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Washington Apple Pi

Volume 2 March 1980 Number 3

Highlights

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EDITORIAL

We have received a "Letter to the Editor" from Stephen E. Bach of Scottsville, Va. (a non-member who bought our newsletters from a computer store). He points out that in one of our issues we reprinted from three other periodicals without giving proper credit and/or indicating that we had obtained permission to reprint. We would like to thank Mr. Bach for bringing this to our attention. It is not our policy to reprint without giving credit or without obtaining advance permission when that is necessary. Our only excuse is that in the rush to meet a deadline we failed to meet this requirement.

****

Membership dues for Washington Apple Pi are $12.00 per calendar year. If you are interested in joining our club, call our club number (301-468-2305) and leave your name and address. An application form will be mailed to you. Or if you prefer, write us at the above PO Box.

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NOTICE TO ALL MEMBERS

Washington Apple Pi now has an official phone number, (301) 468-2305. It resides with our Treasurer, Bob Peck. If noone answers please leave a message on the recorder. During the week of our monthly meeting a message will be left on the answering device stating details of the meeting.

##########

EVENT QUEUE

Washington Apple Pi meets on the 4th Saturday of each month. The next meeting is Saturday, March 22 at 9:30 AM at George Washington University School of Engineering, Tompkins Hall (room 206), 23rd and H Streets, N.W.

NOVAPPLE will meet at 7:30 PM on March 27 at Computerland of Tysons Corner. Mountain Hardware will demonstrate their product line. Washington Apple Pi members are also invited. The next meeting of NOVAPPLE will be at 7:30 PM on April 10 at Computers Plus in Franconia.

Classifieds

WANTED: Applesoft ROM card. Must have Autostart. Rich Wasserstrom. Office (202) 797-5860 (Wash. D.C.); Home (703) 893-9147 (N. Va.)

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Super-terminal	$395
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. Lobo minifloppies w/controller $ 450
. IBEX dual sided 8" drives w/controller (1/2 megabyte) $1295
. Microsoft's Z80 computer peripheral board that plugs into your APPLE for approximately $349 and allows you to run CP/M and Microsoft Basic as well as your usual APPLE programs and peripherals (available in May).
. CP/A, a software package soon to be completed for APPLE II. (Being developed by the firm that prepared DOS 3.1 for Apple, Inc.)
. EasyWriter now is a family. Added are: EasyMover (personal electronic mailer) and EasyMailer (continuous letter writer). Also Professional EasyWriter.
Rumors.....There's a dual 5 1/4 1.6 megabyte disk drive in your future. DOS 3.3 to replace 3.2.1 will make programs PASCAL compatible and allow approximately 140 K bytes on the Disk II.
Fact.....APPLE II is not to become obsolete. Woz says he loves his machine. This implies upward compatibility with APPLE III.
. Forth 1.7 for the APPLE is now available (except for documentation). John Draper demonstrated his latest version at the Saturday lecture but had not been able to complete the documentation in time for the Faire. Wait a few months before ordering. Price will be around $55.

Classified ads accepted from members 50 words or less at no charge provided the material is obviously non-commercial. Submit your classified at least 30 days in advance attention CLASSIFIED ADS, PO Box 34511, Washington, DC 20034.

minutes

The Washington Apple Pi meeting of February 23 was called to order at 9:35 by the Vice President. There was a short business session. Our Treasurer said that at the moment there are no more plans for group purchases. These require money in advance so it means waiting until four orders are received. By then most people are no longer interested. The remainder of the business session was devoted to a discussion of the upcoming meeting of the officers of the INTERNATIONAL APPLE CORE in San Francisco. Bernie Urban, who will be representing our club there, led the discussion. Some items of interest were: A need for revision of the dues structure, the consensus being that small clubs are getting the "short end of the stick" with the present proposed structure; How software from IAC is to be handled; The potential profit from Apple Orchard; Objection to APPLE Computer Inc. sending a free copy of Apple Orchard to each owner with a registered warranty.

The formal program was presented by Gerald Eskelund, on the subject of Lo-Res Graphics. He reviewed a book, "Introduction to Lo-Resolution Graphics" by Wadsworth. He demonstrated on the computer some of the programs in the book, and gave an explanation of how to develop the programs.

The meeting was adjourned to the hands-on computer session and to a question and answer session led by Hersch Pilloff. (See Hersch's article in our February issue regarding plans for making this a regular "meeting after the meeting.")

NOVAPPLE Minutes for February 13, 1980

The meeting was called to order by Nick Cirillo, the Vice President. The first order of business was to pass out copies of the proposed By-laws. All members were asked to read them carefully and be prepared to vote at the Computerland of Tysons meeting on February 28 or the Computers Plus meeting on March 12.

The Secretary was asked to see if we could get back issues of Washington Apple Pi. The problem with reproducing them is that they are on colored paper and do not Xerox well. The Secretary agreed to talk to the publishers about changing at least the inside to white.

At the next meeting at Computerland a discussion will take place on the various magazines and literature which are available for the APPLE owner. The idea is to let people know what is worthwhile to buy. The members are also reminded of the meeting at Computerland of Tysons on March 27. It will feature Mountain Hardware who will demonstrate their product line. Apple Pi members are also invited to attend. On March 12 a new tutorial will begin on Applesoft II. It should offer something for both old and new members, as we will take on a problem to solve, building a program as we go.

The program for the evening was presented by Theron Fuller, our Program Chairman. He described a higher level language called Pilot. The language is often used in Computer Aided Instruction. It uses simple instructions and has built in error-trapping. This particular Pilot language was developed by Theron and is copyright protected. He offered to let any club member have a copy for his own personal use. The presentation was both informative and interesting.

NOVAPPLE Minutes for February 28, 1980

The meeting was called to order by the Vice President. The first order of business was to ask for comments and corrections to the By-laws. One correction was as follows:

ARTICLE I	MEMBERSHIP
Section 2	Dues shall be set and approved by vote of the membership. Only one member of a household may vote for members of that household.

The Constitution and By-laws were approved by a show of hands with an unanimous vote. They will not become binding until voted on by the membership at Computers Plus as well.

A report was given to the membership by the Secretary concerning the Washington Apple Pi. He reported that changes were made in the last issue which allow us to reproduce copies at a later date. Some of the members asked that we make another suggestion. They would like the columns to be a little further from the left side since many of them put hole punches in to keep them in a binder. The Secretary informed the members that a membership list is now available. Everyone should check it for accuracy and put a yes or no in the margin by their name if they want their name given out to members or not. No list will be given out until the membership agrees, or names of those dissenting are removed. All attendees were reminded that if they have not paid their dues they will not receive Apple Pi.

The meeting continued with the program led by Gerald Eskelund. A whole series of magazines were reviewed and personal opinions as to their worth were offered. Comments were also given by the membership as to how useful they were for them. Some of the magazines reviewed were Byte, Creative Computing, Personal Computing, Recreational Computing, Micro, Call A.P.P.L.E., Softside APPLE Version, Nibble, Apple Pi and Popular Electronics. Eveyone seemed to enjoy the discussion and many of the members participated. One particular suggestion of note was that those of us who belong to or subscribe to magazines have a responsibility to all readers to complain if the material has many errors or is not of good quality. This is especially true of those organizations of which we are members. We should voice our opinion if we do not like the present policy.

The Source: An Information Utility

by Chuck Reinbrecht

- The Source: What Is It? -

Generically, it would be classified as a time-sharing service which users can access via a terminal. It offers the usual languages of Basic, Fortran and Cobol plus RPG, Pascal and assembly language. As a time sharing, service the Source also has an extensive library of both application and game programs. However, it has two characteristics that make it unique among time-sharing services. The first is low cost - at $2.75 an hour for connect time (from 7 PM to 6 AM daily plus all day weekends and holidays). The second, and most important difference, is its orientation and wide variety of services. The Source describes itself as "An Information Utility" which is a much better definition than a time-sharing service. Let's describe the latter before reviewing the services that the Source offers.

- Time-Sharing: What and Why? -

The average time-sharing service offers access to a computer via a terminal on a dial-up telephone line. Connect charges generally run from $10 to $15 an hour plus charges for CPU time (for compute vs 'think' or typing time). In addition there is a charge for files stored on the computer's DASD (Direct Access Storage Device). Among the companies in this business are GE, SBC, Tymeshare and others. There is usually a minimum monthly charge of about $100 to discourage small users. Customers may be small businesses without a computer or large businesses who do not have a computer that people can dial into. Why dial-up? Because the common denominator of most time-sharing is interactive problem solving --interactive in the language (Basic is the most common) but more importantly, interactive in the response. As a user I dial the computer, input my problem, and get an immediate response. Immediate may be seconds or many minutes depending on the job. But it sure beats sending my job to the DP department and wondering when it is going to be ready. Interactive in programming also, meaning that as a user I can do my own programming in a high level language such as Basic, Fortran, APL or Pascal. All time-sharing companies have application programs available for their customers. For APPLE owners, we have access to our own computer with most of the above advantages. In fact, the mini- and micro-computers are impacting time-sharing services to some extent now.

- Time-Sharing vs. APPLE -

Since a 'dumb' terminal costs as much as the minimum APPLE, why would one go to time-sharing. Memory size, speed, size of files, multi-user access (from the same organization), high speed lines (1200 baud and up), back up and other factors could be critical requirements along with programming and application support services. These last items are probably the biggest hurdles to small business users with no computer knowledge that are concerned about committing all their business records to a computer. The limited support available from a computer store together with extremely variable quality and documentation of programs is a problem that micro owners are all too familiar with. To net it out, time-sharing can provide access to large computer power for sizable problems and/or allow the neophyte an economical, low investment startup for business data processing needs.

- The Source and Information Access -

With that background, what is unique about the Source, and for an APPLE owner, "What is in it for me?" Information, that's what's unique. Hersch Pilloff's article in the January newsletter indicated the need for information. In his case it was stock market price data. We read the NYSE, and other market closing prices daily in the newspaper but would like to access the data in computer readable form and to select our stocks. This is available from the Source on a daily, weekly and 1979 year-end basis.

- Source to APPLE Data Transfer -

The data in the Source is machine readable, but as an APPLE owner I would prefer to use my APPLE for analyzing the data. Also the APPLE disk is a logical place to collect, format and age the data. But how does the APPLE get modified from a 'dumb' terminal to a 'smart' terminal. Peripherals Unlimited (TCA099) provides a $25 disk with programs that allow 'downloading' a Source file to an APPLE disk as a text file. The interesting point is that one would expect the Source to discourage this approach since it reduces the user's connect time. However, the Source is encouraging this approach to the extent that they are now the distributors for this program disk. It is a shrewd marketing move with the expectation that added services for the user are more important than attempting to limit data transfer to the user's computer.

- Electronic Mail: It Works -

The 'MAIL' facility of the Source has been a most useful and usable part of my use. Apple Corporation, Call A.P.P.L.E., INTERNATIONAL APPLE CORE, Muse, Peripherals Unlimited - all are on the Source and very responsive to questions. A user's directory with interests and State of residence allows one to scan for those with similar interests. I have found four Source users interested in APL for the APPLE. I haven't found an answer, but now there are four of us looking and aware of the others' interests. How would I have found four people with this interest out of 3000 without a computer search?

What does 'MAIL' offer for an Apple club? For computer stores? For INTERNATIONAL APPLE CORE? What are the needs for management of this capability in the areas

contd.

of filing, retrieval and search of text files? Electronic mail is here! Where will it lead? More on these questions as Apple Pi establishes a Source coordinator. To be part of this effort send 'Mail' to TCA257 for more details.

- Source Information Files -

UPI and NY Times news on national and international events as well as business and sports news. UPI syndicated features and a daily news summary are available.

National Real Estate Locator for those involved in moving, looking for vacation cottage, or investment potential.

Travel Information and Reservations including airline schedules.

NY Times Consumer Data Base.

Entertainment Guide including TV reviews, restaurant guide, special events in major US and foreign cities.

Daily Horoscope and Biorhythm Cycles.

For further information visit The Source at TCA, 1616 Anderson Road, McLean, VA 22101. Or call (703) 821-6660. They have a demonstration and classroom facilities there. Hours are 10 AM - 6 PM, Monday through Saturday.

- Growing Pains and Comments -

Growth has been very fast - over 3000 users in just over a year of existence. One result is degradation of response time, occasionally to the point of sheer frustration. Added computer power, with more to come, has improved this somewhat, but further improvement is much needed.

The stock data has occasionally had bad data and missing data. File access is slow and instructions are hard to remember, especially with multiple files for NYSE, ASE, OTC, averages, etc.

User instruction needs much work. There are guides available on the screen, but these need to be supplemented with printed guides to:

1. provide a concise summary of available files and commands,
2. allow reference in the middle of a procedure when going back to the instruction screen is not practical,
3. expose users to other services. It's a waste of time, and cost, to read long instructions dealing with service that turns out to be of no interest. For this reason, many users have probably not looked at all of the services available.

The user's manual for new subscribers is a good starter, but definitely needs to be supplemented on a regular basis.

The speed of transmission will have to be increased for a total service of this type to be effective. The 300 baud (30 cps) is far better than 100 or 150 baud, but it is still slow. One alternative would be to go to 1200 baud which is about the upper limit of an ordinary telephone line. This would increase modem costs and probably system access costs. Another approach would be more concise instructions supplemented by printed manuals.

- In Conclusion -

The Source is a new entry into the world of information access that combines computer processing with data bases and electronic mail. There are enough different services available that almost every APPLE owner would be interested. For more information contact the Source, or the author. If you are already a Source subscriber, please send MAIL to TCA257 or join the Apple Pi Source Users Group.

Brain Teaser

Dear Editor,

Perchance I was working on machine #6 in the APPLE room after your last meeting. When I finished I found one abandoned diskette on each of the five machines to my left. Oddly enough, each was a different number from the Washington Apple Pi libarary. Being honest, I gathered them up to return them to their rightful owners. I queried the other people there and was able to accumulate some information. Knowing the intellect of your membership, I am quite certain that you should be able to figure out what belongs to whom.

1. Diskette #4 was found on machine #4.
2. The physicist was using machine #3.
3. John is a doctor.
4. Jeff had just bought Volume 5.
5. The programmer lives in Alexandria.
6. The lawyer had some problems with Volume 1.
7. Mr. Grant was on the accountant's left.
8. The person on machine #5 lives in Bowie.
9. Dick was on the second machine.
10. Mr. Carter just bought a home in Alexandria.
11. Mr. Bender was on the first machine.
12. Diskette #3 was owned by a resident of Silver Spring.
13. Mr. Wills, who resides in Rockville, was on Mr. Harper's left.
14. Diskette #4 was found on the machine to the right of where Mr. Grant was working.
15. Henry was working three machines to the right of where diskette #3 was found.
16. No one could tell me who had diskette #2 nor could they tell me Mike's last name nor who lived in Washington, D.C.

(Solution on Page 5.)

Creating Data Statements

by Theron Fuller (NOVAPPLE)

This programs demonstrates how to create data statements from variable arrays within a program using text files. The program is written in Applesoft, but the technique can also be used with Integer Basic programs.

The data statements created by this technique can be apended to any program by loading the program, then exec'ing the text file they are stored in. This can be used as a Rube Goldberg method of chaining programs. By creating data statements and appending them to other programs, Integer programs can be chained to Applesoft programs and vice versa.

```
]

10  REM  PROGRAM WHICH DEMON-
20  REM  STRATES HOW TO CREATE
30  REM  DATA STATEMENTS USING
40  REM  DISK TEXT FILES.
50  REM
60  REM  BY THERON K. FULLER
70  REM
80  REM    NOVAPPLE
90  REM
95  REM
29999 N = 419: REM  N IS THE
    LENGTH OF THE DATA ARRAY
30000  DIM VARIABLE(N)
30010  REM  GENERATE SOME DATA
30020  FOR A = 0 TO N - 1
30030 VARIABLE(A) = A
30031  PRINT A
30040  NEXT A
30050  REM : OPEN A FILE FOR THE
    DATA STATEMENTS
30060 D$ = "": REM  CONTROL D IN
    QUOTES
30065  PRINT D$;"MON C,I,O"
30070  PRINT D$;"OPEN DATA.SCRATC
    H"
30080  PRINT D$;"DELETE DATA.SCRA
    TCH"
30090  PRINT D$;"OPEN DATA.SCRATC
    H"
30100  REM : NOW CONSTRUCT DATA
    STATEMENTS
30101  REM : AND PUT THEM IN THE
    DATA FILE
30105 LN = 32000: REM  CHOOSE ANY
     LINE NUMBER YOU WISH
30106  REM  10 DATA VALUES WILL
    BE PUT IN EACH DATA STATE-
    MENT
30110 ROUND =  INT (N / 10)
30130  FOR A = 0 TO ROUND - 1
30140 LN = LN + 1
30150 C$ =  STR$ (LN) + " DATA "
30160 SPACER$ = ","
30170  FOR B = (A * 10) TO (A * 1
    0) + 9
30180  IF B = (A * 10) + 9 THEN S
    PACER$ = " ": REM  SPACE IN
    QUOTES
30190 C$ = C$ +  STR$ (VARIABLE(B
    )) + SPACER$
30200  NEXT B
30210  REM  PUT DATA STATEMENT IN
     TEXT FILE
30220  PRINT D$;"WRITE DATA.SCRAT
    CH": PRINT C$
30230  NEXT A
30240  IF N - (10 * ROUND) = 0 THEN
     GOTO 30310
30250 C$ =  STR$ (LN + 1) + " DAT
    A "
30260 SPACER$ = ","
30265  FOR B = ROUND * 10 TO N -
    1
30270  IF B = N - 1 THEN SPACER$ =
    " ": REM  SPACE IN QUOTES
30280 C$ = C$ +  STR$ (VARIABLE(B
    )) + SPACER$
30290  NEXT B
30300  PRINT D$;"WRITE DATA.SCRAT
    CH": PRINT C$
30310  PRINT D$;"CLOSE"
30320  REM  NOW EXEC THE FILE TO
    PUT THE DATA STATEMENTS INTO
     THE PROGRAM
30330  PRINT D$;"EXEC DATA.SCRATC
    H"
30340  REM  THE DATA STATEMENTS
30350  REM  CREATED CAN BE
30360  REM  APPENDED TO ANY
30370  REM  PROGRAM BY LOADING
30380  REM  THE PROGRAM THEN
30390  REM  EXEC'ING THE 'DATA.
30400  REM  SCRATCH' TEXT FILE
```

UPDATE FOR D.C.HAYES MICROMODEM OWNERS

by Tom Jones

The Washington Apple Pi's "meeting after the meeting" on February 23 turned out to be a very informative session. During this general question and answer session, I discovered that a suprising number of members own a D.C. Hayes Micromodem. I also realized that some members who have the older Second Edition Owners Manual (May, 1979) never received the corrections on the typos in the the example programs.

I am making available a copy of this errata sheet, which might benefit these owners. In addition, there is a copy of Application Note No. 1 which was realeased sometime in the last few months. It contains an example to assist automatic log-on to a timeshare computer and an improved self-test program for the Micromodem II. This may also be helpful to the Micromodem II enthusiasts. Copies of either or both will be available at the next meeting, or by mail from the editor for the cost of the postage.

SOLUTION TO PUZZLE

APPLE 1 - John Bender, Doctor
Silver Spring
Diskette #3

APPLE 2 - Dick Carter, Programmer
Alexandria
Diskette #2

APPLE 3 - Jeff Grant, Physicist
Washington
Diskette #5

APPLE 4 - Henry Wills, Accountant
Rockville
Diskette #4

APPLE 5 - Mike Harper, Lawyer
Bowie
Diskette #1

Hello APPLE II Plus

by Tom Jones

If you are an owner of an APPLE II Plus, you are aware that most programs available for the APPLE are written in Integer Basic. This is especially true for the ones you like the best! For me, these seem to be the utility programs. I have developed a short 'Hello' program written in Applesoft Basic which converts the DOS catalog display into a menu for program selection and execution. This program displays the disk catalog and then identifies each file with a letter, so that the user can select the program he wishes to run by entering only the letter. I must admit, the idea is not mine, but the logic is.

Upon not-so-close examination, the purist out there will certainly conclude that the program can be written more efficiently using multiple commands per line, no remarks, SCRN funtions, more POKES, etc. But my intent was to write a program in a straight forward manner with meaningful variable names, many remarks and one statement per line so others could follow it easily (I hope) and customize it as they like.

Since the program reads what is on the screen, it has limited value for disks that have more than 22 programs (i.e. one line for each program file displayed, plus two prompting lines). But most of my disks have long program names rather than long catalogs, so I find this program very useful.

One additional note, the program is designed to work with the standard APPLE II DOS catalog label "Disk Catalog nnn". Therefore, if you have modified this label and it does not contain a blank in position five, you must modify the program (around line 4040) to sense the first line of the catalog which identifies a file.

```
1  REM ************************
       *      APPLESOFT       *
       *  PROGRAM SELECTION   *
       *    PROGRAM VER 1.0   *
       * BY THOMAS E. JONES   *
       ************************
2  REM FOR DETAIL INFORMATION
       ON THE APPLE'S TEXT
       DISPLAY, SEE PAGES 14
       THRU 17 IN THE NEW
       APPLE II REFERENCE
       MANUAL
10  DATA 1024,1152,1280,1408,1536

20  DATA 1664,1792,1920,1064,1192

30  DATA 1320,1448,1576,1704,1832

40  DATA 1960,1104,1232,1360,1488

50  DATA 1616,1744,1872,2000
60  REM STORE THE STARTING LINE
       ADDRESS OF EACH OF THE
       24 LINES ON THE CRT IN
       "ARRAY"
70  DIM ARRAY(24)
80  FOR LINE = 1 TO 24
90  READ ARRAY(LINE)
100  NEXT
1000  REM SET UP FUNCTION TO
       COMPUTE THE ADDRESS OF
       A SELECTED CHARACTER ON
       A GIVEN LINE
1010  DEF  FN ADDR(CHAR) = ARRAY(
    LINE) + CHAR - 1
2000  REM SET UP NEEDED PROGRAM
       LITERALS
2010 D$ =  CHR$ (4): REM  CONTROL
       D
2020  REM ASCII SCREEN CHARACTER
       LITERALS
2030 A = 193
2040 B = 194
2050 T = 212
2060 SPACE = 160
2070  REM  GENERAL HOUSEKEEPING
2080  TEXT
2090  PRINT D$;"NOMON C,I,O"
2100  HOME
3000  PRINT D$;"CATALOG"
4000  REM INITIALIZE ALPHA TO
       START WITH THE LETTER
       "A"
4010 ALPHA = A - 1
4020  REM SEARCH FOR 1ST LINE
       IDENTIFYING A FILE
4030  FOR LINE = 1 TO 24
4040  REM CHECK FOR A NON BLANK
       CHARACTER AT THE FIFTH
       CHARACTER POSITION OF
       THE LINE
4050 LTR =  FN ADDR(5)
4060  IF  PEEK (LTR) <  > SPACE THEN
    5050
4070  NEXT
5000 LINE = LINE + 1
5010  REM COMPUTE ADDRESS
       LOCATION WHERE LETTER
       TO IDENTIFY FILE WILL
       BE PLACED
5020 LTR =  FN ADDR(5)
5030  REM CHECK FOR END OF THE
       CATALOG LIST
5040  IF  PEEK (LTR) = SPACE THEN
    6000
5050  REM OVERWRITE NUMBER OF
       SECTORS ON SCREEN
5060  VTAB (LINE)
5070  HTAB (3)
5080  PRINT ">   <"
5090 ALPHA = ALPHA + 1
5100  REM ASSIGN EACH FILE LISTED
       A LETTER TO IDENTIFY IT

5110  POKE LTR,ALPHA
5120  REM SAVE LAST LETTER THAT
       WAS ASSIGNED
5130 LAST = ALPHA
5140  GOTO 5000
6000  REM REQUEST PROGRAM
       SELECTION
6010  PRINT
6020  PRINT "SELECT WHICH PROGRAM
    ? ";
6030  REM STORE THE KEYBOARD
       ENTRY INTO VARIABLE
       "ALPHA"
6040 ALPHA =  PEEK (49152)
6050  REM HAS A KEY BEEN PRESSED
6060  IF ALPHA < 128 THEN 6040
6070  REM CLEAR KEYBOARD STROBE
6080  POKE 49168,0
6090  REM IF ENTRY OUT OF RANGE
       STOP RUN
6100  IF ALPHA < A OR ALPHA > LAS
    T THEN  END
6110  REM CONVERT SELECTED LETTER
       TO A NUMERIC LINE INDEX
```


contd. on page 15

EXPANDED GRAPHICS DUMP FOR THE IDS-440 PRINTER

ROBERT N. BOLSTER
NOVAPPLE

Did you try the hi-res screen dump routine listed in Hersh Pilloff's article in the December 1979 Washington Apple Pi? Were you disappointed by the small size of the printed picture? Here is a routine which will expand the picture to twice that size. Unfortunately, the printer can't print quite that wide, so only 7/8ths of the width can be used. The routine permits cropping either or both edges.

This routine was written for an Apple II with disk using the same I/O interface to the "Paper Tiger" printer. It will run in an Apple with enough RAM to allow use of high-res. page 1.

Three programs are used, "EXPANDED DUMP" in integer BASIC, and "EXPANDED DUMP.B" and "DRIVER" in machine language. The BASIC program will load the other two and the picture for you if needed. A picture from page 2 may be printed by saving it on the disk or by moving the data (* 2000<4000.5FFFM). Lines 270 to 310 calculate the starting addresses of consecutive lines of the picture in memory. Lines 340 to 360 produce masks used for vertical doublings. The first machine language program is provided as an assembler listing and and as machine code. The printer driver is essentially the same as that in the December Apple Pi article; written by Darrell and Ron Aldrich and originally in the April-May 1979 issue of Call-A.P.P.L.E. (reprinted in the November issue of the Washinton Apple Pi).

Thanks to Samuel S. Cottrell for the program (Washington Apple Pi, October 1979) which produced the beautiful sample picture.

```
>LIST
   10 REM  ***  EXPANDED DUMP  ***
   20 REM  SCREEN DUMP FOR INTEGRAL
   30 REM  DATA 440 PRINTER
   40 REM  R.N. BOLSTER DEC.1979
   50 REM  EXPANDS PAGE 1 PICTURE TO D
      OUBLE SIZE. MAX WIDTH 245 POINTS
   60 REM  BLOADS DRIVER (A$300,L$AF)
      AND EXPANDED DUMP.B (A$0C00,L$69
      ), USES BUFFER FROM $0C68 TO $0D
      5D.
   70 B$="":C$="":D$="":K$="":SN$
      "": REM  CONTROL B, C, D, K, AN
      D ↑.
   80 DIM A$(40): PRINT D$;"NOMON C,I,
      O"
   90 CALL -936: PRINT "PICTURE MUST B
      E IN PAGE 1 ($2000-$4000)."

  100 INPUT "LOAD A PICTURE? (Y/N) "
      ,A$: IF A$="" THEN 100: IF
      ASC(A$)=206 THEN 150: IF ASC(
      A$)=217 THEN 110: GOTO 100
  110 INPUT "NAME OF PICTURE? ",A$
      : IF A$="" THEN 110
  120 GR : POKE -16297,0: PRINT D$
      ;"BLOAD";A$;",A$2000"
  130 PRINT "PICTURE LOADED": PRINT

  140 FOR I=0 TO 1000: NEXT I: TEXT

  150 CALL -936: PRINT "ONLY 7/8 OF SC
      REEN WIDTH CAN BE PRINTED:"
      : PRINT
  160 INPUT "LEFT SIDE, CENTER, OR RIG
      HT? (L,C,R) ",A$
  170 IF A$="" THEN 160: IF ASC(A$
      )=204 THEN N=0: IF ASC(A$)=
      195 THEN N=2: IF ASC(A$)=210
       THEN N=5
  180 CALL -936: INPUT "LOAD DRIVER?
      (Y/N) ",A$: IF A$="" THEN 180
      : IF ASC(A$)=217 THEN 190: IF
      ASC(A$)#206 THEN 180: GOTO
      200
  190 PRINT D$;"BLOAD DRIVER"
  200 INPUT "LOAD EXPANDED DUMP.B? (Y/
      N) ",A$: IF A$="" THEN 200:
       IF ASC(A$)=217 THEN 210: IF
      ASC(A$)#206 THEN 200: GOTO
      220
  210 PRINT D$;"BLOAD EXPANDED DUMP.B"

  220 GR : POKE -16302,0: POKE -16297
      ,0
  230 LN=0
  240 CALL 768: PRINT SN$;: PRINT
      : PRINT C$;
  250 CALL 3072
  260 FOR L=0 TO 2
  270 M1=(LN/64)*40
  280 M2=((LN MOD 64)/8)*128
  290 M3=(LN MOD 8)*1024
  300 BYTE=8192+M1+M2+M3
  310 BYTE=BYTE+N
  320 POKE 38,(BYTE MOD 256)
  330 POKE 39,(BYTE/256)
  340 IF L=0 THEN POKE 3174,3
```

```
350 IF L=1 THEN POKE 3174,12
360 IF L=2 THEN POKE 3174,48
370 CALL 3084
380 LN=LN+1
390 NEXT L
400 CALL 3136: REM  PRINT STRIPE
410 PRINT C$;K$;
420 IF LN<192 THEN 250
430 PRINT C$;B$: PRINT D$;"PR#0"

440 TEXT : END
```

contd. on page 9

SPIRO: AN APPLESOFT HI-RES DEMO PROGRAM

by Jim Simmons

This short Applesoft program allows you to design your own two and three dimensional Hi-res shapes. It even works with Applesoft in RAM! Can you "draw" a pyramid?

```
10  REM   SPIRO BY JIM SIMMONS
20  REM   LAST MODIFIED 2/27/80
25  DEF  FN R(X) =  INT ( RND (1)
     * X + 1)
30  TEXT : HOME
40  PRINT : PRINT
50 MX = 95:XC = 139:YC = 95:PI =
    3.1415926
100 SP =  FN R(12)
110 HA =  FN R(10)
120 PO =  FN R(30)
130 BO$ = "Y"
135  HCOLOR= 3
140  PRINT "SP = ";SP;"   HA = ";
    HA;"  PO = ";PO;"  BO$ = Y"
200  HGR2
210 A = MX / (HA * PI)
220 DI = 1
230 DC = 2: IF  LEFT$ (BO$,1) = "
    N" THEN DC = 1
300  FOR I = 1 TO DC
310  IF I = 2 THEN DI =  - 1
400  FOR J = 1 TO SP
410 OF = 2 * PI * (J - 1) / SP
430  HPLOT XC,YC
500  FOR K = 1 TO PO
510 TH = HA * PI * K / PO
520 X = XC + A * TH *  COS (TH +
    OF)
530 Y = YC + DI * A * TH *  SIN (
    TH + OF)
540  HPLOT  TO X + .5,Y + .5
550  NEXT K
560  NEXT J
570  NEXT I
575  PRINT  CHR$ (7)
600  INPUT "HIT RETURN TO CONTINU
    E: ";X$
610  TEXT
620  PRINT
630  INPUT "DO YOU WANT TO DO ANO
    THER ONE? ";X$
640  IF  LEFT$ (X$,1) <  > "N" THEN
     100
650  END
```

Greenapples

by Andrew Rose

"OH, I'VE GOT THE RESET BLUES"

Sorry I haven't been to a meeting in a while but life is life. Anyway, back on the subject.

Oh, I've got the reset blues. That's the number one hit around in Appleland. How many times have you users been in deep concentration, writing the program to beat all programs and you reach over to hit the ol' return key, when you hear the familiar 'beep'. Pow! Feels like you've been knocked to the floor by a left cross, doesn't it? Well, there are many ways to remedy the problem. The first and most inexpensive is taking your trusty pliers and pulling that dastardly reset key right off of there. (It's neat, it's clean, it's inexpensive, you don't have to make hardware changes and it won't break your machine or cause it to stop working.)

The next two ways involve a bit of cash. The first way is to buy a ResetGuard@ from Softape@. This little board is installed into your keyboard socket on the APPLE. The keyboard ribbon is stuck into a socket on the ResetGuard@. The board has a timed one-shot circuit that looks at the reset when it is depressed. To reset the machine you just press reset twice in one second (beep-beep). The ResetGuard@ sells for $34.95 from Softape@, 10432 Burbank Boulevard, North Hollywood, CA 91601.

The second hardware reset is plugged into the Game I/O. Then your paddles or what-have-you are plugged into a socket on the reset protect. A wire is run out of the back of the machine and ends at a 3-position switch. When this magic switch is in the down position the reset acts regularly. When the switch is in the middle position the reset key is bypassed and you just simply flick the switch to the top position to reset Mr. APPLE. (The switch is spring loaded and it snaps back into the middle position.) This little wonder is available for $29.95 from Computer Solutions, 5135 Fredericksburg Rd., San Antonio, TX 78229.

@ = Copyright.

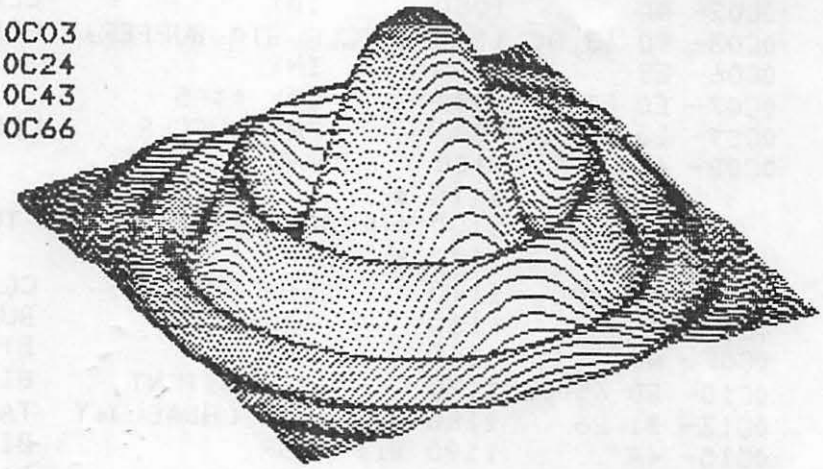
(Editor's Note: We are pleased to have A Greenapple contribution and hope that it will become a monthly habit.)

FOR AMATEUR RADIO ENTHUSIASTS

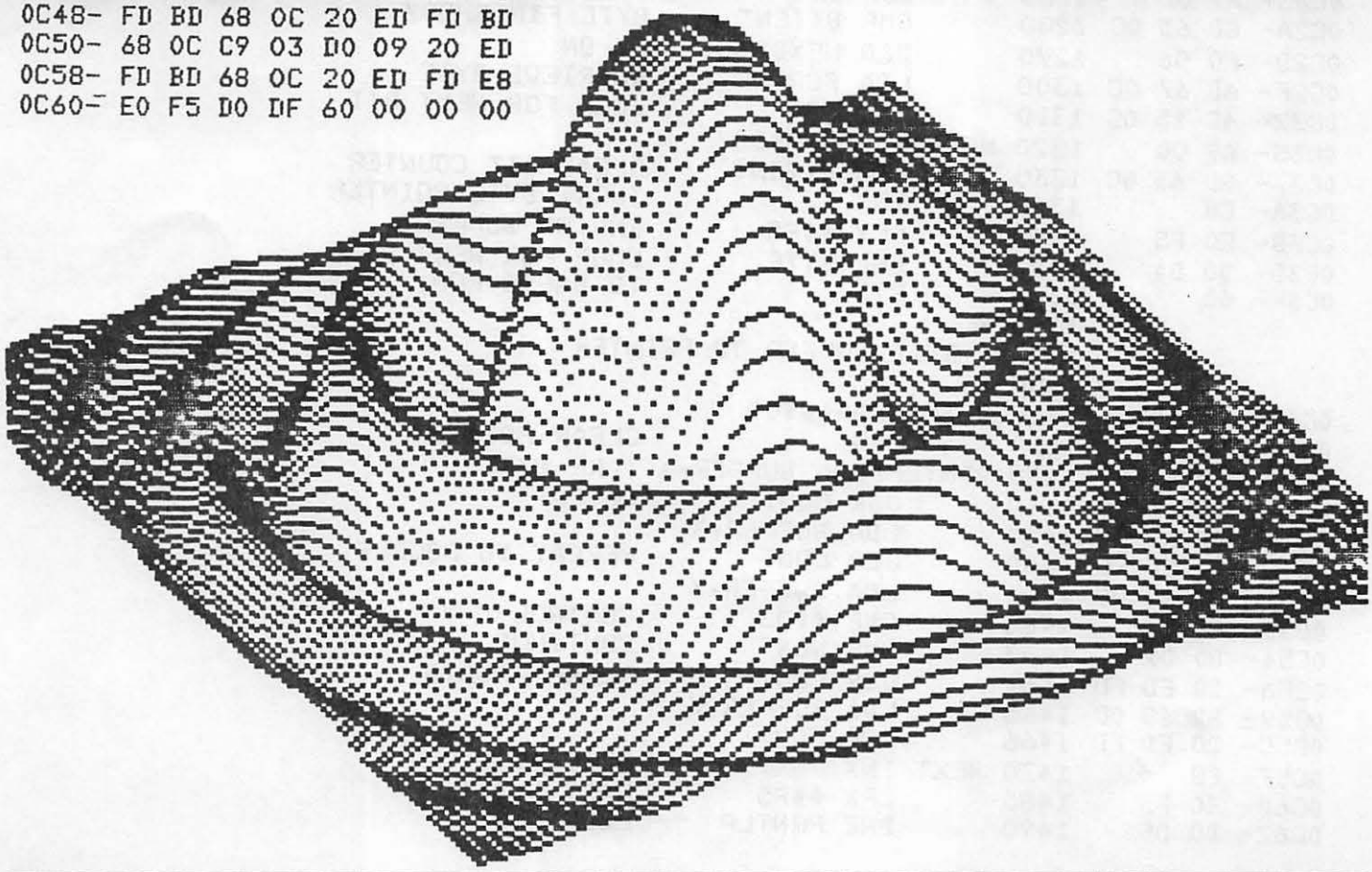
The following is from the March 1980 AMRAD Newsletter. "APPLE Computer owners can now exchange questions and answers through the APPLE Computer Net, Sunday at 0100Z on 14329 kHz. Thanks HR Report."

```
:ASM            *** EXPANDED DUMP.B ***

                1000       .OR $C00
                1010 COUT  .EQ $FDED
                1020 HBASL .EQ $26
                1030 *
                1031 * PREPARE BUFFER
                1032 *
0C00- A9 00     1040       LDA #$00
0C02- AA        1050       TAX              CLR BUFFER POINTER
0C03- 9D 68 0C  1060 BUFCLR STA BUFFER,X     CLEAR BUFFER
0C06- E8        1070       INX
0C07- E0 F5     1080       CPX #$F5
0C09- D0 F8     1090       BNE BUFCLR       LOOP
0C0B- 60        1100       RTS
                1110 *
                1120 * READ SCREEN MEMORY TO BUFFER
                1130 *
0C0C- A9 00     1140       LDA #$00         CLEAR
0C0E- AA        1150       TAX              BUFFER POINTER &
0C0F- A8        1160       TAY              BYTE POINTER &
0C10- 8D 65 0C  1170       STA BITCNT       BIT COUNTER
0C13- B1 26     1180 BYTE  LDA (HBASL),Y    TAKE A BYTE
0C15- 4A        1190 BIT   LSR              BIT TO CARRY
0C16- 8D 67 0C  1200       STA SCRA         SAVE REST OF BYTE
0C19- 90 09     1210       BCC OFF          BIT = 0
0C1B- AD 66 0C  1220       LDA LNMOD3       MASK TO DOUBLE BIT
0C1E- 1D 68 0C  1230       ORA BUFFER,X     STORE IN BUFFER
0C21- 9D 68 0C  1240       STA BUFFER,X
0C24- E8        1250 OFF   INX              MOVE BUFFER POINTER
0C25- EE 65 0C  1260       INC BITCNT       NEXT BIT
0C28- A9 07     1270       LDA #$07
0C2A- CD 65 0C  1280       CMP BITCNT       BYTE FINISHED?
0C2D- F0 06     1290       BEQ NEXBYT       GO ON
0C2F- AD 67 0C  1300       LDA SCRA         RETRIEVE BYTE
0C32- 4C 15 0C  1310       JMP BIT          LOOP FOR NEXT BIT
0C35- A9 00     1320 NEXBYT LDA #$00
0C37- 8D 65 0C  1330       STA BITCNT       CLEAR BIT COUNTER
0C3A- C8        1340       INY              INCR. BYTE POINTER
0C3B- E0 F5     1350       CPX #$F5         END OF BUFFER?
0C3D- D0 D4     1360       BNE BYTE         LOOP FOR NEXT BYTE
0C3F- 60        1370       RTS              TO BASIC PGM.
                1380 *
                1390 * READ BUFFER TO PRINTER
                1400 *
0C40- A9 00     1410 PRINT LDA #$00
0C42- AA        1420       TAX              CLEAR POINTER
0C43- BD 68 0C  1430 PRNTLP LDA BUFFER,X    TAKE BYTE
0C46- 20 ED FD  1440       JSR COUT         OUTPUT
0C49- BD 68 0C  1450       LDA BUFFER,X
0C4C- 20 ED FD  1460       JSR COUT         REPEAT TO DOUBLE
0C4F- BD 68 0C  1461       LDA BUFFER,X
0C52- C9 03     1462       CMP #$03         CONTROL C ?
0C54- D0 09     1463       BNE NEXT         CONTINUE
0C56- 20 ED FD  1464       JSR COUT         REPEAT AGAIN
0C59- BD 68 0C  1465       LDA BUFFER,X
0C5C- 20 ED FD  1466       JSR COUT
0C5F- E8        1470 NEXT  INX              NEXT BYTE
0C60- E0 F5     1480       CPX #$F5         LAST BYTE?
0C62- D0 DF     1490       BNE PRNTLP       LOOP
```

```
0C64- 60        1500      RTS              END
0C65- 00        1510 BITCNT .HS 00
0C66- 00        1520 LNMOD3 .HS 00
0C67- 00        1530 SCRA   .HS 00
0C68- 00        1540 BUFFER .HS 00

SYMBOL TABLE

COUT   FDED   HBASL  0026   BUFCLR 0C03
BYTE   0C13   BIT    0C15   OFF    0C24
NEXBYT 0C35   PRINT  0C40   PRNTLP 0C43
NEXT   0C5F   BITCNT 0C65   LNMOD3 0C66
SCRA   0C67   BUFFER 0C68
```



```
     *** EXPANDED DUMP.B ***

:
*0C00.0C67

0C00- A9 00 AA 9D 68 0C E8 E0
0C08- F5 D0 F8 60 A9 00 AA A8
0C10- 8D 65 0C B1 26 4A 8D 67
0C18- 0C 90 09 AD 66 0C 1D 68
0C20- 0C 9D 68 0C E8 EE 65 0C
0C28- A9 07 CD 65 0C F0 06 AD
0C30- 67 0C 4C 15 0C A9 00 8D
0C38- 65 0C C8 E0 F5 D0 D4 60
0C40- A9 00 AA BD 68 0C 20 ED
0C48- FD BD 68 0C 20 ED FD BD
0C50- 68 0C C9 03 D0 09 20 ED
0C58- FD BD 68 0C 20 ED FD E8
0C60- E0 F5 D0 DF 60 00 00 00
```



I.A.C. Report

by Bernie Urban

INTERNATIONAL APPLE CORE is off to a promising start. The first issue of the Apple Orchard is out and will be available to members for $1.00 at our next meeting. Those of you unable (or unwilling??) to attend may send a check for $1.00 plus 50 cents postage to our P.O. Box and one will be sent by return mail. Additional copies may be purchased for the same price as long as they last (dealers excepted).

I attended the IAC meeting in San Francisco on March 13 as your representative from the Eastern Region and interim Board member. The first order of business was to caucus all representatives of member clubs in attendance from our Region to elect two official Board representatives. Dr. Tony Cerreta from New York Big Apple Users Group and I were elected to office. At a subsequent Board meeting a coin toss resulted in my retaining office for one year and Tony for two. You may remember that IAC had planned to set up alternating two-year terms for Directors except for the first year.

The new officers for all regions include:

West	Fred Wilkinson	-San Francisco Apple Core
	Joe Alinsky	-Original Apple Corps
North	John Lawrence	-Michigan Apple Computer Club
	Harlan Felt	-Illinois Apple Users Group
South	Scott Knaster	-Denver Apple Pi
	Jerry Vitt	-Dallas Apple Users Group
East	Tony Correta	-Big Apple Users Group
	Bernie Urban	-Washington Apple Pi
Canada	Auby Mandell Toronto Canada	
Europe	Wolfgang Dederichs Hattingen Germany	
Aust-ralia	Neil Bennett Sidney Australia	

The newly elected Board members then caucussed and elected the following IAC officers:

President	Ken Silverman San Francisco Apple Core
Vice President	Mike Weinstock Suffolk Apple Comp. Soc.
Secretary	Joe Budge Carolina Apple Corps
Treasurer	Dave Gordon Original Apple Corps

We recommended to the officers that they consider Val Golding for the office of Editor of the Apple Orchard. This was subsequently passed and the Board received Val's proposal for producing the journal. The Board voted to accept this proposal with some modification which was acceptable to Val. Some of you may want further details. If so, come see me. Val will serve as Editor for eighteen months beginning this July. He shall publish six quarterly issues during that period.

Ken presided at a general meeting to discuss IAC organization including the Constitution, By-laws and policy recommendations. There were approximately 500 attendees with a surprising number of paricipants from regions other than the Western Region.

Some of the decisions reached were:

1. Neil Lipson will continue as Software and Dick Sedgewick as Kit Committee Chairmen.

2. Ken Silverman will act upon recommendations from the general audience and from the Board and will prepare a revised Consititution and By-laws to be distributed to the Board members for review and approval.

3. Craig Vaughn, President of Peripherals Unlimited will serve as Telecommunications Chairman.

4. Mark Robbins of Novation will head the Standards Committee and Terry Taylor of Denver Apple Pi will be Librarian.

5. Yet to be named are Chairpersons for the following committees: Information Transfer, Technical and Annual meeting. My motion did not pass to hold the next meeting in Washington, D.C. concurrently with the National Information Conference and Expo (NICE V). Reason - too small a conference. The Eastern Region has however been commissioned to look into possibilities for Boston and alternatively we shall look to Chicago as a second possibility.

6. Until the Chairman for the Information Transfer Committee is found and approved, the Secretary Joe Budge of North Carolina will be the information center for IAC and will use the Board of Directors as information nodes.

7. The distribution of IAC software has begun. I have released the first disk to Dave Morganstein and he will have copies available at cost of preparation to members. IAC is planning to have for this first year one disk per month available to all member clubs at no cost. How the member clubs distribute copies to individuals is up to each club.

8. IAC is to continue to be a club of member clubs with $50 as the annual membership regardless of size of club. Any newly formed club wishing to join will be required to pay a $50 initiation fee as well. Each club will be entitled to one vote per year for a representative for their region.

9. Sponsoring membership to corporations will go for $200 annually. Associate memberships were not discussed.

10. No decision was reached concerning

contd. on page 15

A PAGE FROM THE STACK

LIBRARIAN'S CORNER - Dave Morganstein

This month I'll vary the format a bit. First a plea for help in reviewing Library Disks. Anyone who wants to describe one of the disks should feel free to write a brief summary of each program. Rate them if you like for complexity or unusualness.

Below we have two things. First is a catalog of Disk 10. This is a business, math and statistics package with many common and useful (albeit short) programs. Second is an abbreviated description of how to use the TED II+ text editor/assembler on utility Disk 8. The basic writeup comes straight from the WOZPAK Produced by Call A.P.P.L.E, a worthy organization which offers exceptional information and software as an aside. I have recently used their Program Line Editor which, for $20.00, is a tremendous deal. I encourage anyone who writes software, no matter at what level, to get a copy. There is a version for both Integer Basic and Applesoft.

Back to TED II+. The instuctions describe the EXEC and TED modes. The EXEC is used for DOS related function and the TED for actually editing and assembling source code.

Enjoy!!!

Remember, Uncle David wants your contributed program....

Library Disk 10

```
 I 004 HELLO
*A 004 FUTURE VALUE OF AN INVESTMENT
*A 004 ANNUITY
*A 004 REGULAR DEPOSITS
*A 004 REGULAR WITHDRAWALS
*A 004 INITIAL INVESTMENT
*A 004 MIN INVEST FOR WITHDRAWALS
*A 012 EFFECTIVE INTEREST RATE
*A 012 EARNED INTEREST TABLE
*A 003 DEPRECIATION RATE
*A 004 DEPRECIATION AMOUNT
*A 004 SALVAGE VALUE
*A 004 DISCOUNT COMMERCIAL PAPER
*A 004 PRINCIPAL ON A LOAN
*A 002 REGULAR PAYMENT ON A LOAN
*A 005 LAST PAYMENT ON A LOAN
*A 005 REMAINING BALANCE ON LOAN
*A 004 TERM OF A LOAN
*A 006 ANNUAL INTEREST RATE ON LOAN
*A 003 GREATEST COMMON DENOMINATOR
*A 002 PRIME FACTORS
*A 007 MORT AMORT TABLE
*A 003 AREA OF POLYGON
*A 004 VECTOR ANALYSIS
*A 007 PARTS OF TRIANGLE
*A 003 VECTOR OPERATIONS
*A 004 COORDINATE CONVERSION
*A 007 COORDINATE PLOT
*A 004 ANGLE CONVERSION
*A 006 POLAR EQUATION PLOT
*A 005 FUNCTION PLOT
*A 003 LINEAR INTERPOLATION
*A 003 CURVILINEAR INTERPOLATION
*A 004 SIMPSON'S RULE
*A 004 GAUSSIAN QUADRATURE
*A 005 TRAPEZOIDAL RULE
*A 003 DERIVATIVE
*A 003 QUADRATIC FORMULA
*A 005 ROOTS OF POLY NEWTON
*A 005 ROOTS/POLY/HALF-INTER-SEARC
*A 003 TRIG POLYNOMIAL
*A 004 SIMULTANEOUS EQUATIONS
*A 004 LINEAR PROGRAMMING
*A 004 SIMPLE MATRIX OPERATIONS
*A 004 MATRIX MULTIPLICATION
*A 004 MATRIX INVERSION
*A 003 PERMUTATIONS AND COMBINATIONS
*A 005 MANN-WHITNEY U TEST
*A 004 MEAN-VAR-ST DEVIATION
*A 004 GEOMETRIC MEAN
*A 003 BINOMIAL DISTRIBUTION
*A 003 POISSON DISTRIBUTION
*A 003 NORMAL DISTRIBUTION
*A 003 CHI-SQUARE DISTRIBUTION
*A 004 CHI-SQUARE TEST
*A 004 STUDENT'S T-DISTRIBUTION
*A 007 STUDENT'S T-DISTRIBUTION TEST
*A 004 F-DISTRIBUTION
*A 003 LINEAR CORRELATION COEFFICIENT
*A 007 MULTIPLE LINEAR REGRESSION
*A 004 LINEAR REGRESSION
*A 006 NTH ORDER REGRESSION
*A 004 GEOMETRIC REGRESSION
*A 003 EXPONENTIAL REGRESSION
*A 003 ALPHABETIZE
*A 003 SYSTEM RELIABILITY
*A 004 AVERAGE GROWTH RATE
*A 005 FEDERAL WITHHOLDING TAXES
*A 006 TAX DEPRECIATION SCHEDULE
*A 008 CHECK WRITER
*A 004 RECIPE COST
*A 004 DAY OF THE WEEK
*A 005 DAYS BETWEEN TWO DATES
*A 004 ANGLO TO METRIC
*A 003 NOMINAL INTEREST RATE
*A 003 BUSINESS
*A 002 MATH
*A 003 STAT
*A 009 MAP CHECK
*A 004 MISC
```


contd.

There are two modes of operation used, EXEC and TED. The prompt character for EXEC is '%' and ':' is the prompt character for TED mode. The EXEC mode provides the interface for all disk funcions.

EXEC Commands

C :DISK CATALOG
Displays disk catalog. Source files are saved by TED II+ as <NAME>.S" Hit any key to return to EXEC menu.

D :DIRECT COMMAND TO DISK
Allows direct access to DOS without leaving the program. For example, "CATALOG,D2" will set drive #2 as the specified disk drive.

L :LOAD FILE FROM DISK
Loads existing source file from disk. <NAME> should not include ".S".

S :SAVE FILE TO DISK
Source file will be saved to disk with <NAME> provided by user. TED II+ will provide ".S" subscript.

A :APPEND FILES (CREATES '-A' FILE)
Loads two existing disk files, puts them together, and saves the new file to disk in one operation. User is asked for 'ORIGINAL FILE' and 'FILE TO APPEND'. The new file created will be '<ORIGINAL FILE NAME>-A', and the other files will be unchanged. The new file will also be in memory.

T :ENTER TED II+ EDITOR/ASSEMBLER
This shifts operation from EXEC mode to TED mode.

Q :QUIT TED II+
Exits the program when 'Q' is enterd in EXEC mode. A 'Q' entered while in TED mode will return control to EXEC mode. Should you accidently exit the program, 'RUN' (RETURN) will restart without losing the source file in memory.

Should you change your mind, the D,L,S, and A commands can be aborted with a carriage return.

TED Commands

These are direct commands. Note the upper and lower case letters of the commands. Those letters in upper case are required; the lower case letters are optional.

Add
Puts user into 'Add Lines' mode. If a source file is in memory, 'Add' will start with the next available line number. If not, it will start with 'Line 1'. Add is terminated with a CTRL-D as the first character on the line.

Insert I<line#>
Operates like 'Add', except lines are inserted into the source file starting at <line#>. Also terminated with a CTRL-D. Lines after the insertion line are automatically renumbered. Lines may be inserted before any existing line.

The following commands allow the user to specify the range or ranges of lines upon which the command will act. If no range is specified, the entire file will be acted upon. A range may be a single <line#> or '<line#>,<line#>'. In addition, multiple ranges may be specified as '<range>/<range>' using "/" as a delimiter.

Delete D<line#> or D<range>
Deletes line or lines specified. The remaining lines are renumbered. Be sure to specify the ranges from highest to lowest. Otherwise, the wrong lines will be deleted! 'Delete' requires a <line#> or a <range> as part of the command.

Find F<range>"<string>"
Locates and prints all lines in which <string> occurs. If a <range> is specified, only that range will be searched.

Change C<range>"<s1>"<s2>"
Provides selective substitution of <s2> for <s1>. When Change command is entered, user is asked if "ALL OR SOME (A/S)" occurences are to be changed. If 'ALL' is chosen, <s2> will be substituted for <s1> at every occurrence of <s1> within the range, if specified. Each line is displayed as it will appear with the change made. If the user hits the 'ESC' key, the change will NOT be made in that line. Any other key will allow the change to be made. Be sure to enter the " as shown in the example.

COPY COPY<l#1>,<l#2> TO <l#3>
Copies the range of lines specified by <l#1>,<l#2> to BEFORE <l#3>. After the move is made, the original lines (while possibly renumbered) are not deleted.

Edit E<range> or E<line#>
Each line to be edited is printed on the screen with the cursor at the beginning. Editing of lines is accomplished with the following controls:

(RETURN)	Accept the line as it appears on the screen.
CTRL-D	Deletes the character under the cursor.
CTRL-I	Inserts character(s) into the line at the cursor position. Terminated with a space, a forward arrow or a (RETURN).
CTRL-F	Moves the cursor to character entered after 'CTRL-F'. (find)
CTRL-Q	Accept line from beginning to cursor position.
CTRL-R	Restart editing of current line with previous changes deleted.
CTRL-X	Exit editing mode.

The forward and back arrows can be used to position the cursor on the line being edited. CTRL-U and CTRL-H can be used for cursor moves, also.

List L<line#> or L<range>
Lists the line(s) specified. If no <range> is specified, the entire file will be listed. The listing can be stopped at any time by hitting the space bar. The list will advance one line each time that the space bar is hit. Any other key will continue the listing. CTRL-C will abort.

General TED II+ Housekeeping Commands:

contd.

HImem: HI:<decimal#>
Sets highest memory limit for source and symbol tables.

LOmem: LO:<decimal#>
Sets lowest memory limit for source table and performs a NEW. Normally set to 7424. If LOMEM: is set below this point, TED II+ may overwrite itself.

NEW
Deletes existing source file. NEW does not reset memory limits.

IN#
Same as Basic IN#, but pretty much useless. A CTRL-C exit from listing or an 'END ASSEMBLY' resets to IN#0.

PR#
Same as Basic PR#. Quitting to EXEC resets to PR#0. This command is used for hard copy listing of the source file. PR# is also a 'PSEUDO-OP', as discussed in that section, and is used as such for hard copy assembly listings.

LEN
Provides display of size of source table and remaining memory available.

TABS TABS<col>/<col>/<col>" "
TABS is used to set tab stops for listing the source file. <col> is the decimal column of the stop. The quotes are used to define the tab character (a space).

LOAD
This LOAD command is available for non-disk systems. It loads a source file from tape.

SAVE
Saves source file to tape.

Note for non-disk users: TED II+ can be saved to tape as a machine-language program. After loading and running this Integer Basic version, exit the program and go into Monitor. Save it to tape with "800.1CFFW". The Cold Start entry is $800; Warm Start is $803. (A warm start does not reset source pointers, thus source is not erased on reentry.)

An instruction line entered into the source file consists of four parts:
LABEL....OPERATOR....OPERAND....COMMENT
If the label field is not used on a line, a space must be entered in this field. The remaining fields are separated from each other by a space each. An asterisk '*' entered into the label position on a line is used for Title or Comment lines. On single byte op-codes (i.e. ROL,ROR,etc), a";" can be used in the operand field so that comment indexing is maintained. No space is needed between ';' and <comment>.

PSEUDO-OPS

TED II+ supports all 6502 mnemonics, Sweet-16 operators, and its own pseudo-operator set:

....ORG....$<addr>
Sets address where final program will run. Object code may be actually written elsewhere, but is written to run at the specified address.

....OBJ....$<addr>
Specifies starting address where object code is actually written. The default address of OBJ and ORG is $7000 on a 48K APPLE II. ($5000 on a < 48K APPLE.)

<label>....EQU....<expr>
Assign value of <expr> to <label>. <expr> is used for a decimal value <256. '$<expr>' is used for hex addresses or constants. Zero-page addresses may be expressed in decimal, if desired.

....DS....<expr>
Reserves <expr> number of bytes at the location of DS in the program. <expr> may be decimal or hex ($<expr>).

....DA....<label>
Stuffs address of <label> into memory, low byte first, then high byte.

....DW....<expr>
Stuffs hex equivalent of <expr> into memory. <expr> may be any legal type of expresssion.

....HEX....<hex bytes>
Writes listed hex bytes into memory. Only first 3 bytes will be listed during assembly. Use 2-digit numbers (3A01FF) etc.

....ASC....'<string>' or "<string>"
Writes ASCII characters of <string> into memory. If <string> is delimited by ', then high bit of character is clear. If " is used, high bit is set. Only the first three bytes stored will be printed during assembly, but all characters are written into memory.

....DCI....'<string>' or "<string>"
Similar to ASC, except the last character will have the high bit clear or set OPPOSITE of that set by choice of ' or ".

....PAG....
Clears screen or form-feeds printer.

....LST.<ON> or <OFF>
Turns assembly listing on or off as specified. Any portion or all of the listing may be turned on or off with this command. Default is 'ON'.

....PR#.<expr> or $<addr>
Sends assembly listing to Slot #<expr>=1-7. If '$<addr>, listing will be sent to routine at <addr>.

....END....
Optional operator signaling end of source file. Assembler will stop at END. If target labels or EQUs are located after END, errors will occur.

TED II+ also accepts:
....BLT....<label>, branch less than. Same as BCC operator.
....BGE....<label>, branch greater than/ equal. Same as BCS operator.

Legal Immediate Operands are:
('#' is used to signal Immediate)
#<LABEL Low byte of LABEL address.
#>LABEL High byte of LABEL address.
#"<chr> ASCII of <chr> High bit set.
#'<chr> ASCII of <chr> High bit clear.
#$<num> Hex number.
#<num> Decimal number.

contd.

Operands may be modified with the arithmetic operators: '+','-', and '*'. These are one-byte modifiers only.

ASM is the direct command given to TED II+ to start the assembly process. If the list option is on, the assembler will halt at any errors detected. It stops at the line BEFORE the line with the error in it. Hitting the space bar will advance one line each time it is hit. Any other key will allow the assembler to continue running. A CTRL-C will exit the assembler at any time. Also, during assembly, the space bar may be used to temporarily halt the listing for examination. Any other key will continue assembly.

Any errors detected during LST OFF will not halt the assembler and will be displayed. A CTRL-C will exit the assembler at any time.

At the completion of assembly, the number of errors (in decimal) will be shown, as well as the number of bytes generated. This number does NOT include memory saved with the DS op-code. So take that into consideration when "BSAVE"ing the object code.

CREDIT WHERE CREDIT IS DUE DEPT.

This version of the Editor/Assembler represents a major overhaul of earlier version of TED II, due to the efforts of Gary Shannon, Andy Hertzfeld, and Neil Konzen. The Integer Basic EXECUTIVE part of the program was based on some routines from an EXEC program written by Andy Hertzfeld. It was added to, subtracted from, and ended up as the EXEC front end that is presented.

IAC REPORT contd.

the cost of subscriptions to the Apple Orchard (possibly to remain at $1 per member per issue).

11. I recommended that a new committee be formed to prepare and conduct courses on the APPLE. This was approved by the Board, and Scott Kamins is to prepare a proposal to be submitted to the Board for our disposition. Tentatively the plan calls for up to six courses to be given by Scott each year in different parts of the country. A typical course may have ten 2 1/2 hours sessions over a two-week period and cost a member approximately $200.

12. Board members and officers will be interconnected via the SOURCE, MicroNet and SPRINT. This is to expedite the conduct of official business.

13. A hot line will be established to augment the one provided by APPLE. How and when remains to be determined.

The IAC meeting held on Saturday was videotaped and copies will be made available to member clubs (at ? cost) so that you may hear the word on APPLE II from Steve Jobs, Steve Wozniak and Phil Roybal. Sue Eickmeyer should be able to schedule their viewing soon.

ECONOMICAL DISKETTE FILING

by Chuck Reinbrecht

If you are looking for an economical and effective way to keep your diskettes neatly filed and accessible, then try your local variety store. For $1.20 you can buy a plastic box for 4 by 6 in. index cards. Cut the top off with a sharp knife and you have a stand-up holder for up to 30 mini-floppies. If you want a top that closes, for $1.60 buy a box for 5 by 8 in. index cards. Cut a piece of cardboard to keep the floppies from sliding sideways and you have a filing/storage box that can be closed. Have more floppies? Buy two 4 by 6 in. and tape or glue them together to hold up to 60 diskettes. By cutting separators from light cardboard, you can index your files by subject, type or application. To keep out dust, I file my floppies upside down with the paper sleeve up. By putting a label on the sleeve my floppie indexing is improved. Try it, you'll like it!

HELLO APPLE II PLUS contd.

```
6120 LINE = 5 + ALPHA - A
6130  REM VARIFY THAT THE LABEL
        HAS NOT MOVED BECAUSE
        OF SCREEN OVERFLOW
6140 LTR =  FN ADDR(5)
6150  IF  PEEK (LTR) = ALPHA GOTO
     6190
6160  REM ADJUST FOR PAGE
        OVERFLOW
6170 ADJUSTMENT =  PEEK (LTR) - A
     LPHA
6180 LINE = LINE - ADJUSTMENT
6190 TYPE =  FN ADDR(2)
6200 B$ = " "
6210  REM IF SELECTED FILE IS A
        BINARY FILE, SET "B$"
        SO PROGRAM EXECUTES A
        BRUN
6220  IF  PEEK (TYPE) = B THEN B$
      = "B"
6230  REM END JOB IF SELECTED
        FILE IS A TEXT FILE
6240  IF  PEEK (TYPE) = T THEN  END

7000  REM LOAD THE SELECTED FILE
        NAME INTO THE VARIABLE
        "FILE$"
7010  FOR CHAR = 8 TO 40
7020 LTR =  FN ADDR(CHAR)
7030 FILE$ = FILE$ +  CHR$ ( PEEK
     (LTR))
7040  NEXT
8000  REM RUN SELECTED PROGRAM
8010  PRINT
8020  PRINT D$;"MON C,I,O"
8030  PRINT D$;B$;"RUN ";FILE$
9000  END
```

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