mini'app'les

apple computer user group newsletter

VOLUME V   No 1   **JANUARY   1982**

CALENDAR   CALENDAR   CALENDAR

WHICH	WHEN	WHERE	WHAT
Pascal Note 1	Wed Jan 6 7:30pm	Minnesota Federal 9th Ave S Hopkins	Regular *Pascal* Special Interest Group Meeting.
Board Meeting	Wed Jan 13 7.30pm	Home of Ron Androff	
REGULAR MINI'APP'LES Note 2	WEDNESDAY JAN 20th 7:30pm	UNIVERSITY MINNESOTA ST. PAUL CAMPUS Near State Fair Room B45 Bldg 412 *Map inside*	*Profile:* Apple Hard Disk Eric Johnson/W. Peterson of Stan Clothier, Apples' manufacturing rep. + *Twin City Connection* Computerized Want ads; Fred Weiner will talk about the Want Ads of the future.
Pascal Note 1	Wed Feb 3 7:30pm	Minnesota Federal 9th Ave S Hopkins	Regular *Pascal* Special Interest Group Meeting.
Genealogy Note 4	Sat Feb 6	Lexington Library 1080 University St. Paul	Genealogical Computing Special Interest Group Regular meeting.
REGULAR MINI'APP'LES Note 2	WEDNESDAY FEB 17th 7:30pm	PENN COMMUNITY CENTER 84th & Penn Bloomington. Just S of 494 & W of 35W Free parking on premises. *Map next issue*	Copyright Software Law Panel discussion by Software legal experts. + Demo of Okidata Microline 80 Printer.
St. Paul Branch MINI'APP'LES Note 3	Tues Feb 23 7pm-10pm	Minnesota Federal White Bear Lake Shopping Center	

Note 1. Contact— *Keith Madonna*
     2.   *Chuck Thiesfeld*
     3.   *Pete Halden* 770-6624
     4.   *Bill Decoursey*

HELP WANTED

by Stephen K.Johnson

In March we will again hold our annual open board meeting for the purpose of nominating club officers and board members for 1982. If you would be interested in running for one of the elected offices or one of the board positions we have now, or have an idea for a new position which you might like to fill, please contact Dan Buchler or myself. This is your club and we need new ideas and volunteers to make things happen. Please consider getting more involved in your club so you can learn about your Apple II and it's varied uses. We need you.

MINI'APP'LES
P.O. Box 796
Hopkins, MN 55343

MINI'APP'LES OFFICERS

President	Stephen K.Johnson 6053 Wentworth Ave S. Minneapolis, Minnesota, 55419	869-3447
Past President *and* *Newsletter* *Editor*	Daniel B.Buchler 13516 Grand Avenue S. Burnsville, Minnesota, 55337	890-5051
Vice President	Chuck Thiesfeld 8416 Xerxes, Bloomington, Minnesota, 55431	831-0009 830-5020
Treasurer	Marilyn Thomas 2735 Irving, Minneapolis, Minnesota, 55408	872-7669
Secretary	Ron Androff 1725 Crest Ridge Lane, Eagan, Minnesota, 55122	452-5230

MEMBERS OF THE BOARD

Membership Co-ordinator	Ann Bell 8325 39th Avenue N. New Hope, Minnesota, 55427	544-4505
Software Distr. - Mail and Software Sales	Hugh Kurtzman 11622 Live Oak Dr Minnetonka, Mn., 55343	544-7303

Newsletter Editor	Dan Buchler	890-5051
Bibliographer	Chuck Boody	933-5290
Librarian	Terry Pinotti	786-7118
MECC Librarian	Dave Nordvall	724-9174
Program Editor	Ken Slingsby	507/263-3715
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Technical Advisers	Dave Laden	489-8321
	Jim White	636-4865

Assistant Librarians:	Bill Decoursey	see above

Assistant Prog Editors:	Tom Edwards	927-6790
	Rick Gates	see above

INFORMATION

This is the Newsletter of Mini'app'les, the Apple II Users' group of the Twin Cities of Minneapolis and St. Paul.

Questions

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

Membership

Applications for membership should be directed to the Membership Co-ordinator.

$12 buys membership for one year. Members receive a subscription to this newsletter and all club benefits.

DOMs

The 3 most recent DOMs (Diskettes of the Month) are available at meetings for $4/disk or any DOM may be ordered by mail for $6/disk. Contact Software Sales coord'r.

Newsletter Contributions

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

Advertising rates

Rates are as follows:
Full Page $30/issue
Half Page $20/issue

Circulation 850 (approx)

DOM #10

by Ken Slingsby

The DOM for January consists of the entire IAC disk #10, some local contributions and some programs taken from the Mini'App'Les Library. The later was in existance before the DOM began.

From time to time, as space permits, material will be selected from that Library. Please let us know if this practice should be continued. Most of the Library programs on this DOM are from Call-Apple.

The first programs on DOM #10 are locally contributed.

LOGO
Some time ago, Tim Pfaff thought the DOM should have a logo. This logo should be something that becomes a trademark for the organization. This logo in not quite the same as the logo used in the newsletter, so perhaps a seperate logo could be adopted for the DOMs. I am not sure how Tim created this logo, but there is an ample supply for some future DOMs. Here is another opportunity for comments.

AUTO PROGRAM
This program will write some of a new program for you. It is an adaptation of a similar program written for the TRS-80. Bill DeCoursey has rewritten it to work for the Apple. The program asks whether the user wants standard program parts to be included in the new program. These standard parts include such things as clear the screen, 'get' input, string array set-ups, etc. The resulting program segment is saved as a text file waiting to be exec'ed into a larger program.

SOFTWARE NOTE
The next group of programs comes from the IAC disk #10. They are a collection of hi-res graphics demos from fellow Apple users in Europe. Some of the file names are beyond me so I will not attempt to explain them all. Suffice it to say that they all can be 'RUN' and all will produce hi-res pictures or displays. Be sure to let the program DA BIN ICH run to its completion.

GAME SOUNDS EDITOR
This program will produce sounds on the Apple speaker in accordance with the user entered values for pitch, duration, rise or fall. The resulting sounds can be used in games of the user's writing.

STRING SWAP DEMO
What happens to the Apple when you write a program to sort string arrays? If you have tried this, you will notice that the sort goes on great for a while, then the computer appears to 'hang' for a minute while it does an automatic FRE. This becomes necessary because the string arrays become defined and swapped.' In the process many unused string arrays are left taking up lots of memory. Here is a demonstration of a swapping technique that does not create those unused strings waiting for 'garbage collection'. By Randy Wiggington.

ANAMATION
This short program is a lo-res kaliodscope. It is from the library.

ANAMATIONS
Here is a program from the library that will entertain the pre school kids. It is a series of lo-res displays that they find captivating. By R. Bozek.

MEET THE COMPUTER STORY TELLER
The Apple computer can be a great origional story teller. If you believe this ..... These programs from the library will get a chuckle anyway. From Personal Computing.

REAL ESTATE PLOT
One of the uses for an Apple could be in selling real estate as this program demonstrates. The origional author is unknown. From the library.

SWORDS & SORCERY
This is an adventure program using only the text screen and your imagination. From the library. Written by Bruce Turrie of Belgium.

CALENDAR FOR PRINTER
The free calendars around the first of the year seems to have all but disappeared. With this program and an 80-column printer you can create your own for many years to come. Line 200 may need some adjustment for different printers. From the library. By Phillip Zimmerman.

DISPATCH TABLE LIST
If you do assembly language programming, there may have been times when you have wanted to use some of the routines in the Applesoft ROMs. This program gives the entry points for several of the routines. For further info see the IAC magazine of about a year ago. From the library. Written by Neil Konzen and Val Golding.

NEW PRODUCTS

by Dan Buchler

This is a new column for our newsletter. The club receives a large volume of mail announcing new products, or making an offer to sell something. Most of these announcements are replicated in ads that you can see in the journals. However, some are quite interesting and we will attempt to bring you a glimpse of those without taking too much space. In many cases furthur information may be obtained by calling a club board member.

CHESS-PROBLEMS

From Finland; a Chess problem solver called ALYBADIX-81. Features are:
- Knows all moves
- Draws the Position in HIRES and prints a title.
- Gives all solutions which have diffrent Black's first moves or White's second move.
- Prints Black's defensive moves if the problem has no solution.
- Prints all moves made by the program.

Several versions are available all of which use the Apple Silentype for printout. Price for each version is $50.

Chessol/Ilkka Blom
Palosaarentie 13-17 c 27
SF 65200 Vaasa 20
Finland.

64K RAM BOARD

LEGEND has announced a 64K-byte RAM board. Thats the equivalent of 4 16k boards on one board. It uses the new 64k-bit dynamic RAMS, so you only need 8 chips. (Incidentily the cost of the 64k-bit RAMS has come down to about $9 so you may see a lowering in price of these boards from their announced list of $350 each.) If you buy two of them, you get a Disk Emulator software package that allows you to use the two boards as if they were a single disk drive. The price of two boards and the emulator is $700. You can also use the emulator with one board where it emulates half-a-disk. The RAM boards are 3 times faster than a disk.

Of course you may use the RAM board just like a Language card too. It uses the same Device Select Address convention as Apple. See 32k Ram board review in November Newsletter.

At least two companies are designing 256k-byte boards which may have to be stored external to the Apple (like DTACK GROUNDED elsewhere in this newsletter)

APPLE PIE Reincarnated

Some of you may know that Programma International went 'down the tubes'. Hayden Software has bought the rights to the Apple Pie Word Processing system which yours truly and many others in the club use and like. Hayden has re-introduced Apple Pie to the market and will offer an enhanced version with a brand new manual (badly needed) in the first quarter '82. THe enhanced version will include in addition to the current excellent features of Apple Pie:
- Proportional spacing.
- Use of control characters in justified text.
- Somesort of disk spooling.

MOUNTAIN MUSIC BOARD

Mountain Computer has reduced the price of their Music board from a list of $545 to $395. Be careful if you are thinking of buying one as many stores have stock they purchased at the old price! Many of you have seen and heard it at club meetings or at Boody's special meeting in Nov. Byte magazine had an extensive review of it in the July 81 edition. It is a really fantastic piece of hardware.

# PASCAL GROUP

by Daniel B. Buchler

I attended part of the Pascal meeting on Dec 2nd. I want to take this opportunity to thank the Pascal members for helping fold the December newsletter so that it might be mailed for a regular first class stamp without the 9 cent over-size surcharge.

Keith Madonna started the Pascal special interest group about 2 years ago and really does a magnificant job in providing an interesting and educational environment for those who attend the meetings. If you are a Pascal user, or even thinking about becoming one, go to one of those meetings.

(The following program has been donated for use by Mini'app'les members. It is not expected to be available on cassette or disk!)

```
100 REM      HERE'S SOME BASIC TRUTH ABOUT ART SERVICES
110 PRINT    "FOR THE BEST IN ART STUDIO WORK..."
120 PRINT    "            ....typesetting"
130 PRINT    "            ....keylining"
140 PRINT    "            ....technical illustrating"
150 PRINT    "            ....photo retouching"
160 PRINT    "            ....production supervision"
170 PRINT    "call on HALVORSON & MLEKODAY!"
180 PRINT    "We're conveniently located on Highway 7"
190 PRINT    "near Highway 100. Drop in and see us, or"
200 PRINT    "call and we'll be glad to drop by and take"
210 PRINT    "care of all your studio needs. The cost will be BASIC too!"
220          Go to 110
```


HALVORSON AND MLEKODAY INC.

7008 HIGHWAY SEVEN
MINNEAPOLIS. MINNESOTA 55426
PHONE (612) 927-0366
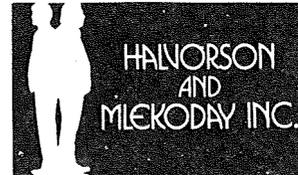
EPSON PRINTER NEWS

by Daniel B. Buchler

1. Mr Barden, the fellow in North Carolina publishing a newsletter has moved to:

   136 Candlewick Drive
   Wendell, NC 27591

   Information curtesy Joff Morgan, Call A.P.P.L.E.

2. We found a local ribbon re-inker and are trying to get enough ribbons together to try him out. We need 12 ribbons for the first order. After that, he will attempt to stock re-inked ribbons at about $5 a piece. So, if you have a ribbon you can let go for about 2 weeks to get re-inked please let Dan Buchler know.

   Incidentily, Al Peterman when he ordered the last batch of ribbons from the Chicago Epson supplier, received a different make of ribbon. They are much more heavily inked than the earlier Epson ribbons. In fact, they are so heavily inked that for the first hour of printing they blotch badly. Also, if you stop printing the ink tends to accumulate in one place. With use, the ribbon is improving and was OK to print this newsletter. I have seen this exact same phenomenon on ribbons for Teletype 43s.

3. Al Peterman says that the newer versions of the Tractor Feed option from Orange Micro are significantly improved due to the inclusion of an extra support roller above the platen.

4. Anyone contemplating the purchase of an Orange Micro Grappler Interface board should understand the pros and cons.

   Pro – it gives you at your finger tip a screen dump and other features.

   Con – you pay alot extra for features that can be had on a disk free of charge and, you get a very non-standard piece of hardware. Programs that use PR#1 will work OK with it, but programs that interface directly with the Apple I/O will not work at all. Examples: the Mini'app'les screen dump (of course you would'nt need it), Buchler's Hiprint and similar things which may come along in the future.

5. At least 2 local dealers are sending personnel to an Epson Maintenance school and are willing to fix Epsons not purchased from them.

Apple Soft Keys
by Pete LeMay

Function keys are found on many higher priced terminals. They are keys that can be programmed to represent almost anything the user wants. Because they are programmable, they are also called soft keys.

Many of these terminals will also display labels which describe the function of each soft key. The labels are usually displayed on the bottom row (or rows) of the screen, and; in most cases, each label lines up with its corresponding soft key on the keyboard. This allows the user to visually connect the label with the key.

Soft keys can be programmed on the **Apple II**. Special function keys are missing, but any key will serve. I've included an example that uses the numeric keys (1 thru 4). There may not be a direct label-to-key visual correspondence; but, with a small number of soft keys, it is not so important.

The listing shows a program, written in **Applesoft**, that illustrates a way of providing soft keys. The essential procedures are at line numbers 31100, 31200 and 31300. The rest of the program is a demo which shows how to use the procedures. I will describe the procedures in more detail.

Set Up Labels
This procedure, located at 31100, initializes the labels. It is here that you can give visual meaning to each label. This example allows for four labels of eight characters each, but you are not limited to that.

Display Labels
To display the labels, first the cursor is moved to the bottom line. Then INVERSE mode is turned on, each label is printed, and the program is returned to NORMAL mode. POKE 35,23 causes the labels to be locked on the screen while scrolling occurs above them, and the VTAB 1 gets the cursor up out of the locked area of the screen.

Get Results
Finally, in line 31300, we have the routines which input the results of pressing the soft keys. A GET is used, together with a one-character string variable, so that the user does not have to press the return key for each selection. If the key that is pressed is not one of the valid soft keys (1 thru 4 in this case), the GET is repeated. In 31330, the input character is converted to a number for use in the outer program (e.g., line 70). Before returning, the labels are unlocked.

The procedures shown here can be used in any Applesoft program which provides interactive choices to the user. If nothing else, they serve to further illustrate the flexibility of the **Apple**.

```
5  REM    APPLE SOFT KEYS
6  REM
7  REM      BY PETE LEMAY
8  REM
20 GOSUB 31100: REM  SET UP LABELS
30 HOME
50 GOSUB 31200: REM  DISPLAY LABELS
54 S$ = "PROMPT, "
55 GOSUB 500
57 HOME : VTAB 10: PRINT "  USE KEYS 1 THRU 4"
58 VTAB 12: PRINT "  TO SELECT FUNCTIONS"
60 GOSUB 31300: REM  GET RESULTS
70 ON NR GOSUB 100,200,300,400
90 GOTO 30: REM  REPEAT
100 S$ = LA$(1)
120 GOSUB 500
190 RETURN
200 S$ = LA$(2)
220 GOSUB 500
290 RETURN
300 S$ = LA$(3)
320 GOSUB 500
390 RETURN
400 TEXT
410 END
500 FOR I = 1 TO 200
510 PRINT S$;
520 NEXT I
590 RETURN
591 REM
592 REM
31100 REM  SET UP LABELS
31110 LA$(1) = " LABEL1 "
31120 LA$(2) = " LABEL2 "
31130 LA$(3) = " LABEL3 "
31140 LA$(4) = "  EXIT  "
31190 RETURN
31191 REM
31192 REM
31200 REM  DISPLAY LABELS
31210 VTAB 24: INVERSE
31220 FOR I = 1 TO 4
31222 HTAB (10 * I - 8)
31224 PRINT LA$(I);
31230 NEXT I
31240 NORMAL
31250 POKE 35,23: REM  LOCK LABELS
31260 VTAB 1: REM  GET CURSOR UP
31290 RETURN
31291 REM
31292 REM
31300 REM  GET RESULTS
31310 GET NR$
31321 IF NR$ = "1" THEN 31330
31322 IF NR$ = "2" THEN 31330
31323 IF NR$ = "3" THEN 31330
31324 IF NR$ = "4" THEN 31330
31325 GOTO 31310
31330 NR = VAL (NR$)
31340 POKE 35,24: REM  UNLOCK LABELS
31390 RETURN
31391 REM
```

APPLE + 68000 = DTACK GROUNDED
Round 2

Summarizing Dtack's Newletters 3 thru 5
by Dan Buchler

In the October (81) issue of Mini'app'les, you were introduced to Dtack Grounded (DG). For those of you who did'nt see that article, DG is a product forthcoming from Digital Acoustics of Santa Ana, Ca.

The product consists of an Apple Interface board and a large externally mounted P.C. board with a Motorola 68000 16 bit Microcomputer and 4k bytes of on-board memory. The memory is expandable up to 92k bytes (not 16 bit words as reported in last issue) on same board, and up to 16.711 million bytes if you have enough boards and power supplies!

The minimum 4k byte memory system pulls 0.7 amps and may be powered from the Apple itself. Provision is made to separate the 68000 board from the Apple power bus, so an external 5v supply may be, and must be, used for larger memory configurations. DG will not supply that power-supply. The price for the 4k configuration will be $775. A picture of the configuration is shown below. The 'little' Apple Interface card may be seen with the unpopulated 4k main board. The 68000 MPU is the large IC on the left of the big board.
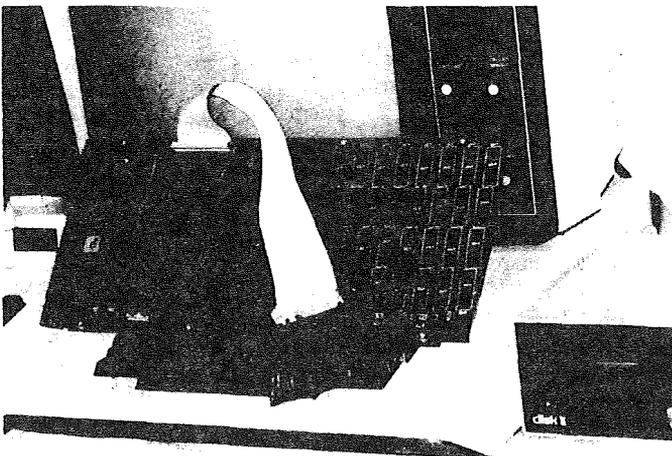
DG will also market an expansion board (to help you reach 16.711 million bytes). THe board will have space for 128k bytes. Since they had space left over (the expansion board is the same size as the main board), they plan to include a "pink marble statuette of a naked lady with a clock for a navel" -- oh; excuse me, DG later modified that to include a real time clock (that works) instead.

To those unfamiliar with the microcomputer industry, the 68000 is the king of micros. It is expected to be the processor for the next generation systems. It is super powerful. Rumours abound that announcements of 68000 based systems are imminent from Tandy and Apple!

In DG's first release which is expected at any moment (in fact you may order one today), the 68000 will perform the Floating Point manipulations. This it can do much more efficiently than can the 6502 in the Apple. Later versions will rely on software support from software houses such as those engaged in compiler writing in order to make greater use of the 68000's capabilities.

Floating point operations are required even in the most mundane internal book-keeping type software such as:

  FOR I=1 TO 1000:.........: NEXT

where the Applesoft Interpreter must perform the equivalent of

  I = I + 1

In order to make the 68000 do these floating point manipulations, DG will provide software which will work in conjunction with a 'language board' (or any upper 16K expansion board). That software will among other things comprise:

  a. Routines to allow the 6502 to communicate with the 68000.
  b. The 68000 floating point code.
  c. Some simple modifications to the RAM (language board) resident Applesoft to link the floating point operations through the communication routines (a) into the 68000 code.

DG will provide an initialization routine (probably written in Applesoft) which will cause the 68000 Floating Point code (item b.) to be transferred

from the 6502 RAM into the 68000 RAM (4k+) so that the whole kaboodle can start working.

DG has published alot of benchmark results using their board on a PET (CBM) with which for some unfathomable reason they decided to initiate development. The PET also utilizes the 6502 MPU and an almost identical version of Microsoft Basic. Because of internal hardware design constraits, the PET Basic is about 15% slower than Applesoft. In those benchmarks, they have extrapolated the speed improvement which might be expected using a compiler such as the one sold by Hayden. Two of their benchmarks were:

A   B=SQR(3):FOR I=1 TO 5000:A=B/I:NEXT I

B   FOR I=1 TO 5000:A=LOG(I):NEXT I

	Benchmark_Times#		Speed_Ratio	
	A	B	A	B
Applesoft Interpreter + 6502 FP##	29.3	127.8	1.0	1.0
Interpreter + 68000 FP	17.7	20.9	1.65	6.1
Compiler + 6502 FP	16.2	116.5	1.80	1.1
Compiler + 68000 FP	4.6	9.6	6.4	13.3

##FP=Floating Point
DG's Interpreter times reduced by 2.6 seconds to allow for improved speed of Apple over PET

Notice that the compiler itself improves throughput by no more than 1.8:1 for the particular benchmarks used here. This is consistant with reviews of compliers reported in Mini'app'les, Softalk, Call A.P.P.L.E, etc. The reason is that a significant portion of the interpreter time (14.8 seconds for Benchmark A) is used up by Interpreter overhead. Thus, a compiler makes most impact in a number cruching application rather than in a logic or text processing application. This is of course the opposite of the impact gained by use of the DG board. For bechmark B, the overall throughput including the compiled code is 13.3:1

Now, DG is encouraging one or more Compiler writers to make a version for an Apple with a DG board. Futher, if that compiler allows variables to be stored in 68000 memory space rather than

in 6502 memory space, then the need to transfer the data from 6502 to 68000 memory and back again is eliminated. In such a situation, the 13.3:1 number above would then become 16.7:1. In such an environment, the 6502 performs the logic and I/O and the 68000 does the computational work (something like the Z80 board).

In closing the subject of speed, it must be noted that many factors effect throughput. A large Applesoft program runs slower, and one with many variables runs slower. The DG board does nothing for that. A compiler will help that situation. The ultimate solution to all of this is to have a compiler which generates 68000 native code leaving the 6502 to do nothing but the I/O. Then, your speed improvements would be maybe two times again. Moreover, if you have a fully populated 68000 board, one can get much more efficient use of memory since the 68000 is a 16 bit machine with a vastly superior instruction set. Again, such a development is not outside the realm of possibility, though DG least of all is making no promises.

According to DG the 68000 is really a neat computer to program in Assembly Language. "........there is absolutely no comparison whatever in the ease of programming a particular application between it (the 68000) and the 6502. The 68000 wins hands down." However DG recognize that the 68000 is a new machine with alot of new syntax. To help in the education process, DG will provide with their board a menu driven program that 'walks' through the syntax for all the options for a particular instruction.

Well thats the meat of DG'S last 3 installments. Now I await a letter from Hal Hardenbergh, president of DG, telling me I am a 'cur' for mentioning his pink lady!
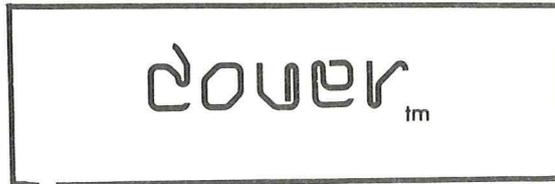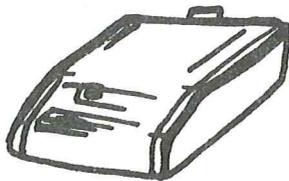
MUSIC MAKER

This program will allow you to input simple tunes and play them back thru the Apple's speaker. The sound does not compare with the senthesizers on the market now but neither does the price. Written by Bob Sander-Cederlof. From the library.

Apple /// News

by Keith Madonna

Apple computer has come out with another fine product, called 'PROfile' It is as you may have guessed, a hard disk. Now for a few details:

It can store about 5,013,504 bytes, or simply 5 Megabytes, or about 1200 pages of single-spaced typed text, or as much as 35 conventional floppy diskettes. This storage is accomplished using 4 surfaces (2 platters of 5.25in. diameter), with 153 tracks per surface, 16 sectors per track, and 512 bytes per sector. The drive characteristics are as follows:

- Drive ready to operate from cold start in 60 seconds
- Average seek time 95 milliseconds
- Data transfer rate 5 Megabits/second
- Data may be transferred one byte at a time, or by direct memory access (DMA) at one Megabyte per second. The DMA is accomplished by disconnecting the Apple /// processor, and transferring into memory under of the hard disk processor. The disk I/O speed can be increased by a software change, which disables file verification on writing (default is verify on a write operation).

Now for some dimensional data:
- Height 4.39in.
- Width 17.28in.
- Depth 8.81in.
- Drive weight 11lbs. including power supply which is built into the unit.

The hard disk motor speed is controlled by a built-in card, which maintains a spindle rotation speed of 3600 RPM, plus or minus 1%. On a cold start the disk takes 20 seconds to reach it's operating speed, and an additional 40 seconds to do a check on the surface media, before data can be stored. Thus, nominal start up time is 1 minute. However, if the verify detects an error, various correcting procedures are attempted. An abort will only occur if the system has been unable to bring the system on-line within 3 minutes.

The disk drive also has a mechanical brake to stop it quickly whenever power is removed. This is important only because the heads (4) are in contact with the surface during start-up, and shut-down.

Another important point is the time of in-use hours between failures; that is mean time between failures (MTBF). This is specified as 10,000 hours.

Three pieces of hardware are shipped with the unit:
1. 25 conductor cord.
2. An interface card which plugs into one of four slots in the Apple ///.
3. The hard disk & power supply (all in one unit).

Also two pieces of software come with the disk:
1. A 'PROfile' driver diskette,
2. A demonstration diskette.

By the way, the disk drive cannot be used to store Apple][software in any mode, even emulation mode. Data or programs have to be in Apple /// format to be saved to the hard disk. All new software releases will be made with the new version of S.O.S. 1.1. The cost of the hard disk package is $3495.

In the flyers sent out by Apple are mentioned two new software packages being released: Applewriter ///, and Mail list manager.

Also about to be released by Apple are:
- A memory board which will boost your total memory capacity to 256k.
- A new Apple /// monitor for $322 (which comes in black/white or green screen, both non-glare). This monitor is the best I have seen to date.
- Another card for inside the computer; a Universal Parallel card — three parallel cards in one for $225.

BULLETIN BOARDS

by Daniel B. Buchler

This is an update of information previously printed in Dec, 1980 issue of Mini'app'les. Update information from the BIG APPLE (NYC) (Oct/Nov 81) which in turn had reprinted a list originated by the People's Message System, Santee, CA. This is a 4+ page index of bulletin boards including 3 systems in Europe. Anybody want the numbers?

The following are local (area code 612) bulletin board systems which may be accessed by the general public at no charge. All are privately owned systems, some by individuals at least one by a retail organization.

929-6699   PMS Minnaapolis
929-3094   ONLINE - Minneapolis
933-2606   Minnesota Microphone
561-6311   Zim Computer NET-WORKS
869-5780   CBBS Richfield
426-9028   ZBBS Minneapolis
227-0307   Conference Tree

APPLE MAGAZINES

by Dan Buchler

For the benefit of newcomers to the world of Apple, the following are recommended reading material and are all 100% devoted to Apple.

SOFTALK Free - entirely paid by adversising. Non technical. Reviews, biographies, new products, report on best selling software plus a few educational articles. Lots of ads, particularly for games. To get on the free subscription list, send your name, address and Apple Serial number with a request for subscription to:

> Softalk Circulation
> 11021 Magnolia Blvd.,
> North Hollywood,
> CA   91601

NIBBLE is a programmers' magazine aimed at beginning and intermediate level. They have published some real excellent software including Word Processors, Home Finance, Data Base Managers, Print Using and other subroutines, High speed sort techniques and last but not least games. Their philosophy is to publish a program and to help the reader understand how to modify the program for his/her own needs.

We also have a Nibble Special Interest group so that if you are a subscriber, you may not have to key in the program, except once and a while when it is your turn to do so. Pick up a copy at your dealer or send $17.50 for one year (8 issues) to:

> Nibble
> Box 325
> Lincoln
> MA   01773

CALL APPLE is the publication of A.P.P.L.E., Apple Puget Sound Programming Library Exchange which has become the largest Apple user group by virtue of their magazine and software. Current membership is in the order of 10,000 (I beleive).

Their magazine is the most technical of the Apple publications catering to the intermediate and advanced levels. Their software, which is copyrighted, is exemplified by the Program Line Editor, an editor for use when coding in Applesoft, probably the best of its kind in the

market, and sells to members for $22.50!

To join, you need $40 ($25 one time Apple-Cation plus $15 annual dues which pays for the magazine! Send to:

> CALL APPLE
> 304 Main Ave S., Suite 300
> Renton
> WA   98055

APPLE ORCHARD
We sell this at club meetings. It is the official publication of the IAC and caters to beginning/intermediate level.

MINUTES

OCT REGULAR MEETING
October 21st 1981

by Ron Androff, Secretary

Meeting was called to order at 7:30 by our president.

OLD BUSINESS.   None.

NEW BUSINESS.   None.

Meeting was ajourned at 9:15

NOV REGULAR MEETING
November 18th, 1981

by Ron Androff, Secretary

Meeting was called to order at 7:40 by our president.

OLD BUSINESS.   None.

NEW BUSINESS.   None.

Despite the first real blizzard of the year, over one hundred members braved the elements to attend - BRAVO to you all. The program on control devices was presented by Mike Birnbaum. He demonstrated inexpensive ways to control or measure temperature, light, moisture and mechanical position. Thanks to Mike for an excellent presentation.

Meeting was ajourned at 8:06.

STATE OF MINNESOTA

DEPARTMENT OF REVENUE
CENTENNIAL OFFICE BUILDING
SAINT PAUL, MINNESOTA 55145
PHONE: (612) 296-6182

January 24, 1980

Walter C. June
The Code Room
18216 Ginavale Lane
Eden Prairie, MN 55344

In Re: Account #5461449

Dear Mr. June:

Reference is made to your letter dated January 14, 1980 regarding the
Minnesota Sales and Use Tax.

Sales of standard or "canned" computer programs and custom computer
programs are not subject to the Minnesota Sales and Use Tax. Such
programs are classified as intangible personal property and are therefore
exempt from the tax.

Enclosed is a copy of Minnesota Sales and Use Tax Regulation 610 which
provides information concerning automatic data processing.

If additional information regarding this matter is required, please
contact this office in writing or by calling telephone number (612) 296-
6181.

Sincerely,
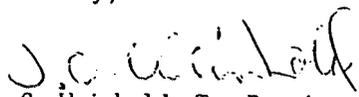
J. C. Weinhold, Tax Examiner
Sales and Use Tax Division

JCW:Sad

Enclosure: Tax S&U 610

SFTW SALES TAX
by Dan Buchler

As pointed out in last month's
newsletter sales tax is not chargeable
on Software in the state of Minnesota.
Thanks to Roy Oehler of TCTUG we are
including herewith a copy of the letter
written to the Code Room by the state of
Minnesota.

AN EQUAL OPPORTUNITY EMPLOYER

MINI'APP'LES MECC ORDER

MECC disks may be ordered only by Mini'App'Les members who are residents of Minnesota. The diskettes were developed for the Minnesota schools by Minnesota Educational Computing Consortium, a tax-funded agency, and you are not to make copies for non-residents.

We refer non-residents to MECC Publications 612/376-1118.

No.	Title	Vol.	Special Emphasis	Quan.	No.
701	MECC Demo	1		_____	701
717	Agriculture	1		_____	717
714	Business	1		_____	714
702	Elementary	1	Mathematics	_____	702
703	Elementary	2	Language Arts	_____	703
704	Elementary	3	Social Studies	_____	704
705	Elementary	4	Science	_____	705
719	Elementary	5	Language Arts	_____	719
725	Elementary	6	History	_____	725
731	Elementary	7	K-2	_____	731
732	Elementary	8	Geometry	_____	732
733	Elementary	9	Geometry	_____	733
734	Elementary	10	Geometry	_____	734
735	Elementary	11	Phonetics	_____	735
736	Elementary	12	SIM	_____	736
706	Mathematics	1	Sr. High	_____	706
736	Mathematics	2	Measurement	_____	737
738	Mathematics	3	Geometry	_____	738
716	Aestheometry	1	Curves	_____	716
712	Music	1	Music Theory	_____	712
708	Science	1	Sr. High	_____	708
709	Science	2	Sr. High	_____	709
707	Science	3	Sr. High	_____	707
710	Social Studies	1	Sr. High	_____	710
711	Social Studies	2	Sr./Middle	_____	711
718	Drivers Ed/Ind. Arts	1		_____	718
727	Special Needs	1	Handicapped Spell	_____	727
726	Spelling	1	Elementary	_____	726
728	Spelling	2	Adult Words	_____	728
739	Art	1		_____	739
720	Programming Aids	1		_____	720 ***
724	Shape Tables	1	HGR Utilities	_____	724 ***
715	Teacher Utilities	2		_____	715

*** The Programers Aid & Shape Tables require the support booklets to be used. We will sell the disk and book as a package only, to be delivered at the club meetings.

Prices:

Disketts	$5.00	_____
Mailing (Disks Only)	$2.00	_____
Disk & Booklet	$8.50 (720,724)	_____
		_____
	Total	_____

Name   _____

Address _____

Phone   _____   *I UNDERSTAND THAT I AM NOT TO MAKE COPIES FOR NON-RESIDENTS.*

SIGNED _____

NOTE MECC DISKS ARE IN DOS 3.3

Speeding Up Correspondence

by Stephen K. Johnson

As announced in this newsletter two months ago, Mini'app'les has a new mailing address. Unfortunately, because four people have access to the post office box and much of our mail isn't labeled as to whom or for what department of Mini'app'les it is intended, mail is opened by whoever checks the box on that day. This may result in a delay handling your correspondence.

To speed things up, we ask that you use the second line of the address to indicate to what department or to whom the mail is directed.

Example:

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Mini'app'les
Software Sales Coordiniator
P. O. Box 796
Hopkins, MN 55343
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Additional possible second lines could be: President, Newsletter Editor, Newsleter Exchange, etc. We request that ALL DISK-OF-THE-MONTH orders, NEWSLETTER EXCHANGES, and General Correspondence be sent to P. O. Box 796. However, several members have sent membership dues to the P. O. Box. This may result in a delay of upto one month in processing your membership. PLEASE continue to send your membership dues to:

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Ann Bell
8325 39th Avenue N.
New Hope, MN 55427
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Thank you for your cooperation.

CLASSIFIED

CLEVELAND AVE. NO.
(FROM LARPENTER OR HWY 36)

U of M St. Paul Campus

GORTNER

WHEN ON THE CAMPUS, TAKE GORTNER TO FITCH AVENUE, THEN GO WEST ON FITCH TO THE PARKING LOT. THEN USE SOUTH ENTRY AT CLASSROOM-OFFICE BUILDING NO. 412.

FREE PARKING AT BOTTOM OF HILL

MEETING ROOM NO. B45 IS JUST INSIDE THE DOOR, ON GROUND LEVEL.

NORTH

FROM MIDWAY PKY TO FREE LOT ←

ENTER HERE
PAY PARK .60¢

BUFORD

COMMONWEALTH (FROM RAYMOND OR HWY 280)

← COMMONWEALTH (FROM STATE FAIR GROUNDS AND SNELLING AVE. NO.)

CLEVELAND AVE. NO.
(FROM COMO AND RAYMOND AVE.'S)

GORTNER

IN THIS ISSUE

Mini'app'les
Box 796
Hopkins, Mn. 54343