PRINT
PRINT CR
PRINT CR

```

GERMAN		FRENCH
35 = #		35 = #
64 = \$		64 = à
91 = ^		91 = °
92 = ö		92 = 9
93 = ü		93 = \$
123 = ä		123 = é
124 = ô		124 = ù
125 = ù		125 = è
126 = ß		126 = "

ENGLISH		AMERICAN
35 = £		35 = #
64 = @		64 = @
91 = [		91 = [
92 = \		92 = \
93 = ]		93 = ]
123 = {		123 = {
124 = !		124 = !
125 = }		125 = }
126 = ~		126 = ~

```

10 INPUT "FILE TO BE DRAWN";FI$
20 GOSUB 1000
30 END
1000 D$ = CHR$(4)
1010 PRINT D$;"BLOAD "FI$";A$2000
1020 PRINT D$;"BRUN EPSONDRAW"
1030 RETURN

```

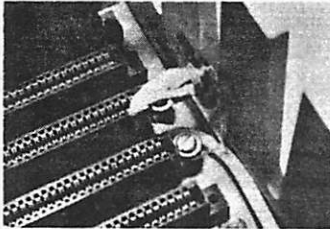
160 =	161 =	162 =	163 =	164 =	160 =	161 =	162 =	163 =	164 =
165 =	166 =	167 =	168 =	169 =	165 =	166 =	167 =	168 =	169 =
170 =	171 =	172 =	173 =	174 =	170 =	171 =	172 =	173 =	174 =
175 =	176 =	177 =	178 =	179 =	175 =	176 =	177 =	178 =	179 =
180 =	181 =	182 =	183 =	184 =	180 =	181 =	182 =	183 =	184 =
185 =	186 =	187 =	188 =	189 =	185 =	186 =	187 =	188 =	189 =
190 =	191 =	192 =	193 =	194 =	190 =	191 =	192 =	193 =	194 =
195 =	196 =	197 =	198 =	199 =	195 =	196 =	197 =	198 =	199 =
200 =	201 =	202 =	203 =	204 =	200 =	201 =	202 =	203 =	204 =
205 =	206 =	207 =	208 =	209 =	205 =	206 =	207 =	208 =	209 =
210 =	211 =	212 =	213 =	214 =	210 =	211 =	212 =	213 =	214 =
215 =	216 =	217 =	218 =	219 =	215 =	216 =	217 =	218 =	219 =
220 =	221 =	222 =	223 =	224 =	220 =	221 =	222 =	223 =	224 =

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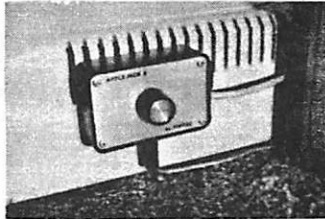
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PASCAL NOTES: Disk Allocation On  
A Two-Drive System

by Larry Glasser  
Software Cottage

I have been using my Apple-Pascal system for about 2 weeks. I am very pleased overall, but I became annoyed with the way in which Apple has distributed the various system files on the disks. They made it possible for one-drive users to run (quite a feat considering the size of the Pascal system!) but in the process introduced two problems for the two-drive user:

- we still don't have all the commonly used software on line all the time (the assembler is on APPLE2; but the librarian is on APPLE3); and
- we don't have as much storage space available for our own files as we should after shelling out the bucks for two disk drives.

Careful study of the tables on pages 13-14 of the Operating System Reference Manual showed that there was a solution to these problems. I rebuilt the disks, and now have two disks in the drives almost all the time.

The first one, loaded in the boot drive (#4 to Pascal; slot 6 drive 1 to the rest of the world), contains the text and codefiles I am currently working on, in addition to the following system files:

	(blocks)
SYSTEM.APPLE	32
SYSTEM.PASCAL	41
SYSTEM.MISCINFO	1
SYSTEM.CHARSET	2
SYSTEM.SYNTAX	14
SYSTEM.LIBRARY	34*

(The library file will be larger if you have added your own routines.)

This leaves 150 blocks for me to play around with, twice what APPLE1: offers.

My other drive contains a disk I call SUPPORT: which contains the following system files:

SYSTEM.EDITOR	47
SYSTEM.FILER	28
SYSTEM.COMPIILER	75
SYSTEM.ASSEMBLER	54
6500.OPCODES	2
6500.ERRORS	7
SYSTEM.LINKER	24
LIBRARY.CODE	8
LIBMAP.CODE	9

(Also on this disk is a short Pascal program I wrote to append together two text files.)

This works smoothly, with no complaints from the system software.

Of course, if you do not use the librarian or the assembler as much as I do, this may not be the best configuration for you. But I encourage all Pascal users to experiment, because the way you got the system from Apple may not be the handiest way for you to use it.





# BULLETIN

P. O. BOX 976, DALY CITY, CALIFORNIA 94017 USA

Some bad/good news.

The bad, Steve Wozniak - the Woz - co-inventor of the APPLE, crashed his private plane a few weeks ago. Both he and his fiancée, Candy, suffered severe lacerations of the face. He also suffered a concussion and partial lapse of memory. He had just been transferred to El Camino Hospital in Mountain View, California, when I called him. He was quite concerned about Candy. He was overwhelmed by the concern and well wishes expressed by all the "APPLE people". He says he intends to fly again. The good news, both have been released from the hospital, and the prognosis is good.

Here's what new IAC member clubs should be getting:

- The constitution and by-laws of the IAC.
- Identification of all IAC Board Members with their areas of responsibility, all Officers and Committee Chairmen.
- Information pertaining to the IAC Apple Orchard - how to subscribe, how to get back issues, current methods for submitting articles, page rates for accepted articles, etc.
- A complete set of IAC meeting minutes.
- The entire set of ApNotes issued to date and all succeeding submissions.
- The next IAC software disk and all succeeding disks.

New:

- The latest version (7?) of the APPLE II allows for easy modification by you (beware of voiding warranties) to enable the use of the shift key to get capital letters. Also, it seems to provide a socket for the SupR-term (80 column) board. Plus other goodies.
- Computer Data Services is marketing a Memory Management System which expands your APPLE by 10.5K of programmable memory by relocating DOS onto a 16K RAM expansion board language card for use in slot 0. Retail for less than \$50.
- More power to ya. M&R has come out with a beefed up power supply. The SupR switched external power supply looks just like a disk drive and supplies 60 watts, 6 amp at 5 volts or 1 amp at  $\pm 12$  volts, etc. Will retail for approximately \$295.

As of Monday February 23, Apple Inc. has established two dealer assistance lines which cover approximately three fourths of the U. S. (Alaska included). This service is to dealers only but APPLE owners can tap in through their local dealers in those areas presently covered. Currently this means owners and dealers within and north of Fresno, California, eastward to but not including Mississippi and Tennessee. The territory jogs over to include Kentucky, West Virginia and Ohio. Next in line will probably be the East Coast and the remainder by about May 1.

## Attention:

On Sunday, February 22, A.B.S. Computer Services of Olympia, Wash. was robbed and its owners, Henry and Laverne Rumberger, were killed. The following items (listed with serial numbers) were taken:

1. APPLE III, 128K 001065
2. APPLE II, 48K A2SA 152415
3. APPLE II, A2M030 11892
4. APPLE II, 48K w/controller 95802
5. DISK II w/controller 215227
6. BMC Monitor 65101709
7. Sony KB1276 TV 503527
8. Centronics Printer 12349
9. 2 IDS 440 Printers 315 and 316
10. Stockwatch 15N 5980

If you have any information on these items, call Detective Jones of the Olympia Police Department.

What do you think?

This is a knotty problem - it won't go away, so let's all think on it. By now most of you should be aware of Locksmith (and others of its type). It is a nybble copy software package available for the APPLE II. It enables its purchaser to copy most any APPLE II diskette and, based on what I've heard, does so with few exceptions (e.g., itself). I do not intend to pass judgment on it nor whether there is a need for it. I do know that software firms are threatening to withdraw their ads from publications which advertise it. Its proponents argue that backups of expensive diskettes are an absolute necessity, if only because of the time required to obtain replacements for clobbered or worn-out originals. Also, supporters argue that copies are needed where a firm has purchased one copy but needs several for use by its staff. Opponents argue that it panders to the greed and something-for-nothing instincts within all of us by giving us the means to pirate copies for ourselves, for our friends or for profit.

The IAC must face this issue squarely. We need your opinions. We have already gone on record to be against software piracy. But is the purchaser and user of the Locksmith a pirate? What constitutes piracy? Take some time at your next meeting to discuss this issue with your members and tell us where your club comes out. Then answer the following:

Should the IAC

- |   |                |
|---|----------------|
| 1. condone its sale and use?                              | Yes ___ No ___ |
| 2. advertise the Locksmith in the Orchard?                | Yes ___ No ___ |
| 3. do nothing?  | Yes ___ No ___ |
| 4. refuse ad space in the Orchard?                        | Yes ___ No ___ |
| 5. express an official position against its sale and use? | Yes ___ No ___ |

It deserves time at the annual meeting in Chicago but May is too far off. Let's get feedback from all of you soon. Results can be presented at the meeting, or if necessary we can schedule an open forum to cover it more effectively.

**TURNING THE PAGES**

with David Laden

=====

BYTE -- MARCH 1981

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This month, Byte's topic is "Programming Methods."

**Editorial: Is This Really Necessary? A First Look at Design Techniques** by Gregg Williams. Pages 6-10 and 200-214.

**Structured Programming and Structured Flowcharts** by Gregg Williams. Pages 20-34.

**Three-Dimensional Computer Graphics, Part 1** by Franklin C. Crow. Pages 54-82. A good introduction including procedures and functions written in Pascal.

**What Is Good Documentation** by Jim Howard. Pages 132-150.

**The New Literacy: Programming Languages as Languages** by Jon Handel. Pages 300-307.

BYTE -- APRIL 1981

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**Apple Name-Address** by Gary Stotts. Pages 32-34. Written in Applesoft BASIC.

**Three-Dimensional Computer Graphics, Part 2** by Franklin C. Crow. Pages 290-302. A complete UCSD Pascal program is included.

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**The Editor's Notes: Software Copying Revisited, Or Who's Paying The Bills?** by Robert Lock. Pages 4 and 9. The editor/publisher presents an interesting analogy to the software copying situation.

**The Beginner's Page** by Robert Lock. Page 12. This is a discussion of parts of a computer system in easy to understand terms.

**Basics of Light Pen Operation** by Robert A. Peck. Pages 36-41.

**Hex Conversion Using The 6502's Decimal Mode** by Jack Clarke. Pages 60-61. Flowchart included.

**Clearing the Apple II Low-Resolution Graphics Screen** by Sherm Ostrowsky. Pages 62-66. Machine language and Applesoft routines to clear the lo-res page in various ways to a particular color.

**Fun With Apple and Pascal** by Gene A. Maurey. Pages 68-70. This is a game called "Pentawar" utilizing Apple's turtle graphics.

**Flipping Your Disk** by M.G. Sieg. Page 71. The process of using the back side of your diskettes is described.

**Nuts and Volts** by Gene Zumchak. Pages 138-141. The topic of this article is handshaking.

CREATIVE COMPUTING-- MARCH 1981

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Creative Computing features Computers in Education this month.

The following five articles consist of software reviews:

**Educational Software** by David Lubar. Pages 20-21.

**A2-FS1 Flight Simulator Program For Apple II** by Scott King. Pages 28-30. A review of the Sub-Logic flight simulator.

**Fantasy Games Part 1** by David Lubar. Pages 32-34.

**Hellfire, Brimstone & Fun** by Dale Archibald. Pages 36-37. Automated Simulations Hellfire Warrior is reviewed.

**Soft Centered** by David Lubar. Pages 40-42.

**Computers and Computer Cultures** by Seymour Papert. Pages 82-92.

What Do We Tell the Administrators? by Nick Sointseff. Pages 100-102.

Van Helps Schools Select The Right Computer by Betsy Staples. Pages 106-112. Several survey forms and "questions to ask" are included.

Minnesota Educational Computing Consortium by David H. Ahl, David Lubar, and Walter Koetke. Pages 115-138. This section includes an introduction, interviews with MECC staff, and a look at MECC software.

Microcomputers and Education by Dr. Antonio M. Lopez, Jr. Pages 140-143. A list of "suggested reading material."

How To Solve It--With The Computer Part 6 by Donald T. Piele. Pages 158-164.

#### INTERFACE AGE -- APRIL 1981

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Learning with Micros by Louis E. Frenzel. Pages 40-41. Video disk, microcomputers, and education is topic.

Personal Computers--Take Your Pick by Tom Fox. Pages 46-49. Includes a comparison chart.

Hardware Evaluation: The Microsoft Z-80 SoftCard by Roger A. Edelson. Pages 60-63.

A Tour Through the Home of the Future by Les Spindle. Pages 66-70. This particular home includes an Apple computer.

The Latest in Personal Computers by Tom Fox. Pages 72-76. A series of short descriptions of some of the personal computers on the market.

Gamemaster--A Computer World of Its Own by Leah R. O'Connor. Pages 78-80. This article describes a different kind of bulletin board/timeshare system.

Serial Communications and Interface Circuits in Microprocessor Systems by Frank Toth. Pages 82-87.

#### KILOBAUD MICROCOMPUTING -- MAR 1981

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Cheap, Dumb Apple by Bill Hubbard. Pages 65-66. An inexpensive dumb terminal hardware/software project.

Auto-Menu For the Apple II by Kenneth Miles. Pages 68-70. This is a short hello program written in both Applesoft and Integer BASIC. Also of interest is the technique the author uses to read characters from the screen (text page).

Microcomputer Selection and Implementation by Bruce T. Pace. Pages 120-122. Some key points to purchasing a business system are presented.

MAT Functions by B. Anthony Paturzo. Pages 138-140.

#### KILOBAUD MICROCOMPUTING -- APR 1981

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FCC Takes Aim Against RFI Polluters by Chris Brown and Eric Maloney. Pages 30-37.

Trying to Live in Harmony with Harmonics by Frank J. Derfler, Jr. Pages 36-37. More about radio frequency interference.

Pascal Means Business by Mark J. Borgerson. Pages 46-54. The author tells you why you should use Pascal instead of BASIC for business applications.

Crack That Code by Dr. Richard C. Vile, Jr. Pages 64-77. Includes "Playfair Cipher" an Applesoft program.

A Rat's-Eye View of Mazes by Brian McCarter. Pages 84-88. A hi-res maze program written in Integer BASIC.

Micros Say The Darn'est Things by Michael Grady. Pages 92-96. This is a "random fun-sentence generator program" written in Applesoft.

Apple Sector Counter Extraordinaire by Craig Peterson. Pages 113-114. This short machine-language program counts the free sectors on an Apple diskette and "is set up to run on DOS version 3.2, 3.2.1, or newly released 3.3..."

A Better Bubble Sort by W.A. Harrison and S.H. Sachs. Pages 148-149.

A Tale of Two Screen Dumps by Jim Hansen. Pages 174-176. A review of the Computer Stations Apple to Paper Tiger screen dump programs.

MICRO -- MARCH 1981

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MICRO Editorial: Copyright/Copywring by Robert M. Tripp. Page 5. Micro's editor/publisher discusses the ramifications of copying commercial software diskettes.

UnwrApple by David Lubar. Pages 11-12. An assembly language program that prevents the splitting of words at the right margin.

Rapid Bubble Sort of Numerical Elements Using BASIC/ABL by L.S. Reich. Pages 21-22. This is an Applesoft and machine language program combination.

Encryption with RND and USR by Sherwood Coyt. Pages 35-37. Assembly language and Applesoft program utilizing the RND and USR functions.

Automatic Keyboard by Theo Schijf. Pages 39-41. This assembly language routine makes it possible to execute Applesoft statements in immediate mode while running a program.

The 6502 Dream Machine by Randy Hyde. Pages 67-74. The author discusses his ideas for an upgraded 6502.

Reset Protection for the Apple II by Joe Brady. Pages 89-90. For those who do not have the new keyboards with the reset protection built in, this relatively easy construction project can solve your reset frustration. No modifications need to be made to the Apple itself.

PERSONAL COMPUTING -- MARCH 1981

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An Apple goes to China by James S. Coan. Pages 15-16.

Inventory Control Programs by Robert L. Perry. Pages 25-35. This article describes features/functions common to inventory control programs as well as descriptions of specific packages (including some for the Apple). Comparison tables, "20 Questions to Ask About Inventory Software," and a vendor guide are also included.

Everything You Wanted To Know About Printers by Stanley S. Veit. Pages 58-69. Article includes a printer comparison chart and vendor guide.

Computer-Generated Speech: The Voice of the Future Part 1 by Gene A. Frantz, Kathy M. Goudie, and Kun-Shan-Lin. Pages 84-89.

Should Probability Be Added To Your Simulation? by Charles J. Wilson. Pages 91-97. This second part of three covers the topics of probability distributions and random number generation.

BASIC Marches On by David Lubar. Page 103. A look at some humorous "extensions" to BASIC.

I hope that this is enough reading material for this month. Keep TURNING THE PAGES.

**CLASSIFIED ADS**

**For Sale**

Bunker Ramo Printers. As a result of buying MX-80 printers, 2 members now have 32 col. Bunker Ramo printers, with interface and cable for sale. Price \$80

Contact Shukry Ibrahim 884-0608  
or  
Bruce Wheaton 474-3363

Shukry will trade for Applesoft in ROM board!

**Wanted**

APPLESOFT in ROM board

Contact Shukry Ibrahim 884-0608



**MAY MEETING**

Wednesday, May 20th, 1981.

Place and topic  
To be determined!

**GROUP PURCHASE  
MX-80 PRINTERS**

Are you interested in participating in  
a group purchase of MX-80 printers?  
--Contact Al Peterman 721-3295

**BULK ORDER PAPER**

Are you interested in purchasing paper  
for your printer at bulk prices?  
--Contact Dan Buchler 890-5051

**DISK PURCHASES**

Peter Gilles (475-3916) was selling an  
inexpensive offbrand (5.25) diskette  
called "SYMCOM" at the last meeting for  
\$24.00 per box of 10. These disks  
were purchased from a local dealer.

Peter also put together a list of  
persons interested in other brands.  
However, the total quantity identified  
by those signees does not reach the  
minimum of 1000 disks.

Peter will be offering SYMCOM disks  
again at the next meeting. The SYMCOM  
disks have hubs and are certified. If  
you have any problems with them, return  
them to Peter. He will have them  
replaced by the dealer, provided you  
can document the nature of the problem.  
Note that the backside of the disk is  
not certified. As with any diskette  
used with an Apple Shugart drive, you  
do so at your own risk.

MINI'APP'LES  
13516 Grand Avenue South  
Burnsville  
Minnesota  
55337

Bulk Rate  
U.S. Postage  
PAID  
Hopkins, MN  
Permit 631