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Washington Apple Pi

Volume 3 April 1981 Number 4

Highlights

PASCAL DISK-FILE DUMP PROGRAM

RIGHT-JUSTIFICATION AND THE USE OF LOGICAL EXPRESSIONS IN CALCULATION

CURRICULUM AND INSTRUCTION TODAY: PROLOGUE FOR MICROCOMPUTERS

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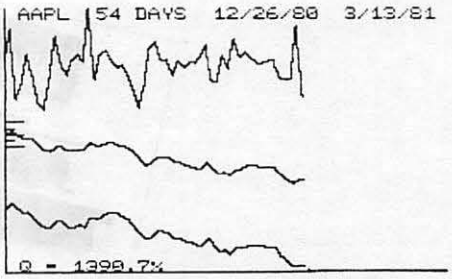

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Membership dues for Washington Apple Pi are $18.00 per year, beginning in the month joined. If you would like to join, please call the club phone and leave your name and address, or write to the PO Box above. A membership application will be mailed to you.

EVENT QUEUE

Washington Apple Pi meets on the 4th Saturday of each month at 9:30 AM, at George Washington University, usually in Building C, on G Street at 23rd Street, NW. (To be sure of the exact location call the club phone or ABBS during the week of the meeting.)

However, due to the Memorial Day Weekend the May meeting will be on the 5th Saturday, May 30.

The Executive Board meets on the 2nd Wednesday evening of each month. All members are welcome to attend. Details will be on the club phone and ABBS, or call the President at 229-3458.

NOVAPPLE meets on the 2nd Saturday of the month at 1:00 PM at Kings Park Library on Burke Lake Road in Fairfax County; and on the 4th Thursday of the month at 7:30 PM at Computerland of Tysons Corner.

EDITORIAL

First, let me thank you for your support in my bid for reelection to the IAC Board. Next comes the task of measuring up to your expectations...

About our surveys. To my knowledge, no WAP member who is involved in soliciting information from our members through surveys is also involved in activities for his/her personal gain. The "Consumer Reports" review by Jay Thal and the SIGAMES survey by Jim Eatherly are meant to provide all of us with a better idea of the problems we're having with our equipment and their frequency, our software and hardware interests, etc. These analyses can help us in identifying topics for future articles for the newsletter and for talks at our meetings. No one is required to respond to our surveys but it would be nice if we could get more responses, complete or partial, to their efforts. I'm just as guilty as some of you. I intend to respond to future requests. How about you?

CLASSIFIEDS

FOR RENT: Starting May 18, 1981 - APPLE II, 48K, one disk and Applesoft ROM: $20/day, $120/week
plus C 730 printer: 9/day, 50/week
plus 2nd disk drive: 6/day, 35/week
plus Comm/modem: 5/day, 30/week
Depending on availability. Reservations and deposit required. Call Chuck Reinbrecht, (301) 299-6811.

FOR SALE: Mountain Hardware Supertalker. Let your APPLE speak! $165. Call David Morganstein (301) 251-8215 (work) or (301) 972-4263 (home).

FOR SALE: Magic Wand on 5 1/4" APPLE disk for APPLE II with Z-80 Card. Only $225. First certified check gets it. Brian Bouton, Rte 2, Box 132, Charlottesville, Va 22901. (804) 977-5235.

FOR SALE: Acoustic cover for the NEC Spinwriter or Diablo printer. Will sell or trade. Fred Schulz, (202) 223-1397.

FOR SALE: ASR 33 Teletypewriter with tape punch and reader. Very good condition with print quality. All manuals, APPLE game paddle interface, APPLE documentation, diskette with TTY operating program, spare parts and supplies. $300. Call Howard Benjamin, Arlington, Va. (703) 524-3228 (home); 698-1877 (work).

FOR SALE: Apple II 48K with disk drive, used very little - comes with RF Modulator, several diskettes and tapes, and all original documentation. New cost: $2100; will sell for $1600. Call or write Jim Jutzin, 1109 Shipman Lane, McLean, Va. 22101, (703) 790-1542 (home) 671-2900 (office).

MINUTES

EXECUTIVE BOARD MEETING

The Executive Board meeting of March 11, 1981 was called to order at 7:25 PM at the home of the President, with 11 persons in attendance.

The rapidly rising cost of producing the newsletter was discussed, and the consensus of the Board was to attempt to reduce the length without sacrificing content.

The Board voted to engage a CPA for accounting services to perform end-of-year tax preparation and to prepare and file tax exemption forms required by the District of Columbia and the Federal Government. It was also decided to remove the calendar year requirement for membership and make memberships valid for one year beginning in the month joined. This will be put into effect as soon as application forms, etc. can be revised. Additionally, a motion was passed that liability insurance be purchased to protect the club and Board members from financial loss.

The May meeting was moved to the 5th Saturday to avoid the Memorial Day weekend. A policy was established requiring proof of membership (membership number) in order to purchase disks at member rates. The Board also reached a consensus banning all unsolicited commercial advertising at WAP meetings.

An experimental software lending library was established, to be supported solely by contributions. A request by a member to purchase club mailing labels was denied. It was also decided to carry out a survey of users' reliability experiences with various APPLE components.

The meeting was adjourned at 10:10 PM.

GENERAL MONTHLY MEETING

The Washington Apple Pi meeting of March 28, 1981 was called to order at 9:35 AM by the President with approximately 250 persons in attendance. Two sign language interpreters for the hearing impaired were present for the first time.

A survey of APPLE-related product reliability was distributed. The first draft of the membership directory was ready, and copies were provided to those who had previously released their names.

Past-President John Moon presided over nominations for club officers. A total of twenty-one names were entered on the slate for a total of seven positions. The ballot will be distributed to the membership in May.

The main presentation on Data Base Management Systems (DBMS) was presided over by Boris Levine, WAP Volunteer Coordinator. Several speakers described and evaluated each of five DBMS software packages.

The meeting was adjourned to SIG meetings at 11:00 AM.

Dana J. Schwartz, Secretary

NOTICES

MEMBERSHIP DIRECTORY

The first edition of the Washington Apple Pi Membership Directory is out! Copies have been distributed to those members who had previously given written permission for their names to be included. If you joined before February 27, 1981 and did not receive a copy, we do not have on file a record that you have released your name. If you would like to be in the next edition which will be out within a few months, please forward a release to the P.O. Box, Attention Membership Chairman. Just state on a plain sheet of paper the following:

I give permission to Washington Apple Pi to include my
Name City and Zipcode Telephone number
in the Membership Directory.

Check the appropriate boxes, sign your name, with your WAP No. and date.

The Directory does not include a street address and will not be distributed to anyone other than members of Washington Apple Pi.

CHANGE IN MAY MEETING DATE

Due to the fact that the 4th Saturday in May falls on the Memorial Day Weekend, we have changed the date of the May meeting to the 5th Saturday, May 30. Please note this on your calendar.

MAY IS VOTING MONTH

During the month of May you will receive a ballot for the election of officers for the coming year which begins June 1. Please execute your ballot according to the instructions which accompany it. You may mail it to our P.O. Box (to be received by May 23) or bring it to the May meeting. We urge all of you to exercise your voting right. As a reminder to those of you who have family memberships, there is only one vote per family.

SOMETIMES WE GOOF!

If you order something from the club by mail and it doesn't arrive in a reasonable time, please let us know. (A reasonable time for library disks to be mailed is 6 - 8 weeks; other items should be less). We try hard, but sometimes we goof and things get misplaced. This is a by-product of an all-volunteer staff. Feel free to write or phone regarding any orders not received.

A PRODUCT SURVEY

by Jay Thal

At the March 28, 1981 general meeting I conducted a survey of product reliability and satisfaction. My hope was, through the shared experiences of members, to provide the membership at large with a basis for making better and objective future purchases - a sort of "Consumer Reports" of APPLE II related products.

The survey results were, in fact, somewhat disappointing. They did identify certain problem areas and provide a limited profile of the average respondent's systems. However, only 37 members completed the questionnaire although a estimated 175 WAP members (exclusive of those who joined at that meeting) were in attendance.

All of the APPLE IIs were configured at 48K. Half (18) were Pluses (one with an Integer card) while seven of the others had Applesoft cards. Twenty one of the 37 were bought since June 1980.' Earlier models had problems with the keyboard switches, relatively minor problems when compared with later owners. Of the APPLEs purchased between August and December 1980, three had to to have their mother boards replaced, an excessively high (21 percent) failure rate. One power supply needed replacement, though that is not necessarily related to the high incidence of reported power switch breakdowns. Most of the other problems were of the nuisance variety, e.g. having to pull and reseat the RAM chips.

All of the 37 respondents are using disk drives (three have multiple drives). Among the recent purchases, Lobo drives represent 35 percent of the units purchased (often as not for second drives). Only four breakdowns were noted, the most serious of which was a broken cone after 14 months of operation.

A broad variety of firmware was reported. The Applesoft ROM Card was the most popular with seven reported; that was followed closely by the five Language System owners and three Z-80 Card owners. No other firmware was reported by more than two respondents. Generally there was satisfaction with the firmware. However, two of the language system owners had breakdowns and complained about poor documentation; the SSM AIO was criticized and the company was felt to be uncooperative. Finally, overheating was reported with M&R's Sup-R-Term unless other boards were removed.

Twenty five respondents had 28 printers between them and the Epson MX-80 seems to be riding the crest of a wave with ten units purchased in the last three months. Silentype and Trendcom accounted for seven of the printers. IDS also was represented by seven units but these Paper Tigers may be just that, or dogs, with multiple reports of burned out circuit boards, bad RAMs, bad PROMs and bad interface boards. IDS's warranty/labor policy was also criticized.

Finally 14 respondents had modems and nine of those were DC Hayes. The Hayes, for all of its advertised advantages, is not without problems. It may not be fully compatible with the Z-80 Softcard. Pascal will not boot if the Hayes controller card is placed in Slot#3, and in this latter case it may also have been responsible for a mother board replacement.

(Ed Note: Thanks, Jay, for your efforts to survey our members. In my opinion, the information gathered here can prove to be very useful. It is unfortunate, however, that so few actually responded. Perhaps we can rerun the survey - and even I will respond.)

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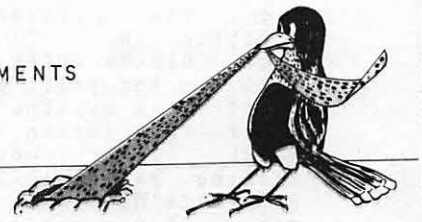

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QUESTIONS, QUESTIONS, QUESTIONS

by Mark L. Crosby

Q. Periodically, but not too often, programs that are under developmentseem to get a bit scrambled. A "PRINT", for example, might change to HCOLOR=. It seems to happen when a program has just been loaded from a disk. Has anyone else had this problem?

A. Yes. And the solution is to get hub rings for your present disk library and use them always. The problem relates to the Shugart SA 390 Minidisk Drives (Apple and Commodore Pet Systems). It seems the centering mechanism on the drive can't always center a given diskette the same way twice. Since the Read/Write head is presented with an off-center track, it can't read all the way around the disk without "falling off the track" so to speak. This malalignment is relatively slight and scarcely visible to the naked eye so it requires instrumentation or a test using the dealer test utilities disk. It has a great deal to do with the condition of the center hole as well. A rippled center is a dead giveaway and risky to use for any serious work. Many manufacturers are now offering hub ring disks. They are well worth the investment.

There is another possibility to consider as well. The centering "cone" inside the drive might need to be replaced. I had one in which the cone had broken - causing intolerable mis-tracking. Have your local service center check it out if necessary.

Q. I would appreciate if you would explain the meaning of the numbers produced by the following short program.

```
100   FOR N = 1 TO 49152
110  X = PEEK (N)
120   IF X = 255 THEN 140
130   PRINT N,X
140   NEXT N
150   END
```

A. You have written a program that displays the numeric content of the Apple's Random Access Memory (RAM). The group of numbers produced (I leave to the reader the exercise of seeing them first hand) as a whole have no particular "meaning" but in small groups those numbers are very important. Some are discrete "cells" that convey specific information, e.g., the present horizontal cursor position (N = 37). Some are paired, e.g., HIMEM= (PEEK (115) + PEEK (116) * 256). And still others might be the start of a machine language routine to clear the screen and home the cursor (CALL - 936). I would heartily recommend reading pages 67-75 in the Apple II Reference Manual which discuss the memory map. If you can get your hands on the first issue of the Apple Orchard, it has a dandy list of places Applesoft uses and why.

Q. Is there a verification routine available to check a saved program from tape before the source is erased in memory by a new loading process? I heard that this is available as an extension to the Integer Monitor ROM. What can one do on a system with the Autostart ROM?

A. I'm not familiar with the "extension" you mention. One way to do it would be to use the monitor "VERIFY" command. It is available on both monitors. First, you'll save your Applesoft program as a binary file:

PRINT PEEK (105) + PEEK (106) * 256 (CR)

Will give you the decimal starting address of your program - EXAMPLE: 2049

PRINT PEEK (175) + PEEK (176) * 256 (CR)

Will give you the decimal ending address of your program - EXAMPLE: 8192

Convert these numbers to HEX, then enter the monitor by typing CALL -151 (CR) (and have the recorder recording)

*0801.2000W (CR)

This will save your program. Now load that same tape using the monitor READ command and a new starting and ending address:

*2801.4000R (CR).

This will load your program without erasing the first. Now do a monitor verify:

*801(2801.4000V (CR).

This will compare the original to the loaded version. Any discrepancies will be displayed. Ideally you don't want any, of course.

Naturally, this method takes a bit longer and is rather indirect but it does work.

Q. What are the differences between the Autostart and System Monitor ROMs?

A. Aside from the obvious "Autostart" feature, the Autostart ROM supports editing controls (ESC-I,J,K and M) for cursor movement. Control-S provides a stop-list feature and the RESET button initiates a warm or cold start depending on circumstances. The Autostart ROM does not have the Multiply/Divide routines and does not support the STEP and TRACE debugging features of the System Monitor. There may be some other small differences but these are the major ones.

Q. What is the best word-processor for the Apple II?

A. If I give you my opinion I may alienate some software distributors! I'll risk it anyway by first saying that I have actually used Easywriter, Applewriter, and PIE. Of the three I believe that PIE is the most versatile (and complex). Applewriter is relatively basic but also machine-language (fast) and easier to learn. Easywriter was the best meld for my needs being fairly easy to master and versatile. Get the May 1981 issue of Interface Age - on page 92 begins a comparison of 6 word processors for the Apple. The author decidedly favors

contd.

Super-Text (which I have never used) and Easywriter. He did not, however, review the PIE. A word of caution here, get someone to demonstrate before buying if possible - you may not need all the sophisticated features of the more expensive W/P.

Q. How can I fill the text screen with inversed blanks fast. Hopefully, there is a machine language subroutine that will do this?

A. There is and here is how you would use it:

```
10  POKE 768,216: POKE 769,160:
    POKE 770,0 : POKE 771,76:
    POKE 772,44 : POKE 773,254
20  POKE 1024,32
30  POKE 60,0 : POKE 61,4:
    POKE 62,254 : POKE 63,7
40  POKE 66,1 : POKE 67,4
50  CALL 768
```

There is a short machine-language routine which is poked from 768 to 773. This routine calls a monitor subroutine. POKE 1024,n is the first position on the first row of the page 1 screen. "n" can be any ASCII value: 160 is a normal blank, 32 is an inverse blank, etc. You can figure out what you want to do. For a bit more show, add these lines:

```
15  FOR I=0 TO 255
20  POKE 1024,I
60  NEXT I
```

SIGAMES COMPETITION

by Jim Eatherly

SIGAMES is pleased to announce the first annual game program writing contest. The conditions of the contest are as follows:

1. Entrants must be individuals who are members of Washington Apple Pi or their immediate family.

2. The competition is divided into two categories which are further subdivided into two additional categories making a total of four separate contests.

3. The two main categories are real-time and general (non real-time) which are further subdivided into two groups. These subdivisions are those games that use graphics and those that do not. Graphics may be either low resolution or high resolution. If graphics are used, they should be used throughout most of the game and not just a pretty picture at the beginning of the game.

4. BE IMAGINATIVE. All games should be original and not a copy or translation of a game for another computer. Originality counts most, with other factors such as compactness of code, clever graphics, fun factor, and other miscellaneous things as determined by the judges to be taken into consideration.

5. Programs are to be submitted on disk (either DOS) or tape with a printout of the listing included. Programs should not include the author's name in it anywhere, but should include the name of the program as submitted, category entered into, and a five character identification code within the first few lines of the program.

6. An additional sheet of paper should be included containing the above information plus the author's name. Other papers, also not including the author's name, may be submitted. These may be such things as directions or a synopsis, and will count in the judging.

7. Only one entry per person may be submitted and all entries must be received by the June meting in order to be considered. They may either be given to Jim Eatherly directly or mailed to him at the following address:
   Jim Eatherly
   3342 18th Street, NW
   Washington, DC 20010
   Please protect carefully if mailed.

8. All decisions of the judges are final. There will be a winner and runnerup in each category. The winner gets a choice of five disks from the club library. The runnerup gets a choice of two disks from the club library. The submission of a program constitutes the author's permission to include the game in the club library. Submitted disks and tapes will not be returned. However, each entrant whose program is chosen for inclusion in the club library, shall receive a disk of his/her choice from the club library. This is in addition to any prizes that may be won.

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SIG-NEWS

SIGAMES is the special interest group of computer hobbyists interested in using their APPLEs for entertainment. The main meeting of this group is held at a location announced at and following the Washington Apple Pi monthly meeting.

The main topic of this month's meeting will be the hardware construction of the APPLE II joysticks discussed at the last few meetings. Bill Bowie and Brian Dormer will direct the workshop. Starting off the meeting will be a review by Bernie Benson of a new APPLE program "TEL STAR".

An Adventure Festival is being planned for May's meeting. Anyone interested in contributing to this event should contact Theron Fuller.

PIG, the Pascal Interest Group, meets on the third Thursday of each month at 7:30PM at the Uniformed Services University of the Health Services, Bldg. A, Room A2054 (2nd floor), near the National Medical Center at 4301 Jones Bridge Road, Bethesda, MD.

EDSIG will meet on the 4th Saturday immediately after the regular meeting of Washington Apple Pi.

NEWSIG will meet just after the regular Washington Apple Pi meeting on April 25. Steve Hadley, who gave such a good presentation on the Stoneware Data Base Management system at the last meeting, will run this meeting.

Last month we had 45 people present. Three-fourths of these were new or just recent APPLE purchasers. The meeting seems to best help the new members by anwering their questions and telling them what to do to get their systems up and running. We also tell them something about Washington Apple Pi, how to order the disks, what's on the disks, etc.

The following members have in the past agreed to answer questions over the phone when someone gets stuck and needs help between meetings:

Bob Chesley	560-0121
Paul Hoffman	831-7433
Sara Lavilla	926-6355
Boris Levine	229-5730
John H. Smith	439-4388
Steve Sondag	281-5392

Greenapples, our SIG for young people will meet during the regular Washington Apple Pi meeting. After a discussion and planning session, the members will be accompanied by an adult to the APPLE room in the School of Engineering.

A TERMINAL EMULATION PROGRAM

by Michael C. Kosc

This article, requested by Don Hopkins of Washington Apple Pi, outlines the problems existing in the current communications software and my solution. It also outlines the features of THE TERMINAL, a terminal emulation program which I have written.

Just about anyone who has used the ROM software located on the APPLE Communication Card or the D.C. Hayes Micromodem could tell you that there are many deficiencies in using the APPLE II as a terminal. I can list several:

1. You can neither type nor display many characters in the ASCII character set including lower case and a few special characters, many of which may be necessary in using the APPLE to communicate with a mainframe system.

2. The screen format is only 40 characters wide. This is often insufficient or annoying.

3. Many sophisticated text-editing programs (so-called "display oriented" editors) require that the user's terminal have certain built-in functions such as:

   a. Move cursor to Home (the top left hand corner of the screen).

   b. Clear the screen from the cursor position to the end of the screen or line.

   c. Insert or delete characters or lines on the screen.

   d. Move the cursor to the next tab stop.

THE TERMINAL overcomes these difficulties without requiring any additional hardware. I have made a couple of the keys "second function" keys (similar to the concept used in many scientific calculators) to enable the user to type any ASCII character. THE TERMINAL uses a physically small (3x5 dot matrix) full ASCII character set which is displayed using high resolution graphics to give a much larger screen size (32 lines of 70 characters each - Note: because of this use of graphics it is strongly recommended that the program be used with a video monitor and not a standard television set). Admittedly, the characters take a bit of getting used to, but after a while I think most people find them quite legible.

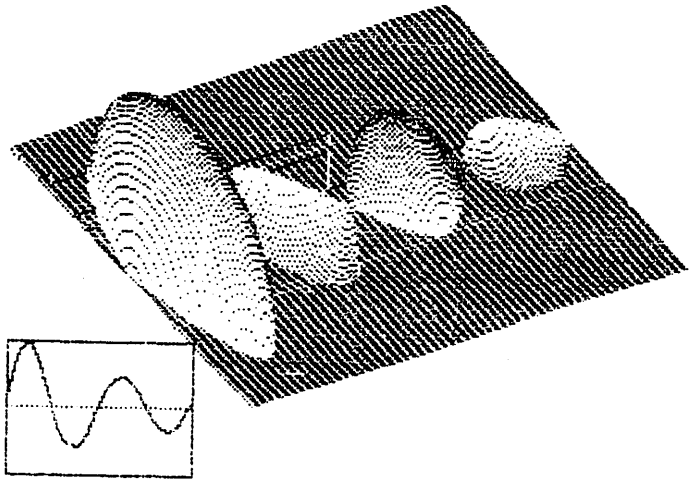
In addition, the operation of THE TERMINAL closely follows that of the VT-52, a popular terminal manufactured by Digital Equipment Corporation. This is advantageous as it allows the APPLE to be used in conjunction with programs written with the VT-52 in mind, with little or no program modification.

contd.

Because THE TERMINAL is implemented in software it was easy to incorporate an easy-to-use menu program that allows the user to select various parameters (D.C. Hayes or APPLE Communication Card, various data formats and speeds, full or half duplex, black or white screen background, and a few more).

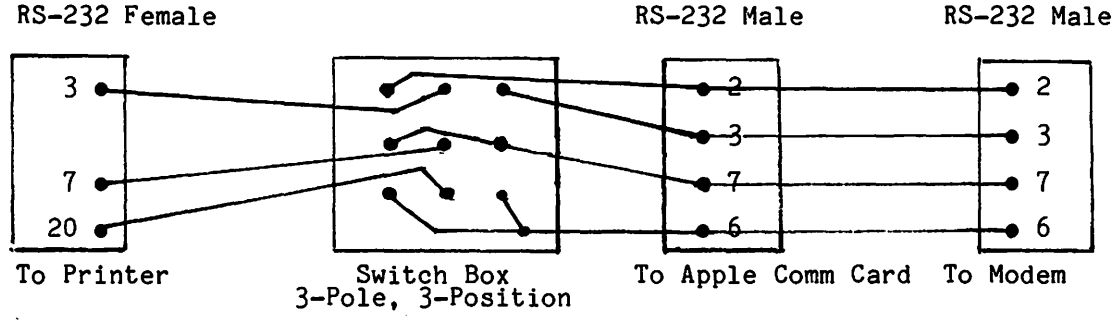
In short, THE TERMINAL turns the APPLE II into a professional quality, full ASCII display terminal suitable for most terminal applications.

(Ed. Note: A copy of THE TERMINAL with documentation can be obtained by sending $20 in check or money order to: Michael C. Koss, 1502 Westgate, Cambridge, MA 02139)



APPLE/MODEM SWITCH FOR A PRINTER by Sheel Raj

With a small 3-pole toggle switch you can use a printer (serial RS-232) and a modem attached to the same communication interface card to direct the output of either the APPLE keyboard or the modem to the printer. In the off position the switch disables the printer, whereas the offline switch (on the IDS-440) disables the printing temporarily. The data is read into the buffer while it is offline. If the modem (acoustic coupler) is operating in full duplex mode (in most cases it is) then the printer receives both the commands entered on the APPLE keyboard and the output from the other end. In half duplex mode, either one or the other is selected.



The toggle switch is on-off-on type. Connect the pins 3,7,20 of the RS-232 female connector to the center line of the toggle switch. On one side of the switch solder pins 2,7,6 of a male RS-232 connector and on the other side to pins 3,7,6 of the same RS-232 male connector, respectively. This could also be done by a single toggle switch on pin 3, but I found that it generates a brk-character everytime it is toggled. The other RS-232 male connector is also connected to pins 2,3,7,6 of this one. The female connector goes to the printer, while the male connectors are connected to the APPLE and the modem.

Note that pins 6,20 are not supported by the Comm Card. If your serial card is 600 baud or more you may have to add nulls after each carriage return. The Comm Card print routine in the Comm Card manual works great for this handshaking and for printing 80 columns on the printer.

Parts List:

1 RS-232 Female Connector
2 RS-232 Male Connectors
1 Box 2 1/8" x 1 3/8" x 1 1/8"
Solder, Heat Shrink and Tools
1 Toggle Switch 3-Pole, 3-Position
4 Wire Cables
2 Grommets

THE NOT TOO SLOW APPLE /// IS GREAT! by Charles N. Dow

I have just read Mark Cheren's article in Washington Apple Pi, March, Vol. 3 No. 3, about his experience with the APPLE ///. It covers some of the waiting pains of a prospective buyer/user of this great new computer/word processor/financial modeler et al. I would like to share with him and the other members of Apple Pi my own personal experiences as a total COMPUTER NOVICE!!!

In April, 1978 I jumped on the bandwagon of the Tandy Corporation and purchased a TRS-80 Level I with 4K, thinking that it was going to do wonders for my dreamed-of applications. It took me three weeks to discover that 4K bytes was just a drop in the bucket. So I went back to the TRS-80 dealer and purchased the 16K upgrade for another $200 or so.

As I began to learn more and more about this wonderful new piece of business equipment, I also became more and more aware of its shortcomings - no word processing, no hi-res graphics, no color capabilities, etc. etc.

As I said earlier, I was and still am a complete computer novice. HOWEVER, I could see that with some serious study on my part, and the help of a great friend who is a Computer Consultant, that there were unlimited possibilities for the application of the personal computer to my business as a Stock Broker.

After MUCH study, many magazine articles, hours of looking at ALL of the small computers from A (for APPLE) to Z (for the Z-80 TRS-80) and everything in between, I decided that for my purposes the APPLE was the best. Make that THE BEST!!

Then I found out that Apple was extending their product line to a new and of course more expensive model, the ///. Long wait, much frustration with TRS-80 with cassette only. Oh heck! I was really getting superfrustrated because I had decided that what I needed was the APPLE /// (in my opinion, the state of the art in micros) with 128K, expanded VisiCalc III, onboard disk drive, outstanding keyboard configuration, numeric keypad (an absolute must for much numeric input), and several other features that have been covered in other publications.

Finally my search and not so great patience was rewarded when I received a call on January 12 that my APPLE /// had arrived. Great news, except that I was going on vacation the very next day. I thought that I might discuss with my wife the possibility of cancelling our vacation, but after considering the consequences of such a ridiculous idea I suggested to my dealer that maybe he would give my unit a long test in his store or at his home. I had heard of "burning in", whatever that is. Great idea, he said. He too needed to learn the new machine.

My diary shows on February 7, 1981 I took delivery of APPLE ///. All night I read the books, and the next day I set up the unit and began learning the machine, and most particularly VisiCalc III.

Maybe I am lucky in at least four respects:

1. I am not comparing this equipment with an APPLE II, since I never had much time with that model.
2. I am comparing the results with my old TRS-80 Level I 16K.
3. At least this piece of equipment was set up and used by a very friendly and knowledgeable dealer, Gary Pike, of Computer Crafters in Wheaton, Maryland before I took delivery of it.
4. Since I am such a novice, I guess I just don't know any better, but so far my experience with the /// has been entirely satisfactory.

Since I did not buy a $9000.00 system to play games with, I do not miss the paddles or joystick. I will be willing to wait for them, sometime in the future.

As to word processing - The draft of this article is being typed on the keyboard of the APPLE ///, using VisiCalc III, with a column width of 77 for the A column. Maybe not the ultimate in word processing, but an adequate substitute until the real thing becomes available. As soon as I get through letting my thoughts run on and on, the draft will be printed on a Qume Sprint 5/45 using a multistrike ribbon. MUCH BETTER quality than I can get from my Secretary (when I can find her between her coffee breaks, lunch, etc.)

The lack of modems is a delay that I will have to live with until Apple releases its first modification of SOS, which I understand will contain many new and wonderful things.

As to Mark Cheren's comments about RF adapters, color monitors and emulation, my dealer suggested that I buy an RCA Color Video Monitor, Model VEM 575 W, with two direct video in-ports at a cost of $575.00. He also provided me with the necessary cable to connect the APPLE /// to this monitor. (He also suggested as an alternative a Sony or Radio Shack color monitor.) So far we have had no problems in using the emulation mode for the few programs that I especially need right now. For the other programs I may need I feel that the wait will not be too long.

To all fellow Apple Pi members, I want to remind you that what you now have in your APPLE II Plus is an evolution of many years of ideas added on to a product conceived in a garage by two brilliant guys. The APPLE ///, I have confidence, will be a great business asset, developed from the experiences gained from the APPLE I, II and all other sources.

contd.

I have confidence in the Officers and Directors of Apple Computer Inc. as well as their venture capitalists, and that what we now see ahead for the APPLE /// is a great future of hardware enhancements together with a huge quantity of software. If my confidence is misplaced, oh well. Remember an Edsel now sells in the antique market for tons of money.

I would like to see a SIG/// group formed so that any other pioneers in the APPLE /// world can get together and share problems and rewards. How about it? Anyone out there interested??

A PAGE FROM THE STACK: LIBRARIAN'S CORNER

by Dave Morganstein

Thanks to the volunteers who have come forward to offer assistance in the library opertions!!! We need you all...

.We are getting low on new material, so sit down tonight and type something into your computer, bring it to the next meeting and we will trade you for a Library disk of your choice. A program of your own creation or something you type in out of a magazine. We thrive on contributions. (Don't tell me you already gave at the Office...)

Besides the new games disk (Volume 36 Games XII) the newest contributions come from the Pascal Interest Group (PIG to its friends). Thanks to their diligence, Pascal users can select from one of three initial library entries, PIG1;, PIG2;, or PIG3;. The group librarian, Paul Sand, may have a brief description somewhere in this issue of the disks contents. See the order blank to submit a request for any of these disks.

It has been suggested that library comments and updates could be put on our ABBS and thereby be made available to modem users. What is your reaction to this? How many modem users are there and would you be interested enough to check in for patches, hints, bug fixes, etc? I know that such information is informally exchanged already. Would anyone out there care to be responsible for maintaining such a communication with our revered SYSOP of the ABBS. If so, please contact me and we'll get started.

Another idea that has been bouncing around is the Disk of the Month, or DOM. (Wow, will those acronymns never cease?) Instead of, or in addition to, bringing out disks with a common theme, each month a pot-pourri of contributions would be offered. The advantage is rapid turnaround of new software. As it is, we must save up good math programs (or music, education, etc.) until we have a disk full. Thus, a good program may not come out for months. The disadvantage is loss of selectivity. Which do you prefer?

COMMERCIAL CORNER

ZORK. Well, I haven't played with Zork long enough to have any "answers" to its many pitfalls and traps. However, I can give you my reaction, and it's a good one. If you're an Adventure lover, you must try Zork. The input commands may be far more complex than you have ever used before. Like all complicated Adventure style games, there is quite a bit of disk I/O going on while tables are examined and decisions made. It is definitely not a fast paced arcade game but no doubt a challenge for many hours (days???).

ASTAT. As a statistician, I am always looking for ways to use my APPLE in my trade. The ASTAT package seems a good investment if you want to massage data. It is modelled after P-STAT, a well know statistical computation package found on many mini systems. ASTAT allows you to analyze a disk file, rather than require that you fit all of your data into an array in memory. This means that you can analyze a file of 2000 records of information, where each record contains 15 items or so. The analytical features include the usual descriptive statistics like means and standard deviations. Also, you can obtain correlations and form bivariate tables. A multiple regression option is available for modelling. The regression is not step-wise but does provide significance tests. Another nice feature is the read/write File Cabinet files feature. A linkage with File Cabinet allows for the generation of reports and ease of editing individual records. (Of course, this is only useful for smaller RAMable data files...) Also, a merge files feature lets you add new columns or merge two sets of records. In development is a package which would allow you to compute aggregate statistics from your first file and write them out to a second file, a very useful feature.

ADVERTISING RATES

The following table shows our new advertising rates. Our newsletter distribution is about 1200 copies now, with about 200 of these going around the country. If you would like to advertise please send camera ready ad copy (black and white only, no halftones) by the 10th of the month to our PO Box.

	RATES			
	FULL PAGE	HALF PAGE	QTR PAGE	8TH PAGE
Single issue (or kited series)	$ 40	$ 25	$ 15	$ 8
3-months series (or more)	35	20	10	5
Full-year contract	30	15	10	5

PASCAL DISK-FILE DUMP PROGRAM

by Robert H. Beckley

Have you ever written a Pascal program that writes data files to the disk? Have you ever wanted to manipulate a Pascal text file on the disk? Have you ever wondered how Pascal stores text in a file? If you have, you need to be able to look at those files on the disk. This program will accept the name of a disk file and the specific block in the file to be dumped.

This program is a general debugging utility that will dump one block of any Pascal disk file (512 bytes) to either the screen or to the printer or to both. The file can be dumped in either decimal or ASCII. If a data file is to be dumped, it should be done in decimal. If a text file is to be dumped, it could be done in decimal or ASCII. A text file decimal dump would give the decimal codes for each ASCII character. Each number in the dump gives one byte of the file. ASCII gives a character output, translating the decimal codes into printable characters. Any decimal code that is not a translatable character is output as "?". For example, a carriage return (decimal 13) is put at the end of each line of text. The decimal dump shows this as a "13" while the ASCII dump gives "?"

The program will prompt the user for the name of the file and the block in the file to be dumped. Files are stored on the disk in 512 byte blocks. If the file is defined as a text file (it has a ".TEXT" suffix) then Pascal adds two 512 byte blocks to the front of it for Pascal's use. Therefore, when dumping a text file, start with block two instead of block zero in order to bypass these blocks.

The program was written to run with an 80 column board (SMARTERM) for the screen output. If you don't have an 80 column board for your screen (is there anyone who can run Pascal without one??), you can still use the program to print the ASCII screen dump since that dump outputs less than 40 columns per line. However, there is a problem trying to display decimal dumps on 40 columns. The program outputs 21 lines of 25 values per line. Each value in a decimal dump can take up to three characters. That makes each output line 75 characters long (and still does not allow for any blanks between values which are three characters long). It takes 21 lines to get the data on the screen. To go to 40 columns there is no way to fit all the data on the screen from one buffer at one time. The program could be reworked to dump either the first or last half of the buffer.

The printer output is set up to go to an EPSON MX-80 printer. There are two code lines in the DUMP_TO_PRINTER procedure that are specific for this printer. The "WRITELN(PRT,CHR(15));" line sets the printer to condensed print mode so 132 characters can be output on a line. The "WRITELN(PRT,CHR(18));" resets the printer to normal mode. If your printer does not have condensed print mode, do the following in the DUMP_TO_PRINTER procedure to change the print to 80 columns. This makes this procedure like the DUMP_TO_SCREEN procedure:

1) remove the 2 WRITELN commands (lines 8 and 26)
2) change line 9 to ENDBUF := 24
3) change line 10 to FOR I:= 0 TO 20;
4) change line 12 to K := I*25;
5) remove one blank from the WRITE statement in line 14 (after colon)
6) change line 15 to IF I = 20 THEN ENDBUF := 11;
7) change the last 4 in line 17's WRITE statement from 4 to 3.

A sample dump of one block of a file is shown. The first dump is in ASCII. The second dump is the same block in decimal. The two dumps output the same number of bytes on each line for easier comparison between the two. The printer dump also provides relative addresses from the start of each buffer. There is not enough room on the screen to provide the address fields so it was left off there.

This tool should make your future program debugging easier for any programs that use and manipulate data files.

```
  0: PROGRAM DUMP;?? (*============
 30: ==============================
 60: ==============================
 90: ===*)?? (*         03/01/81
120:        DUMP A DISK FILE BLOCK
150:                             *)??
180: (*  BLOCKS ARE DUMPED IN BOTH
210: DEC AND ASCII TO THE SCREEN &
240: PRT(IF RQSTD)    *)?(*========
270: ==============================
300: ==============================
330: =======*)?? VAR BUF
360:  :PACKED ARRAY[0..511] OF 0..2
390: 55;??$INFILE         :FILE;??$
420: PRT           :TEXT;??$INNAME
450: , BLKSTR :STRING;??$I, J, K, E
480: NDBUF:INTEGER;??$PASS, BLKNO,
510: I1
```

contd.

```
  0:   80 82 79 71 82 65 77 32 68 85 77 80 59 13 16 32 40 42 61 61 61 61 61 61 61 61 61 61 61 61
 30:   61 61 61 61 61 61 61 61 61 61 61 61 61 61 61 61 61 61 61 61 61 61 61 61 61 61 61 61 61 61
 60:   61 61 61 61 61 61 61 61 61 61 61 61 61 61 61 61 61 61 61 61 61 61 61 61 61 61 61 61 61 61
 90:   61 61 61 42 41 13 16 32 40 42 32 32 32 32 32 32 32 32 32 48 51 47 48 49 47 56 49 32 32 32
120:   32 32 32 32 32 32 32 68 85 77 80 32 65 32 68 73 83 75 32 70 73 76 69 32 66 76 79 67 75 32
150:   32 32 32 32 32 32 32 32 32 32 32 32 32 32 32 32 32 32 32 32 32 32 32 32 32 42 41 13 16 32
180:   40 42 32 32 66 76 79 67 75 83 32 65 82 69 32 68 85 77 80 69 68 32 73 78 32 66 79 84 72 32
210:   68 69 67 32 65 78 68 32 65 83 67 73 73 32 84 79 32 84 72 69 32 83 67 82 69 69 78 32 38 32
240:   80 82 84 40 73 70 32 82 81 83 84 68 41 32 32 32 32 42 41 13 40 42 61 61 61 61 61 61 61 61
270:   61 61 61 61 61 61 61 61 61 61 61 61 61 61 61 61 61 61 61 61 61 61 61 61 61 61 61 61 61 61
300:   61 61 61 61 61 61 61 61 61 61 61 61 61 61 61 61 61 61 61 61 61 61 61 61 61 61 61 61 61 61
330:   61 61 61 61 61 61 61 42 41 13 16 32 86 65 82 32 66 85 70 32 32 32 32 32 32 32 32 32 32 32
360:   32 58 80 65 67 75 69 68 32 65 82 82 65 89 91 48 46 46 53 49 49 93 32 79 70 32 48 46 46 50
390:   53 53 59 13 16 36 73 78 70 73 76 69 32 32 32 32 32 32 32 32 32 58 70 73 76 69 59 13 16 36
420:   80 82 84 32 32 32 32 32 32 32 32 32 32 32 32 58 84 69 88 84 59 13 16 36 73 78 78 65 77 69
450:   44 32 66 76 75 83 84 82 32 58 83 84 82 73 78 71 59 13 16 36 73 44 32 74 44 32 75 44 32 69
480:   78 68 66 85 70 58 73 78 84 69 71 69 82 59 13 16 36 80 65 83 83 44 32 66 76 75 78 79 44 32
510:   73 49
```

```
(*-----------------------------------------------------------------------*)
                                                  (*==============================*)
BEGIN (*DUMP*)                                    (*        MAIN PROGRAM          *)
  PRT_OPEN :=FALSE;                               (*==============================*)
  OK_CHAR_SET := [32..126]; (*LEGAL SET OF ASCII PRINTABLE CHARS*)
  WRITELN('DUMP PROGRAM:Produces a DEC or ASCII dump of a requested file blk');
  WRITELN('Enter the name of the file to dump (e.g.BOB1:WOOD.TEXT): ');
  READLN(INNAME);
  (*$I-*)  (*TURN ERROR CK OFF*)
  RESET(INFILE,INNAME); (*OPEN FILE*)
  IF IORESULT <> 0 THEN WRITELN('FILE NOT FOUND')
  ELSE
    BEGIN
      (*$I+*)  (*TURN ERROR CK BACK ON*)
      WRITELN('One block is 512 characters.  The first blk is # 0.  Text');
      WRITELN('files have 2 header blocks before them (put out by Pascal).');
      REPEAT
        WRITE('Enter block number to dump: ');
        READLN(BLKNO);
        I := BLOCKREAD(INFILE,BUF,1,BLKNO);  (*READ IN BLOCK*)
        WRITELN('Dump will go to monitor and to the printer also if desired.');
        WRITELN('Turn printer on if printout is desired.');
        FOR PASS := 0 TO 1 DO            (*0=DEC DUMP, 1=ASCII DUMP*)
        BEGIN
          IF PASS = 0 THEN WRITELN('------------- DEC DUMP-------------')
          ELSE             WRITELN('-------------ASCII DUMP------------');
          WRITE('DUMP TO MONITOR (Y or N)? '); READLN(INCHAR);
          IF INCHAR = 'Y' THEN DUMP_TO_SCREEN;
          WRITE('DUMP TO PRINTER (Y or N)? '); READLN(INCHAR);
          IF INCHAR = 'Y' THEN DUMP_TO_PRINTER
        END;
        WRITELN;
        WRITELN('Any more blocks to be dumped Y or N : ');
        READLN(INCHAR)
      UNTIL INCHAR = 'N';
      CLOSE(INFILE)
    END
END.  (*DUMP*)
```

contd.

```
PROGRAM DUMP;
(*=============================================================================*)
(*          03/01/81          DUMP A DISK FILE BLOCK                           *)
(*  BLOCKS ARE DUMPED IN BOTH DEC AND ASCII TO THE SCREEN & PRT(IF RQSTD)      *)
(*=============================================================================*)
VAR BUF             :PACKED ARRAY[0..511] OF 0..255;
    INFILE          :FILE;
    PRT             :TEXT;
    INNAME, BLKSTR :STRING;
    I, J, K, ENDBUF:INTEGER;
    PASS, BLKNO, I1:INTEGER;
    PRT_OPEN        :BOOLEAN;
    INCHAR          :CHAR;
    OK_CHAR_SET     :PACKED SET OF 0..255;

(*-----------------------------------------------------------------------------*)
   PROCEDURE DUMP_TO_SCREEN;
   BEGIN                                    (*------ DUMP TO SCREEN------*)
     ENDBUF := 24;
     FOR I := 0 TO 20 DO             (*21 LINES,25 VALUES/LINE*)
     BEGIN
       WRITELN;
       K := I*25;
       IF I = 20 THEN ENDBUF := 11; (*ONLY 12 VALUES ON LAST LINE*)
       FOR J := 0 TO ENDBUF DO
         IF PASS = 0 THEN WRITE(BUF[K+J]:3)       (*DEC   DUMP PASS*)
         ELSE             WRITE(CHR(BUF[K+J]):1) (*ASCII DUMP PASS*)
     END;
     WRITELN
   END; (*DUMP_TO_SCREEN)

(*-----------------------------------------------------------------------------*)
   PROCEDURE DUMP_TO_PRINTER;
   BEGIN                          (*------- DUMP TO PRINTER-----*)
     IF PRT_OPEN = FALSE THEN
       BEGIN
         REWRITE(PRT,'PRINTER:');
         PRT_OPEN := TRUE
       END;
     WRITELN(PRT,CHR(15));         (*SET PRINTER TO CONDENSED PRT*)
     ENDBUF := 29;
     FOR I := 0 TO 17 DO        (*18 LINES, 30 VALUES/LINE*)
     BEGIN
       K := I*30;
       WRITELN(PRT);
       WRITE(PRT,K:3,':  ');    (*PUT LINE ADDRESS TO PRINTER*)
       IF I = 17 THEN ENDBUF := 1; (*ONLY 2 VALUES ON LAST LINE*)
       FOR J := 0 TO ENDBUF DO
         IF PASS = 0 THEN WRITE(PRT,BUF[K+J]:4)  (*DEC DUMP*)
         ELSE
           BEGIN
             I1 := (BUF[K+J]);              (*ASCII DUMP*)
             IF I1 IN OK_CHAR_SET THEN WRITE(PRT,CHR(I1):1)
             ELSE WRITE(PRT,CHR(63):1)
           END
     END;
     WRITELN(PRT);                  (*PUT CR IN LAST LINE*)
     WRITELN(PRT,CHR(18));          (*RETURN TO NORMAL PRINT*)
     WRITELN(PRT); WRITELN(PRT)     (*SKIP LINES*)
   END;   (*DUMP_TO_PRINTER)
```

APPLE NEWS SPECIAL REPORT - APPLE EXPO

by Tony Violante

(Ed. Note: The following article was taken,from the April 1981, Vol. II, No. 4 issue of the Upstate Apple Users Group, New Hartford, NY. I have taken the liberty to edit it.)

This is a special report on the "Apple Expo" held in New York City last week. The information in this article is a combination of direct quotes from the show and my personal evaluations. Please understand that this report is based on my objectives and goals as an Apple Dealer. I also feel that these same ideals fit into the customers' frame of thought. What I mean by this is that if there are new products or company policies that will improve Apple's position in the marketplace, then the customer also gains in the form of better product support. So for this reason I think our interests are vested.

The Expo was held at the New York Statler Hotel in New York City (the Big Apple). Apple Expo was for dealers only on Sunday and Monday April 5 and 6. We arrived at the Statler at 9:30 AM. After checking into the room I was instructed to pick up my badge and dealer kit at the registration desk set up for Apple. I must say that at this time I was not impressed with what I'd seen in the lobby and in the special registration area. I then had to locate the Grand Ballroom for what Apple had called the "General Discussion Seminar". The Grand Ballroom is what the name implies - a very grand room, but Apple was only in about 1/10th of it, and that was taken up by the coffee tables. After wandering around and wondering if I'd had my dates wrong, I noticed another set of doors at the end of the room.

Well, if ever I was taken by complete surprise this was it. Upon opening the door I realized that the Grand Ballroom I was in was only a lobby for the main room, and behold here was Apple Expo. The room was filled with hundreds of people all seated at rows of tables, and straight ahead was a huge stage. The setting was like a Las Vegas nightclub. The room was darkened, with three spotlights aimed at the stage, one on the speaker and the others on two 10 foot black pedestals with a 10 foot Apple Logo that glowed like the American flag. In the center of the stage was a suspended screen that had to be at least 20 feet wide. The room was filled with the voice of Gene Carter, national sales manager, which alone was impressive. The setting, in one word, was "spectacular".

I was extremely impressed with the electronics of the presentation. The sound system, the lighting and continuous slide presentations along with the timing of it all were fantastic. What was really remarkable was that this was all Apple's equipment that would be carted around the nation for the Apple Expo tours.

The General Discussion Seminar was a detailed seminar that ran from 9:00 AM to 6:00 PM. The seminar was given by different levels of corporate people. It was very refreshing to finally see real people, instead of reading their names on a dealer bulletin or newsletter. At this point, I will just recap some of the highlights of this seminar, leaving out the names of the speakers, as most of you would not recognize them.

One of the topics covered was the Apple /// production problems. The Apple /// has gone through several board modifications. The first problem Apple encountered was that the traces on the mother board were too fine and were causing hot spots. This was resolved with larger traces. Another problem was with the sockets and cable connectors between mother board and daughter board - the connections were failing. Also, the sockets did not hold ROM and RAM chips in place. Usually, during shipping these would come loose and fail. This is where the famous 'Apple 3 Drop Fix' came into existence. The fix was to pick up the Apple /// about three inches and drop it. This would reseat the connectors or sockets. Well, this has all been resolved with a single mother board and a new type locking socket. Apple is now burning in all Apple ///s for 48 hours.

The main market for the Apple /// is the software development market. Apple is offering a course in California on writing device drivers for the Apple ///.

Mail List Manager for the Apple /// was introduced at Apple Expo and will formally be announced at the NCC show in May. Bad news was that Word Painter for the Apple /// (word processing) was postponed until December, which was a disappointment to many dealers.

The only new product announced was an IEEE interface board for the Apple II. This board will place Apple in the vertical market of scientific and industrial applications, until this time dominated by Hewlett Packard. There was a lot of excitement about this interface among the dealers and Apple. The IEEE Interface will allow the Apple computer to interface to electronic test equipment.

The best news I heard was a new policy on "Special Delivery Software". I think that first I should explain how Apple markets software. There are three methods, the first being "Main Line" which is software developed and tested by Apple internally. The second method is "distributed Software" which is software developed outside of Apple but tested at Apple and which also carries their support. The third is "Special Delivery Software" which was developed and tested outside Apple with no support from Apple. Well, it's obvious that most dealers wanted nothing to do with Special Delivery Software. But Apple knew that this had become a problem and has redesigned the Special Delivery Software program.

The new Special Delivery Software program now will involve Apple testing the software and supporting it, along with a

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better discount structure for dealers. This in turn will encourage dealers to carry it.

The General Discussion was really geared twoards Apple - Dealer relationships. The message to dealers was that Apple has evolved into a worldwide corporation from a three-man garage operation several years ago. Now that Apple has the resources and product recognition, they feel they are in the position to become the largest personal computer company in the world. Their plans, which I am unable to discuss, will put them into the number one spot, barring no one. That is a strong statement, but I must say I believe in it.

Just to reinforce this statement, let's recap Apple as a company. In 1977 their yearly sales were $750,000. That's only as much sales as a computer dealer does on a local level. In 1978, their second year in the market, Apple grossed $7.5 million in sales. In 1979 Apple's gross sales rocketed to $48 million with a tremendous increase in facilities and manpower. In 1980 Apple grossed $116 million in sales. This represents over a 300% growth rate. Apple grew from several people to over 1500 employees; floor space grew from 2000 sq ft to over 1.2 million sq ft of occupied space, with separate expansion planned for additional plants of 650,000 sq ft. While 1981 reports are unavailable due to Apple's stock offering, there is similar growth expected.

With this in mind I do believe Apple has the resources and marketing knowledge to master the market and become number one in the personal computer market. It will be interesting, and enlightening, to see Radio Shack knocked out of first position.

Another topic covered was Apple's language format. Apple will be marketing all software in 16 sector format. Integer Basic has been phased out of all internal development. Applesoft Basic will be used only in certain cases, in favor of Pascal. Apple calls it the Pascal phenomenon. Pascal has had a strong 40% growth rate annually in the personal computer market. Apple, in their effort to promote Pascal, will develop all software in Pascal. This will be available to non-Pascal users under "Run Time Pascal" version. Some of this has already taken place. Most all our dealer demo software from Apple is in Pascal. Apple is also working on splitting up the language system into two parts, 16K memory card and Pascal software. Prices and details will be announced.

The General Discussion Seminar broke for lunch at 12:15. We were then escorted to another room called the Terrace Room for a luncheon, with Steve Jobs as the guest speaker. I sat at a table in front of the lecture stand, hoping to see Steve Jobs up close. Seated next to me was an Apple Sales Rep from Chicago, the owner of the chain of Datel Computer stores, and a somewhat familiar-looking young person that I could not place. After about a half hour of chatting with these people I realized I was talking to Steve Jobs, the co-founder of Apple Computer. It was a delight to meet and chat with Steve, a most impressive person. Steve's lecture was on the impact of personal computers in our society.

He predicted that the advent of personal computers will not only change the way we live, but actually be a catalyst for a new era of creative growth. Society advances a notch everytime a new free source of energy is made available. Personal computers will increase the amount of human energy that can be spent on creative work. The history of computers is a lot like that of electric motors. Originally, all electric motors were huge and could only be used for very large tasks. That's similar to the early years of data processing, when the only computers were monolithic mainframes. But that all changed with the invention of the fractional horsepower motor. Suddenly, it was possible for the man with the small task to have his own motor. Steve also spoke of how history would look back and view us as pioneers in the marketplace. He also talked about how Xerox changed our lives with the copy machine. When is the last time you have used a mimeograph machine? I was very impressed with Steve Jobs - you have to wonder what he must think of what has taken place with his venture called Apple Computer, a joint business venture between Steve Jobs and Steve Wozniak. Working together they took six months to design the Apple I, 40 hours to build it, and practically no time at all to sell it to an eager computer retailer. To finance the project they scraped together $1300 by selling a HP-65 calculator and Volkswagen microbus. The Apple computer was born with a $25,000 contract - and no company. As the company grew they recruited people who were experts at managing a growing business. Today Apple is an international corporation with gross sales over $100 million. You have to look at Steve, now at the age of 26, and wonder what it must feel like. The amazing part of this success story is that no one knows why it has been so successful.

After the General Discussion Seminar the Vendor Display was open for dealers. This was a room that was set aside for Apple related products with about 35 vendors. I will review some of the more interesting products that I saw at the Expo.

Mountain Hardware - the CPS MultiFunction Card. Three cards in one! Provides all the capabilities of a serial interface, parallel output interface and a real time clock calendar, all on one card, occupying only one slot in your Apple II. Serial and parallel output may be used simultaneously from CPS. CPS is configured from a setup program which sets the parameters for all functions contained on your card and is stored in CMOS RAM on the card. Once you configure your card, you need never set it again. All function setups stored on-board are battery powered for up to two years. Another nice feature is the "Phantom Slot" capability which permits assigning each of the functions of CPS to different slots without the card actually being in those slots! Price well under $300.

Apple-Cat II - by Novation is a direct

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connect modem. You can choose standard 110 or 300 baud rates - or 1200 baud that can reduce telephone charges by 75%. Apple-Cat II is also for the deaf community. It has a special 45.5 baud, Baudot coded, Weitbrecht modem for communication with the TDD network. All automatic functions that let you set up your Apple to run on its own, automatic dial, answer and disconnect. The Serial RS-232 port with handshaking to run your printer is built-in. No need for the expense and trouble of a totally separate card. Built-in BSR controller connects directly to your home wiring. Add a clock and you can run home appliances, lights - anything you power with electricity. The best feature on this modem is that it's a phone. A standard handset converts your Apple into an intelligent telephone at the push of a few keys. You can switch from voice to data anytime without losing the connection. Many of the features are simple add-ons. Price on this high technology modem is $399.

Micro-Telegram is a software system anyone can run on any Apple II desktop computer. Micro-Telegram performs all the functions of a Teletype machine, which means you and your Apple can access every single Western Union service, worldwide. Send mailgrams, send and receive TWX, TELEX, and international cables. Receive INFOMASTER, up to the minute news, stocks, foreign exchange, gold, futures, sports, and ski reports. Use your Apple to wire money, send flowers, check the snow at Sun Valley, see what the yen is selling for. Unlike the Teletype machine, Micro-Telegram permits editing right on the screen, sends messages automatically without you in attendance, keeps directories and distribution lists, and sorts your messages by individual user. Price on this system is $275.

Micro-Courier is a software system that gives you all the electronic mail you'll ever need without draining the corporate treasury, or entangling you in corporate red tape. Micro-Courier communicates over standard telephone lines, and it's designed to let you take advantage of late night transmission rates. While you're home in bed, your Micro-Courier system will send 1000 words of text in one minute for less than a quarter: a comparable TWX message costs $4.32. Micro-Courier will electronically mail charts, graphs, VisiCalc reports and complete programs. Built-in error checking (the kind found on big computers) ensures accurate transmission. It maintains phone lists and sorts messages by individual user. The scope of your network is virtually limitless. Price on the system is $275.

Personal Software - has come out with several programs to complement VisiCalc. VisiPlot software automatically creates high resolution graphs and charts. You can instantly visualize data in six different formats and six different colors. Use data entered directly or data files from VisiCalc. VisiTerm software allows your computer to communicate with other computers and permits transferring disk file information over the phone, all in full ASCII upper and lower case letters - with the additional ability of capturing that information on diskette. VisiTrend allows you to perform sophisticated business math operations on time series data such as stock prices or production figures. Operations include multiple linear regression, cumulative total, percent change, lead/lag, moving averages, smoothing and various transformations which let you create new, meaningful time series. All of these excellent packages will be forthcoming in the next few weeks and will work under the DOS 3.3 VisiCalc environment.

On Monday April 6 the day was broken into several small one hour seminars. In another large room was the location of the "Apple Pie", which was a caravan of video and audio slide presentations, all different and divided into "slices" of the main "Apple Pie". The "Apple Pie" was a portable unit that had a center hub of about 50 feet in diameter. From the hub extended curtain dividers, which divided sections into six slices. The hub had a small stage facing each slice, with elaborate audio and video electronics for presentations. In each slice was seating for about 40 people; each seat had a set of headphones for the audio presentations. This allowed all the "slices" to have presentations at the same time without interfering with the next "slice" on either side. The whole presentation was controlled electronically. At the beginning of the presentation a pre-recorded announcement filled the room, saying that the presentations were about to begin. Music added an excitement to the surroundings, and then each speaker started his/her seminar. Timing was very important to the planning of the seminars. Minutes before the speaker was to finish, audio coded signals alarmed to cue the speakers, and whether they were done or not, a pre-recorded message filled the room thanking the audience for listening to the presentations. This went on every hour throughout the day. The content of the presentations was geared toward the dealers, but this same "Apple Pie" would be used on Tuesday for Application Software presentations for the general public.

There were two other rooms that were a sight to see, the Apple II room and the Apple /// room. These rooms were the "Workshop Rooms", each decorated with 50 computers and disk drives. They were manned with a dozen Apple people to help show different features and applications. It was a sight to behold! I only wish I could have taken some computers back to fill my orders. On Tuesday these two rooms would be open to the general public. It would have been interesting to stay another day just to see 8000 people storming in these rooms to sit at an Apple computer. That's Incredible!

As for the whole Apple Expo, it was "Incredible"! Apple has become the master of the personal computer market. My analogy of Apple is, Apple in the personal computer market is what IBM is in the mainframe market!!!

RIGHT-JUSTIFICATION AND THE USE OF LOGICAL EXPRESSIONS IN CALCULATION

by Thomas S. Warrick

Most columns of numbers need to be printed with the decimal points in a vertical line. But APPLE PRINT statements print everything as far to the left as the PRINT statement will allow. This is called left justification. While this is desirable when printing text, it becomes more than annoying when printing numbers. Using logical expressions, it is possible to right justify numbers in Applesoft.

At the March NEWSIG meeting, I outlined a method for right justifying numbers, which works if the number is in the range .01 < X < 999999999.2. This is sufficient for some applications, but the ability to print zeros and negative numbers is quite often critical.

The following method will work on all numbers whose absolute value is either 0 or .01 <= X < 999999999.2:

```
100 DP = INT (LOG (ABS (X) + 3E - 2 *
    (X = 0 OR ABS (X) = 1E5 OR ABS (X) =
    1E7)) / LOG (10))
110 DP = DP + - DP * (DP < 0) + (X < 0) -
    (ABS (X) < 1 AND ABS (X) > 0)
120 PRINT SPC (tabfield - DP); X
```

In this method, which can be made into a subroutine by adding a RETURN at the end and using GOSUB 100, the variable X is the number to be right justified and printed. DP is used to store the number of digits to the left of the decimal place. Tabfield should be set to the number of spaces to the left of the decimal point. For example, setting tabfield equal to 10 would print the number X with the ones place in column 9 and the decimal point in column 10. Warning: if the number of digits to the left of the decimal point exceeds the number of spaces in the tabfield, an error will result, because SPC cannot handle negative numbers. After reading this article and studying line 110, readers interested in modifying this program should be able to figure out a way to avoid this problem.

By incorporating the expression to the right of the equal sign in line 100 in each instance of DP in line 110, the tabfield in line 120 may be replaced with a DEFined FunctioN. See Applesoft Manual, p. 73-74.

Two incidental treatments are worth noting:

The expression LOG (X) / LOG 10 that is the basis for line 100 will give the "common logarithm" of X. The portion of the common logarithm to the left of the decimal point has the interesting property of indicating one less than the number of places to the left of the decimal point in X. The LOG function in Applesoft uses "e" (2.71829) as the base, rather than 10.

The number 3E in line 100 is used to avoid the fact that the logarithm of zero is minus infinity. Similarly, anytime you wish an expression to be able to handle all numbers without errors, addding a very small number to one quantity will often avoid lots of trouble. The most common occurrence of trouble would be division by zero. To have the expression X = A / B work even when B = 0, replace B with B + 3E-39 and it will work -- except when B is equal to -3E-39, which in most programs would be an incredible coincidence.

The most interesting treatment in this subroutine is the use of logical variables to control the addition and subtraction of quantities in the equations.

The reason for seeking a more efficient way to handle logical variables lies in the way Applesoft handles IF...THEN statements and the line numbers of your programs. An IF...THEN statement evaluates the logical expression and executes the statement following THEN if the statement is "true" and does not execute it if the logical expression is "false." In binary terms, true is "1", and false is "0". The same evaluation of a logical expression would be made inside an arithmetical statement: the expression is considered equal to 1 if the logical expression is true, and 0 if false.

Applesoft Basic permits more than one statement following each line number, up to a maximum length of 239 characters. Grouping statements together in the same line saves storage space because starting a new line number in an Applesoft program takes up five bytes of storage. Programming techniques that permit grouping of statement are useful because they take up less precious memory space. However, IF statements in Applesoft are often inefficient, especially when all they do is change a variable's value. You will recall that the Applesoft Manual says that if the logical expression is true, all statements after the THEN will be executed, but if the logical expression is false, none of the statements following the THEN will be executed and execution will jump to the next numbered line. So where only one calculation follows the THEN statement, a new line must be started, regardless of whether or not this is efficient. There is a better way.

Have you ever seen a listing of a program written in non-Applesoft Basic like:

```
10 A = B = C = D = 0
```

contd.

In non-Applesoft Basic, such a statement sets, A, B, C and D all equal to zero. To leave out this statement in some non-Applesoft Basics would have those variables start out with an undefined value, which would generate an error message. Appendix H to the Applesoft Manual advises you, on page 125, to change this statement to:

```
20 A = 0:  B = A:  C = A:  D = A
```

The next paragraph in the Manual tells what the statement in line 10 above would do in Applesoft. What it fails to tell is how useful this difference can be in writing concise, efficient programs.

The fact that Applesoft can handle logical expressions in arithmetical calculations can be used to replace IF statements. By multiplying the logical value, which will always be 0 or 1, by some other value, a calculation can replace an IF statement. For example, if we want X to be equal to 3 if Y is positive or zero, and equal to 9 if Y is negative, a novice programmer might write:

```
10 IF Y >= 0 THEN X = 3
20 IF Y < 0 THEN X = 9
```

A more experienced programmer would write:

```
30 X = 3:  IF Y < 0 THEN X = 9
```

However, both of these use IF statements, and would require that the next statement start with a new line number. A more efficient way of writing the same thought would be:

```
40 X = 3 + 6 * (Y < 0)
```

This saves one byte of storage over that required for line 30, and if subsequent statements can be grouped with the same line number, more storage space can be saved. (Note that the logical expression must be in parentheses. This is because Applesoft treats logical operators as having the lowest priority. See Applesoft Manual, p. 36.)

Where multiple IF statements would otherwise be required to adjust the value of a variable, the use of logical expressions in a calculation can pay substantial dividends in saved storage space. Thus, in line 110 of the Right Justification Subroutine, three IF statements are avoided. If line 110 were to be replaced by IF statements, three lines would be required:

1. If DP is negative, DP must be set to 0 because of the minus sign.
2. If X is negative, DP must be increased by 1 to allow for the printing of the minus sign.
3. If the absolute value of X is between 0 and 1, one space must be subtracted from DP to shift the decimal point into the proper column.

Those who have reworked lines 100 and 110 into a DEFined FunctioN will have noticed that the use of logical expressions in calculations also permits the equivalent of IF statements to be incorporated into functions. This is an important capability, since the alternative in Applesoft is to use GOSUB, which uses up unnecessary storage space and slows down execution.

The use of logical expressions in calculations will save storage space and permit more flexible DEFined FunctioNs. Regrettably, Apple Inc. has not chosen to publish an advanced programming manual to alert users to APPLE's many hidden treasures. Discovery of this type of "trick" will therefore be a treat to only a relatively few APPLE users.

ANOTHER EAMON BUG?

by Davy Davis

(Ed. Note: The following article is copied from the January 1981, Vol. 3, No. 1 issue of THE SEED, newsleter of Denver Apple Pi.)

Don Brown's excellent program EAMON is supposed to let a character improve in weapon and spell ability. During the course of play you can see the increase in weapon ability as the character defeats monster after monster, but the spell ability is kept a secret and you never know what chance the character has with a given spell. Because of this, it took me a long time to find out that my characters were not getting any better with their spells. The reason is a bug in line 7520 of the Beginners Cave and in line 11520 of most of the other adventures. The line should read:

```
 7520 or
11520     RL = INT (100 * RND (1) + 1):
          IF RL > S2% (S) THEN S2% (S)
          = S2% (S) + 2:  SA% (S) =
          SA% (S) + 2
```

This line is supposed to add two percentage points of ability (SA% (S)) to the spell (S) you are currently using if it was successful and a random roll is greater than your current ability (S2% (S)) with that spell. You only get to this line if you were successful, so that part works OK. The problem lies in the typo. As you will see when you look at your copy of the program, the first statement following the first equal sign is "RND" and not "INT" as it should be. Making this small change will soon allow your characters to become as powerful as the designer intended.

CURRICULUM AND INSTRUCTION TODAY: PROLOGUE FOR MICRO-COMPUTERS by Charles C. Philipp

Most educators and parents who favor the use of microcomputers in public school classrooms have not thought much about educational context. In general, technological innovations in education tend to be absorbed and used for purposes that address pre-existing goals and concerns. Frequently this means that an innovation is not put to its best use. When this happens it is difficult to detect because most people do not have enough knowledge about alternatives and do not know how or why decisions are made. For this reason, it is important to look at how schools are operated today. It is also important to understand something about educational options because quality does not exist until it is possible for students and parents to make choices. Thus, where and how microcomputer technology may be used in public schools depends to a large extent on the nature of curriculum and instruction today, and on the political and economic forces that are operating to produce change.

Schools are complex institutions and are almost always operated on the basis of a particular point of view about students and learning. Most parents and students know that this is true but they are not able to describe exactly how one school is different from other schools. For most parents, knowledge about schools is based on second-hand information, from students, from teachers, from newspapers, and from other parents. Students, of course, know about schools from personal experience and are generally able to describe exactly what school people expect from students; in fact, this is one necessary but not sufficient condition for effective instruction. However, most students only know about the school they attend and frequently assume that all schools are similiar to their own. This is not true, there are many qualitative and quantitative differences. In addition, most students and parents do not think about why schools expect students to do certain things or behave in specific ways. An overall understanding of how school rules and classroom expectations are related to a point of view about education is, at best, a vague notion to most people.

Thinking about how school people view education seems at first to be a purely "academic" exercise. Most adults are more concerned about the results of school operation than they are about the philosophy that guides day to day activity. Such things as test scores and the orderliness of schools are more frequently the focus of concern. These kinds of things are important and deserve attention. However, the way that results are achieved and what the results mean are of equal importance. This is so because education is really a process that causes students to develop a personal view of their own abilities. How teachers treat students makes a difference. If expectations are high and teachers are helpful, children will develop positive feelings about their own abilities. If teachers communicate narrow or low expectations, students will behave accordingly. Thus, the process of learning has much to do with how children view themselves as learners. Lasting motivation comes about when children find value in both the process and products of learning.

Today much of the education literature deals with how teachers may develop skill in the social and behavioral management of children. Various agencies of the federal government have funded research in this area. In addition, many school systems have focused their attention on ways to manage children. Behavior modification and social management techniques are rapidly becoming the first things that teachers think about as they plan lessons and evaluate student learning. In some schools and classrooms, these concerns have been carried to the point where the subject matter being taught is an ancillary component of daily instruction. Although teachers have always been concerned about student discipline, the recent emphasis in this area represents a fundamental change in the quality of the school environment. Moreover, the discipline strategies now being promoted are not only focused on those students who misbehave, they are applied to all students.

Beyond the task of managing the classroom as a social unit, there is what most people see as the central job of schools -- teaching children to read, to write, to do mathematics, and to acquire a variety of other skills. There are many ways to achieve these goals, and it is unfortunate that most parents do not focus more attention on the "how" of classroom teaching and learning. This is the area where there are many diverse points of view that have important implications for how children view learning and education. This is also the area where the application of computer technology can do much to promote a particular point of view at the expense of other ways of learning.

To gain a better understanding of the extent to which curriculum and instruction may reflect different ideas about what children ought to learn and how they ought to learn it, five different views of education are presented below. These have been extracted from a book, Conflicting Conceptions of Curriculum, edited by

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Elliot W. Eisner and Elizabeth Vallance. This is an excellent book and contains selections from 19 different contributors. Obviously, the various contributors and the editors do not agree, and this is one of the main strengths of the book.

POINT OF VIEW #1:

Curriculum and instruction should be primarily concerned with the refinement of intellectual operations. The central problem that educators must address is that of sharpening the intellectual process and developing a set of cognitive skills that can be applied to learning virtually anything.

POINT OF VIEW #2:

Curriculum and instruction should be thought of in terms of the social issues and needs of the time in which we live. The major goal of education is to develop a better "fit" between the individual and society at large.

POINT OF VIEW #3:

Curriculum and instruction should provide personally statisfying experiences for each individual learner. Education should be child centered, autonomy and growth oriented, and provide a means for personal liberation and development.

POINT OF VIEW #4:

Education should reflect the cultural tradition of our civilization. It should cultivate the child's intellect by providing him or her with opportunities to acquire the most powerful products of man's intelligence. The structure of knowledge, as defined by various disciplines, represents the true goal of education.

POINT OF VIEW #5:

The purpose of curriculum is to use the most efficient means to attain a set of predefined, nonproblematic ends. The most important aspect of curriculum building is to determine how knowledge is communicated and "learning" is facilitated. Emphasis should be placed on efficiently packaging and presenting material to the learner.

The above descriptions, although somewhat brief, bring to the surface basic differences in educational philosophy and goals. For example, Point of View #5 (PoV #5) is an area that is now receiving much attention, it is the curriculum technology approach. According to Eisner and Vallance it is, "...one of input, output, entry behavior, cybernetic models, biofeedback mechanisms, stimulus and reinforcement, and systems to produce learning." It does not take much imagination to realize that this approach to curriculum and instruction uses microcomputers (or any other kind of computers) to control students, to monitor what they learn, to provide extensive drill and practice, and to then test them. Although there are no "pure" examples of this approach, there are many educators now promoting these methods. The reason is obvious; if a school system establishes the goal of high scores on standardized multiple-choice tests dealing with basic skills in elementary reading and arithmetic, then this method is indeed efficient. Of course, there are other questions that have to do with human values and motivation: Will this kind of a learning environment help students become independent learners? Will students like this kind of school? Another important question is, will students learn to be problem solvers in this kind of environment?

Eisner and Vallance refer to PoV #4 as academic rationalism and describe it as "...the most tradition-bound of the five orientations, ...(it) is primarily concerned with enabling the young to acquire the tools to participate in the Western cultural traditions and with providing access to the greatest ideas and objects that man has created." This is the traditional liberal arts approach to education and it survives today in a few public schools. Educators who favor this kind of learning do not promote subjects such as driver training, homemaking, or vocational education. Moreover, it is difficult to see where modern microcomputer technology fits into this learning environment; at any rate, wherever it might fit, it would definitely be part of the background, perhaps using word processors to support the perfection of an essay written in Latin about an obscure Roman poet. Another application might be to aid research dealing with authorship -- was it really Shakespeare who wrote those plays or did Christopher Marlowe make a contribution? In order to maintain the spirit of this kind of education, microcomputers would definitely have to be unobtrusive. Too much technology would destroy the academic milieu.

Point of View #1 has a modern name, cognitive process education, and in the words of Eisner and Vallance, "...this approach is process oriented in two senses: it identifies the goals of schooling as providing a repertoire of essentially content independent cognitive skills applicable to a variety of situations, and it is concerned with understanding the processes by which learning occurs in the classroom." Here the focus is on the child and thinking skills. Several of the science education curriculum projects of the 1960s are based on this approach to learning. Although there are divergent ideas about how to translate cognitive process education into practical programs for children, the main thrust today centers on problem solving. There are a few researchers on the fringe of this school of thought who are really more closely related to PoV #5, but they are in the minority. It is not difficult to picture microcomputers being used in this curriculum approach. The emphasis is on problem solving and it is not necessary that students always obtain the right answers. What is important is learning how to set up a problem and select a

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rational way to generate a solution. This kind of thinking is obviously closely related to writing a computer program, including the debugging process. Such things as flow charting and an appreciation for the existence of alternative ways to solve a problem are important goals of this point of view about curriculum and instruction.

Eisner and Vallance call Point of View #2 the "social reconstruction-relevance" model. They refer to it as, "the traditional view of schooling as the bootstrap by which society can change itself." This way of thinking about schools and education is best described as reformist, the curriculum yields to the social context of society's demands. As far as microcomputer technology is concerned, advocates of this approach to education are more interested in politics and economics: if microcomputers help, fine, use them! If they do not help, ignore them! The key idea is to make individuals "fit" into society at large.

Self-actualization (PoV #3) is strongly "value saturated" and "refers to personal purpose" as a way to deal with curriculum. This kind of education sets grand tasks and demands that schooling "enter fully into the childs life." Abraham Maslow's work gives excellent examples of the humanistic spirit that exemplifies this approach. Microcomputers are allowable in this kind of classroom, but they do not play a dominate role in establishing learning goals; they are more likely to be used as tools rather than the object of study. Although subject matter information and skills are important, other goals such as integrity and personal growth are more important.

Current educational research is focused mostly on the curriculum-as-technology Point of View (PoV #5). One major result of this effort is that researchers are producing theories of classroom mangement and instruction that are not linked to theories of learning. For the most part, these new methods are best described as "training" or "conditioning".

Recent concerns about student achievement as measured by standardized test scores are partially responsible for this way of thinking about education. After all, the public wants schools to be orderly places and parents do indeed have the right to expect that students will learn. One way to respond to these concerns quickly is to use behavior modification techniques and to emphasize low-level rote learning. This means a highly structured classroom with much time spent on drill and practice exercises. It also means hours of homework. The assumption is that "time on task" will result in learning. Although this may be true for certain kinds of low-level learning, it is not helpful in promoting the development of problem solving skills, and this is one aspect of student achievement that is now in serious decline. However, many school people are still attracted to this kind of theory of instruction because it has utility in responding to many of the questions posed by the "back-to-basics" movement.

Another reason for separating theories of instruction from theories of learning is that not much is known about how young people learn. Moreover, research on learning is far more difficult to do. Thus, the focus on developing theories of instruction can be explained on the basis of default -- most researchers are not sure about how to study the process of learning. In addition, they know that the results of research on learning will not be available fast enough to satisfy the need to justify funding.

For the past 10 years curriculum has yielded to instructional practice. The desired results of education have been redefined in a very narrow way. If a particular kind of learning cannot be measured on a nationally normed standardized test made up of multiple-choice questions, then that learning has received decreased attention in the class room. In short, public school curriculum is now controlled by the people who make tests. Instruction has been adjusted to accomodate this change. Some educational researchers now even describe their models of instruction in terms of the percentage of class time that must be used to teach to the test. The test is the criterion and time estimates range from 40 to more than 60 percent of allocated time in subjects such as reading and elementary arithmetic.

Many of the national tests used to judge schools have some interesting statistical properties that many people do not know about. For example, when students in one school system take a series of achievement tests their scores depend on the scores obtained by students in the reference population first used by the test designers. It is possible to study various tests and select the one that will favor a particular school system on specific sub-tests or, for that matter, favor the school system for overall composite score. One of the reasons frequently given for changing tests is that the norms (reference group data) are old. One might reason that using new tests is a legitimate thing to do because there ought to be a new standard that is consistent with a new curriculum. However, the only change taking place now in most public schools is that the curriculum is being "watered-down" to focus more and more on a very narrow set of so-called basic skills -- the same skills that these kinds of tests were supposed to be measuring all along!

A simple thought experiment reveals another interesting property of national achievement tests. Assume that a new test has been made. By definition one half of the reference population is below average, the statistics of test making guarantee that this is true. Also, assume that after the new test is made a strange virus infects the country and causes all students and teachers to work harder and to be more effective at thier respective school tasks. When these hard

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working students take the new test, too many of them will have high scores. The test makers will claim that there is a "norming problem" and adjust the standards so that one half of all future students who take the test will, by definition, be below average, even if they know just a much as the "infected" students! Of course, there are no perfect tests and the hypothesized virus remains unknown. The point of this thought experiment is to demonstrate that national achievement tests measure knowledge and skills in a relative way.

There is another kind of test being used today; it is called a criterion-referenced test or mastery learning test. In many states, students are required to pass such a test or series of tests in order to be graduated from high school. For the most part, these tests emphasize basic skills and students are required to obtain some predetermined score such as 80%. Tests of this type represent one response to the public demand for accountability. These tests are a definite improvement as a way to measure learning but have the disadvantage of generating so much concern about relatively low-level basic skills, that the basic skills curriculum is rapidly becoming the only curriculum taught in many public schools. It is difficult to take a local public stand against this phenomenon or to try to temper it with other kinds of programs because many people see such an effort as something akin to attacking motherhood, the flag and apple pie (not Pi!).

A related problem having an impact on curriculum and instruction is declining enrollment and the effect it has on course offerings. There are many public school students who have mastered the basic skills and are ready for advanced courses. However, school boards have taken away many of the learning opportunities that were available to students 10 years ago. Music and art suffered first and were quickly followed by decreased learning opportunities in science, mathematics, and advanced language study. Advanced courses and/or special learning opportunities tend to be helpful in establishing an academic environment in a school. They serve as an invitation for younger students to explore things that they have never even heard about. When the last Latin IV book disappears and there are no advanced physics materials in the library, much more damage has been done than merely the loss of these courses; the intellectual world of the school is smaller, it has contracted, and what remains is a sweatshop of basic skills that does not even suggest why one might want to master reading and elementary algebra.

Microcomputer technology has arrived at a time when the dominant theme in public education is a narrowly defined set of basic skills. Moreover, declining enrollment has been followed by declining support for schools. In addition, some school administrators see microcomputer technology as a threat to the autonomy and power of big computer systems. Thus, school climate is not favorable for microcomputer use. Another problem is that school systems do not have much experience using computers for instructional purposes.

Public school people do not know much about computers and they know even less about the world of work outside of school. In addition, the role that technology plays in productivity is a remote concept that is generally not connected to instruction or curriculum. Because of this, school systems are doing very little to prepare students for the world that awaits them. The National Council of Teachers of Mathematics (NCTM) recognizes this problem. In one of their publications, An Agenda for Action, the NCTM states, "...there is great pressure today to use...time, energy and resources on overkill in the minimal target areas even though little added productivity may be achieved,...the back-to-basics movement tends to place a low ceiling on mathematical competence -- and this at the onset of an era in which daily life will be more deeply permeated by multiple and diverse uses of mathematics than ever before."

The NCTM is not alone. In the March 1981 issue of Scientific American, Eli Ginzberg and George J. Vojta make the same point. In an article about the U.S. economy they state that the, "...skill, dexterity and knowledge of the population has become the critical input that determines the rate of growth of the economy and the well being of the population." Human potential is important and it is molded by what public schools do and/or fail to do. Thus, curriculum and instruction deserve close scrutiny; and this is particularly important when thinking about how microcomputers may be used in classrooms.

The microcomputer is not an educational panacea. To promise too much would be to spoil an opportunity before it has a fair chance. Appropriate uses are apparent only when viewed from a frame of reference which subsumes the technology and emphasizes educational context. This requires a fair amount of knowledge about both computers and education. The educational potential of microcomputer technology must be linked in an appropriate way to the goals of public education. In addition, basic skills must be redefined and educators need to develop new criteria for judging the effectiveness of curriculum and instruction. It is wrong to assume that all of this must happen in order to accomodate the microcomputer. This technology is really just a symbol; how it is used is one measure of the extent to which public schools can meet the demands of a changing world.

INTERNATIONAL APPLE CORE™

BULLETIN

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

Coming soon...

The next IAC Disk will include ATTACH BIOS 1.1 for your Pascal system. It also includes FORTFIX which swats the bugs in Apple's Fortran. This time the disk will be mailed to all clubs, associates and sponsors.

Hear ye, hear ye...

Apple is holding a traveling road show called Apple Expo 81. The first of four has already been held in Dallas on March 31. Hopefully you will see this in time for the next three. Next will be held at the Statler in New York on April 7, followed by the Hyatt Regency in Chicago on April 14, and then at the Biltmore in Los Angeles on April 28. General admission hours are from 1 - 9 PM. Presentations will include hands-on seminars covering applications, hardware, etc. for both the II and ///. There will be approximately forty major vendors of Apple associated hardware and software also exhibiting at the Expos. N.B. admission tickets are available at no cost through any Apple dealer. However, you will be charged $10.00 admission if you show up without a ticket. There will be drawings for prizes and special offers by the vendors. See your dealer soon!

Bernie Urban, Ed.
April 3, 1981

F.Y.I....

From: IAC Board of Directors
Harlan Felt, 1981 Annual Meeting Co-Chairman, IAC Region 2 Director

THE INTERNATIONAL APPLE CORE ANNUAL MEETING

This is a repeat reminder that the 1981 Annual Meeting of the International Apple Core will be held in Chicago on Saturday, May 2nd and Sunday, May 3rd. It will be held in the Marriott O'Hare Hotel located near O'Hare Airport at Higgins Road and Cumberland Avenue by Park Ridge, IL. This is just a short ride from downtown Chicago.

The agenda for Saturday is:

10:00 to 12:30 General Business Session

This includes the formal business meeting of the IAC (Committee reports, Officers reports, installation of new Directors, etc.) as well as an open session for member club representatives to present items to or ask questions of the Directors and/or Officers.

The agenda for the Sunday session is listed below.

There will be an admission charge which will include drawings for numerous door prizes made available by some of the vendors. Tickets will be $5.00 each if purchased prior to Sunday or $7.50 at the door. Tickets may be ordered by check or money order (made out to the International Apple Core) sent to IAC, P.O. Box 976, Daly City, CA 94017. These orders must be RECEIVED in California by Friday, April 24th. Tickets will also be on sale on Saturday and at the door on Sunday. Space is limited, so order now!

Start making your plans now to use this opportunity to meet the present and incoming IAC Directors and Officers, some of the people behind the names at Apple Computer, as well as other IAC members from around the world.

This meeting is on the weekend preceding the National Computer Conference (NCC). The NCC is the largest computer equipment show in the world and covers

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a vast range of hardware and software vendors displaying their products (none of which are for sale at this show). They cover micro, mini and maxi computers from APPLEs to IBMs. There are so many exhibitors that they use up all of the McCormack Place exhibition center (which is the largest one in the USA) plus most of the available space in the downtown Chicago hotels. The attendance figures run around the 100,000 mark. There is a section of the NCC dedicated to personal computers with their own exhibit area, speakers, etc. This may be of more specific interest to Apple users.

If you will need hotel rooms etc., please make your own arrangements as soon as possible because space will become hard to find due to the large number of people that attend the NCC.

We look forward to seeing you all on May 2nd and 3rd !

1981 IAC ANNUAL MEETING
CHICAGO SUNDAY MAY 3RD

9:00 Introduction
Ken Silverman

9:10 Apple Multi-Media Slide Show

9:20 Phil Roybal - Marketing Communications Manager, Apple Computer Inc.
Apple - a little of the past, present and some of the future

9:50 Questions, etc.

10:00 Steve Jobs and Steve Wozniak
Co-founders of Apple Computer, Inc.
Apple philosophy, history, and more

10:40 Questions, etc.

11:00 Mark Pump - Northern Illinois Apple Users Group
Apple DOS

11:35 Questions, etc.

11:50 Lunch (on your own)

1:00 Barry Yarkoni - Apple /// Product Marketing Manager
Apple /// - now and the future, and
SOS - the Apple /// operating system

1:35 Questions, etc.

1:50 John Couch - Vice President, Software and Future Products, (Apple)
Computer languages and operating systems

2:35 Questions, etc.

2:50 Richard Switzer - Marketing Manager, Verbatim Corporation
The manufacture, care and feeding of diskettes

3:35 Questions, etc.

3:50 Tom Woteki - Washington Apple Pi Users Group
Pascal and the Apple

4:20 Questions, etc.

4:30 Vern Rayburn - President, Microsoft Consumers Products
Apple in the Z80 environment

5:00 Questions, etc.

5:10 Closing remarks, drawings for door prizes, etc.

5:30 The End

DOS 3.3/3.2 BOOT SWITCH

By Richard Landsman and Richard Horton

SEVERAL articles have appeared in various club newsletters describing a method of 'piggy-backing' the P5 and the P5A disk controller PROMs and using a mechanical switch or a game paddle modification to allow one to select a 3.2 boot or a 3.3 boot easily. This article will describe an easily implemented modification using the (CONTROL) key on the Apple keyboard. With this mod installed, the Apple will behave normally unless the (CONTROL) key is pressed before booting. Pressing the (CONTROL) key switches between the P5(3.2) and the P5A(3.3) boot PROMs. *Please note, this modification can void your warranty and may damage some components if not installed properly!*

The P5 and P5A PROMs have a 'device enable' pin which is not normally used by the disk controller card. This is pin 15 on the PROM. When this pin is grounded, the device is enabled. What we want to do is provide an easy way to ground pin 15 on one of the PROMs while holding pin 15 on the other PROM 'high'. This can be done with a SPDT mechanical switch, which involves some mounting problems, or by using the (CONTROL) key.

Look at the section of the keyboard schematic shown below. One side of the (CONTROL) switch is connected to ground (sounds good so far). The other side is connected to one of the inverters on the 7400 (74LS00 on new rev keyboards). The inverter provides a 'high' signal on pin 11 when pin 13 is grounded. Conversely, when pin 13 is held high, pin 11 is grounded. The normal state of this device is pin 13 held high, and pin 11 grounded. By connecting pin 15 of the PROM we want enabled by the (CONTROL) switch to pin 13 of this device, and pin 1 of the PROM we want to be enabled normally (and disabled when the (CONTROL) key is pressed) the following will occur:

1. Normal ((CONTROL) switch not pressed)—P5A PROM is enabled because its pin 15 is being grounded. The P5 PROM is disabled because its pin 15 is being held high. In this mode, DOS 3.3 disks can be booted.
2. Modified ((CONTROL) switch pressed during boot process)—P5 PROM is enabled because its pin 15 is grounded and the P5A PROM is disabled. In this mode, DOS 3.2 disks may be booted.

Take a look at the schematic on page 101 of the APPLE II REFERENCE MANUAL for the full keyboard schematic.

To install this modification:

1. You will need 1-P5 PROM, 1-P5A PROM, and some hook-up wire.
2. Very carefully mount the two PROMs on top of each other so that all pins are matched.
3. Gently solder each pin together *EXCEPT* pin 15 of each PROM, making sure that you do not get excess solder on the lower IC, since it will be plugged back into its socket.

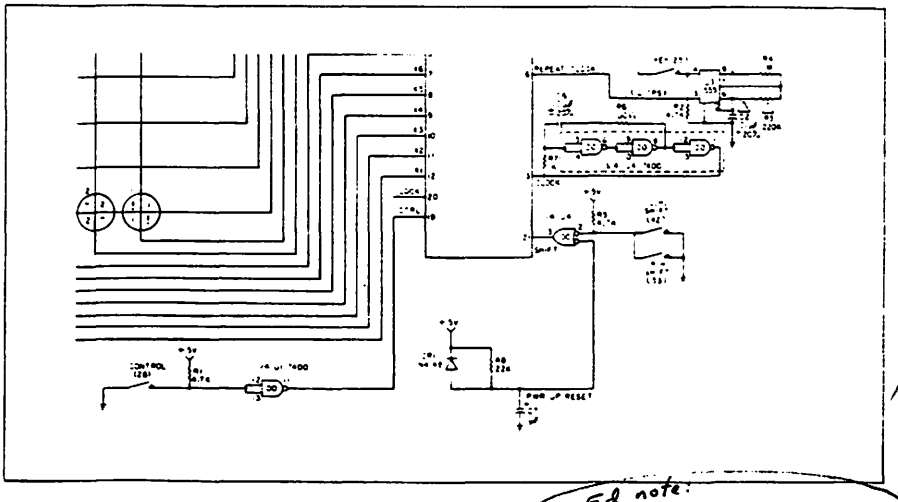
Warning—too much heat will DESTROY these devices.

4. Carefully bend each pin 15 out, so that you can solder a wire to each pin.
5. Solder each of the pieces of hook-up wire to each pin.
6. Disassemble your Apple and remove the keyboard.
7. Find the 7400 IC on the keyboard (74LS00 on the encoder board of the new keyboards). Make sure it's the right one! Pins 12 and 13 should be traced back to one side of the (CONTROL) switch.
8. Solder the wire from pin 15 of the P5(3.2) PROM to pin 13 on the 7400.
9. Solder the wire from pin 15 of the P5A(3.3) PROM to pin 11 of the 7400.
10. Re-install the keyboard and re-assemble the Apple.
11. Carefully put the P5/P5A assembly back in its socket on the disk controller board and re-install the board.

Note: Make sure that pin 15 from both PROMs is not inserted in the socket!

12. Double check all leads and make sure you don't have any solder shorts.

That's it! Test it out by trying to boot a 3.3 disk. The disk should boot as if nothing had been changed. Now put in a 3.2 disk. Type PR#6, hold the (CONTROL) key down, and press (RETURN). The 3.2 disk should now boot. Pretty neat, huh! If this doesn't test out right, double check your wiring, make sure you didn't wire to the wrong PROM (if you did, the machine will operate just the opposite as described, and will boot 3.2 normally).



Ed note:
Call -A.P.P.L.E. February 1981

WASHINGTON APPLE PI
MAIL ORDER FORM

Washington Apple Pi now has a program library, and disks are available for purchase by anyone. The price to members is $5.00 per disk and $8.00 to non-members. These disks are chock full of exceptional programs - the utilities are especially useful. The games are some of the best - not just simple and uninteresting ones. You may pick them up at any meeting or have them mailed for $2.00 per disk additional. (If you order five or more the additional charge will be $10.00 total.) They will come in a protective foam diskette mailer.

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Volume 7	Games V	( )	Volume 35	Garden Management	( )
Volume 8	Utilities III	( )	Volume 36	Games XII	( )
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Volume 10	Math/Science	( )	Volume 180	Dungeon Designer	( )
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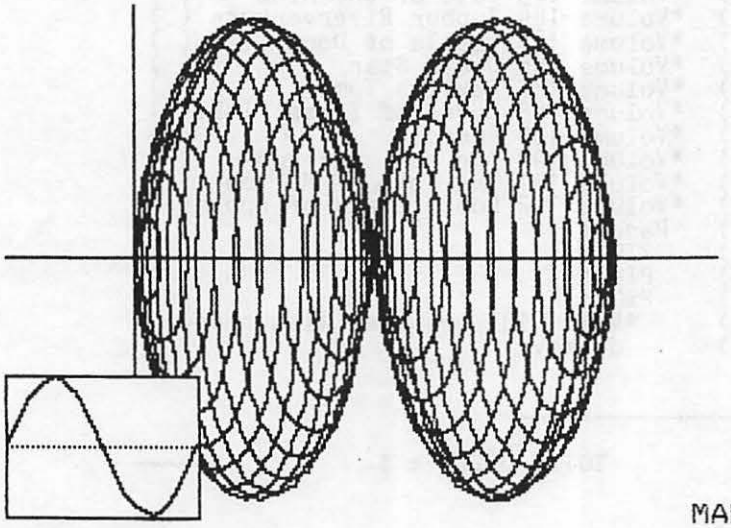

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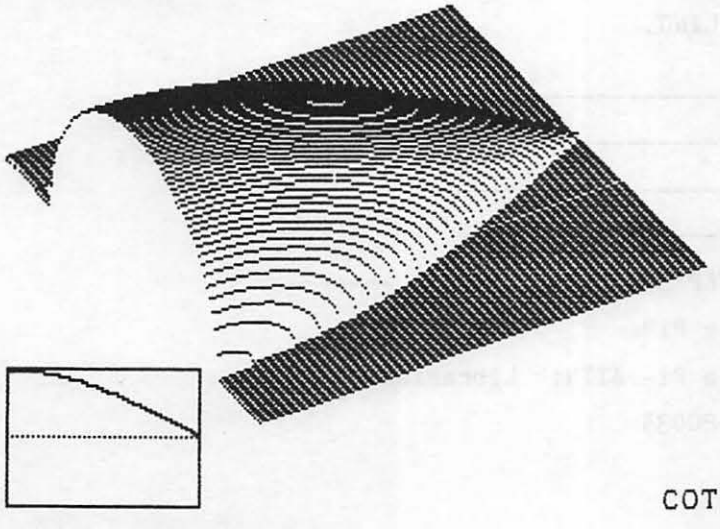

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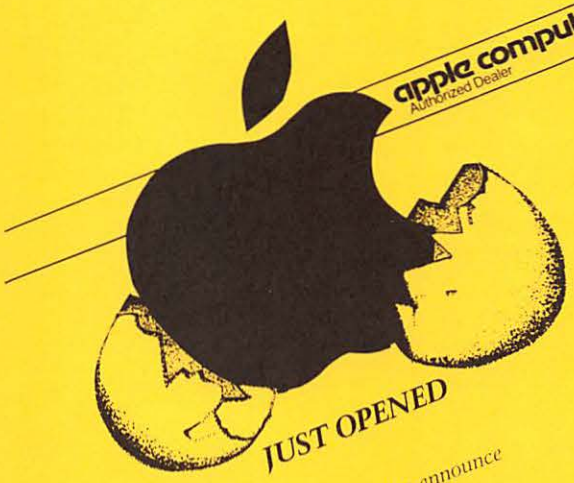

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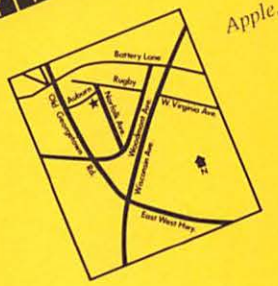

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