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# Washington Apple Pi



Volume 5

June 1983

Number 6

## Highlights

PROGRAMMING CONSTRUCTS IN LOGO  
 WORD PROCESSING  
 WORD PROCESSING MADE HUMAN  
 FORTH: PUTTING IT ALL TOGETHER

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# EDITORIAL

This month for your edification and (hopefully) enjoyment, we have a special issue on word processors. Perhaps we have established a trend. With your help we can feature a different theme each month from now on. For example, wouldn't it be nice to have a special on business applications, medical and dental office administration and applications, telecommunications, etc. for succeeding months? If you have ideas, suggestions or wish to put such a theme together, please drop me a line c/o the Office or call 654-8060 during office hours.

6

## EVENT QUEUE

Washington Apple Pi meets on the 4th Saturday (usually) of each month at the Uniformed Services University of the Health Sciences (USUHS), Building B, 4301 Jones Bridge Road, Bethesda, MD, on the campus of the National Naval Medical Center. Library transactions, newsletter pickup, memberships, etc. are from 8:45 - 10:00 AM. From 9:00 to 10:00 AM there will be an informal "Help" session in the auditorium. The main meeting starts promptly at 10:00, at which time all sales and services close so that volunteers can attend the meeting.

Following are the dates and topics for the next few months:

- June 25 - Garage Sale
- July 23 -
- August 27 - Home Control and Robotics

### GENERAL INFORMATION

Apple user groups may reprint without prior permission any portion of the contents herein, provided proper author, title and publication credits are given.

Membership dues for Washington Apple Pi are \$25.00 for the first year and 18.00 per year thereafter, beginning in the month joined. If you would like to join, please call the club office or write to the office address. A membership application will be mailed to you. Subscriptions to the Washington Apple Pi Journal are not available. The Journal is distributed as a benefit of membership.

Current Office hours are:

- Mon, Wed, Thu, Fri - 10 AM to 2:30 PM
- Tue - 12:30 to 2:30 PM & 7 to 9:30 PM
- Sat - 12 to 4 PM (meeting Sat only)



# JOB MART

## HELP WANTED

**SUMMER STAFF POSITION:** Unique summer community of youths from around the world needs instructor to expand program, teach program skills, launch tele-conferencing and amateur radio network, develop software. Experienced, flexible, dynamic individual willing to expand point of view, interest in global cooperation and young people essential. Eight weeks, June 15 - August 15, in foothills of Virginia Blue Ridge Mountains, 4 hours from Washington, DC. Contact Legacy, 522-1407, 1141 North Glebe Road, Arlington, VA 22201.

**APPLE PROGRAMMER NEEDED:** Small educational courseware developer working for a major publisher. We provide the specifications; you program. Part time/full time/contract. Will consider college student or mature high school student for summer. Knowledge of Pascal and/or Assembly a plus. Call Alan Chap, daytime at 244-1073.

**VICE PRESIDENT FOR SALES:** \$50,000+ with equity. Startup microcomputer software and peripherals manufacturer based in Atlanta, GA. First round financing \$2.5 million. VP responsible for developing and implementing sales strategy aimed at the mass merchandisers of low end computers for the home. Marketing oriented company. Interviewing now. Must have regional or national sales mgmt. experience. Current product must be considered a consumer electronic and sold thru mass merchandisers. Confidential. Write Ann Hotchkiss, Argo Quest, Inc., Recruiting Firm, P.O. Box 20409, Atlanta, GA 30325. (404) 255-0415.

**TYPISTS WANTED FOR WP:** Evening or daytime, \$3.50 - \$5.00 per hour, on call basis, will train. Call Cara Cira, 468-6118, evenings.

## CLASSIFIEDS

**WANTED:** Graphics tablet A2M0029 interface card for the Apple II+, and software. Dr. Marie M. Cassidy, Prof. of Physiology, Dept. of Physiology, GWU Medical Center, 2300 Eye Street, NW, Washington, DC 20036. (202) 676-3552.

**WANTED:** VHS format on complete course on how to run my Apple //e with keyboard operations, introduction to Basic, programming, input commands, branching commands, etc. Please send information to: Robert M. Gallery, 9214 Weathervane Place, Gaithersbury, MD 20879.

**FOR SALE:** New, never used GRAPPLER PLUS interface card and cable, in original box. \$120. Don Schmidt, home (301) 577-4967, work (301) 443-8026.

**FOR SALE:** Sensible Speller - \$80; Apple Interactive Data Analysis (AIDA) - \$175; speed-Asm - \$25; David-DOS (Dos speed-up) - \$25. SUPERKRAM/CONQUEST Version 2.1 database system (reviewed in The Book of Apple Software 1983) - \$150. Barry Gordon, 4340 Roland Springs, Baltimore, MD 21210, home (301) 235-3125.

**FOR SALE:** Complete II+ system, including disk drive, color monitor, 64K, MX-80 with Graphtrax, software, covers, tools and more. Purchase value \$3,129, sacrifice at \$2300. Call Robert Stone, 998-9152.

**FOR SALE:** IDS-445 Paper Tiger printer with Apple Parallel interface card and cable, all in mint condition, \$350 or best offer. Call John at 492-9566 between 7 AM and 3:45 PM weekdays, or leave a message on the WAP ABBS for WP1818.

# MINUTES

## APRIL GENERAL MEETING

The general meeting of WAP Ltd was held on April 30, 10 AM at USUHS. Apple Tea hosts were requested for June and July. The new setup in the lobby was explained - the lines for the cash register, library selection, and new members; new member manual/disk. Group Purchase reported on products available and solicited volunteers to write receipts at the office after the meeting. Volunteers were requested to help Jim Carpenter coordinate arrangements. SIGAMES will host paddle repairs at the June meeting. A volunteer was solicited to help with the mailing list. A referendum will be on the ballot to decide on budget allocations. The Boston Applefest was announced for May 13-15. Appreciation was expressed to Betsy Harriman for the manual and to Bob Platt for the disk. Those WAP #'s not to be published in a membership directory are listed in the May Journal. Volunteers were solicited to help with NEWSIG. Anyone interested in making a diagnostic disk available to members in your locality, call office. Upcoming tutorials were announced. Additions to the Hotline were solicited. Members can join CALL-A.P.P.L.E. for \$5 initiation fee plus \$20 annual dues. Nominations for WAP officers were opened. Ballots will be at the May meeting. The presentation was on Logo.

## SUMMARY OF MAY BOARD MEETING

The Executive Board of WAP Ltd. met on May 11, 1983, at 7:30 PM at the office. The agenda included: use of cash register, search for meeting location, referendum for capital expenditures, WAP elections, ACM exchange, Boston Applefest (motion to pay President's expenses), motion approving expansion of office space, purchasing data base system for membership listing, inviting Lisa owners into WAP, motion to open depository account and to amend Bylaws to open imprest account for COD services, review of May 5-8 Computer Expo with motion to ratify execution of contract, search for publicity chairman, motion to pay initiation fee for ED/DISABLED SIG bulletin board.

## MINUTE MANUAL for APPLE WRITER II

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# NEWSIG TOPICS

NEWSIG provides new WAP members with an orientation to the club and the Apple. The following outline of topics covered at NEWSIG has been developed over the past year by Paula and Bernie Benson. References to the New Member Reference Book (NMRB) have been added to assist new members in self-study and review.

## 1. CLUB SERVICES

1. Meeting - time and place (NMRB p. 4)
2. The Special Interest Groups (NMRB p. 9)
3. WAP Office - 654-8060, Office hours are listed in the WAP Journal and NMRB p. 2. The WAP book library collection is described on NMRB p. 7.
4. NEWSIG volunteers and The WAP Hotline
5. The ABBS (NMRB p. 38)
6. The WAP Software Library
  - a) Utilities (New Member Disk documentation on NMRB p. 12)
  - b) How to use: the difference between Integer and Applesoft Basic (NMRB p. 7)
  - c) Games - EAMON adventures (NMRB p. 27). (The EAMON game design contest closes in August.)
  - d) Disk contents described in NMRB p. 14-27 and in the "Page from the Stack" column.)
  - e) UCSD Pascal (NMRB p. 29)
  - f) CP/M (NMRB p. 32)
  - g) How to contribute (NMRB p. 11)

7. The WAP Journal - pickup policy (NMRB p. 34), contributions (NMRB p. 5&10), back issues available (NMRB p. 5 and back of WAP Journal), Inside WAP
  8. Group Purchases - order through phone, pick-up at WAP Office (NMRB p. 6, and "\$" command on ABBS)
  9. Tutorials (NMRB p. 5 and back of WAP Journal.)
  10. Apple Teas (NMRB p. 3)
  11. International Apple Core (NMRB p. 38) computer Insurance (NMRB p. 42)
- ## 11. USING YOUR APPLE
1. The difference between the Apple II+ and Apple II/e
  2. Physical security - static electricity, thunderstorms, powerstrips
  3. Other sources of information - Softalk 213-980-5074 (NMRB p.45) Call-A.P.P.L.E. (NMRB p. 10)
  4. Utility Programs and DOS System Master Disk (NMRB p. 35)
    - a) DOS 3.2 vs 3.3
    - b) MUFFIN
    - c) Integer Basic (NMRB p.13)
    - d) INITIALizing and COPYING disks
  5. Dealers - service and prices (NMRB p.50 has a brief trouble shooting guide for the self-confident.)

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# WAP HOTLINE

Have a problem? The following club members have agreed to help. PLEASE, respect all telephone restrictions, where listed, and no calls after 10:00 PM except where indicated. Users of the Hotline are reminded that calls regarding commercial software packages should be limited to those you have purchased. Please do not call about copied software for which you have no documentation.

|   |   |  |   |
|---|---|--|---|
| General   | Dave Harvey (703) 527-2704<br>Robert Martin (301) 498-6074                              | Languages contd.<br>A<br>A,I,P,M<br>A,I,M<br>P<br>LOGO-Apple<br>-General | Leon Raesly * (301) 460-0754<br>Bill Schultheis (703) 538-4575<br>Richard Untied (703) 241-8678<br>Dottie Acton (301) 428-3605<br>Ron Murray (eve.) (202) 328-3553<br>Dagobert Soergel (703) 823-2840   |
| APPLE SSC   | Bernie Benson (202) 546-0076  |  |   |
| Apple TechNotes   | Ed Schenker (301) 977-7349<br>Lance Bell (703) 550-9064                                 | Operating Systems<br>APPLE DOS<br>CP/M                                   | Richard Untied (703) 241-8678<br>Robert Fretwell (703) 971-2621   |
| Basis 108   | Loftus Becker (202) 338-5217  | Paddles  | Tom Riley (eve.) (301) 340-9432   |
| Communications Packages and Modems-Telecom.                             |   | Pers. Filing Sys.  | Ben Ryan (301) 469-6457   |
| Anchor Sig. & BIZCOMP Modem   | Jeremy Parker (201) 229-2578  | Printers<br>General<br>Anderson Jacobson                                 | Walt Francis (202) 966-5742<br>Bill Etue (703) 620-2103<br>Leon Raesly * (301) 460-0754<br>Jeff Stetekluh (703) 521-4882<br>Jeff Dillon (301) 422-6458<br>Bruce Field (301) 340-7038  |
| Apple CAT II  | Ben Acton (301) 428-3605  | IDS 460  |   |
| ASCII Express   | Dave Harvey (703) 527-2704  | MX-80  |   |
| CompuServe  | Jerry Michalski (703) 442-8835  | Silentype  |   |
| Data Capture  | Howard Simkowitz (202) 882-4645   | Statistical Packages   | Jim Carpenter (301) 371-5263  |
| General   | Ben Acton (301) 428-3650<br>Tom Nebiker (216) 867-7463                                  | Stock Market   | Robert Wood (703) 893-9591  |
| Hayes Smartmodem  | Bernie Benson (202) 546-0076  | Tax Preparer-H,Soft  | Leon Raesly * (301) 460-0754  |
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| XTALK CP/M Comm.  | Bernie Benson (202) 546-0076  | Word Processors<br>Apple Writer II                                       | Walt Francis (202) 966-5742<br>Doug Daje (301) 868-5487<br>Dianne Lorenz (301) 530-7881<br>Leon Raesly * (301) 460-0754<br>Tom Warrick (301) 656-4389<br>Neil Muncy (301) 251-9330<br>Leon Raesly * (301) 460-0754<br>Cara Cira (301) 468-6118<br>Peter Combes (301) 871-1455<br>Doug Daje (301) 868-5487<br>Peter Rosden (301) 229-2288<br>David Inouye (301) 422-8926 |
| Expediter Compiler  | Peter Rosden (301) 229-2288   | Gutenberg<br>Letter Perfect  |   |
| Data Bases<br>dBase II  | Loftus Becker (202) 338-5217<br>John Staples (703) 759-3461                             | ScreenWriter II<br>Supertext II  |   |
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\*Calls up until midnight are ok.

## EPSON RIBBONS REVISITED by Leon H. Raesly

A while back I spoke of a method of loading new ribbons into an Epson, as well as a method and rationale for reversing a ribbon to double the life. While the method is appropriate for loading a new ribbon, there is a much easier way to reverse an Epson ribbon.

First, remove the ribbon case from the machine. Then lay the case in front of you, with the top up, and the ribbon advance knurled knob on the left. Now pull a small amount of ribbon from the right side of the case, to give you some slack to work with.

Take the ribbon where it enters the "arms" of the case on the LEFT, and make a one-half turn. Turn the ribbon advance knob three or four times, to make the ribbon turned over part enter the case. Now advance the ribbon a few turns to make it tight across the front. You will notice a one-half spiral in the ribbon between the arms. This is as it should be.

With the Epson turned off, move the printer head to the center of the carriage. Insert the ribbon case in the normal manner. Make sure that the portion of the ribbon to the LEFT of the print head is straight (this assumes you are facing the front of the Epson, looking down on it). The spiral portion of the ribbon will be to the RIGHT of the printhead.

Now simply print your copy. When the turned portion of the ribbon comes out of the ribbon case arm on the right, it will turn itself over, your ribbon will now be straight, and you will be using the new section of the ribbon! Voila! The machine does all the work of turning the ribbon for you!!!

# PRESIDENT'S CORNER

by David Morganstein

**ELECTIONS & THE BACK OF THE BALLOT.** Please cast your vote during this month's elections. Give us some feedback on the operation of the organization by participating in the voting process. On the back of the ballot you will find several referenda items. These questions are being asked to find out where you want the WAP to go during the next year. There are questions about the office and about the expenditure of funds on capital items. The Executive Board wants your input to insure that decisions reflect the membership's desires.

**MEMBERSHIP COMMITTEE.** For the last two years, Dana Schwartz and Nancy Philipp (and the rest of the Philipp family) have served as the new membership committee. Two years ago it was a "fairly" easy task to maintain our membership roster and mail out a membership card and two page hand out about the club. At our current level of growth, the committee now processes about 125 new members a month! The program we have used for the roster has been reworked till you wouldn't recognize it anymore, thanks to Dana's efforts. We are now converting the roster to a data base package and will require a mass storage device to hold the 3000 or so names and addresses. Laird White has volunteered to help Dana in this project. I would like to express a few words of thanks to Dana and Nancy for their devotion to the WAP.

**PUBLICITY CHAIRPERSON.** Throughout the year opportunities surface to notify other Apple owners about the WAP. Various publications want information about us. Computer shows are allowing us a booth to distribute material. If you are interested in coordinating these and other means of publicizing our existence, please contact me.

**WAP JOURNAL ON DISK FOR THE SIGHT IMPAIRED.** Are you sight impaired? Do you know someone who is and would like to obtain a copy of the Journal in machine readable form for replay through speech synthesis equipment or for Braille printing? If so, please contact the office. We are making the journal available in this format. It will require that you send us three blank disks; we will return them with the Journal in text file form.

**SIGN TRANSLATOR.** We are including in next year's budget funds to hire a sign translator for the hearing impaired to attend our monthly meetings. We hope to encourage the hearing impaired to attend by offering this resource. Please inform anyone you know who is hearing impaired and may want to attend.

**A TABLE AT THE ACM MEETING.** The ACM has offered to allow the WAP to sit at a table and distribute literature at their conference in June to be held at the National Bureau of Standards. If you can spend a few hours at the table answering questions about us, please contact me or call the office.

**GARAGE SALE.** The June meeting will feature a summer garage sale in honor of the Apple's humble origins. Please come; you can buy or sell used software or small peripherals. If you bring something to sell, you will be asked to mark your items with a sticker when you enter the building and to register with Joe Fuchs, who is coordinating the sale. Joe organized a successful session last December; I'm sure you will find it a great opportunity to pick up a bargain!

**HOT LINE VOLUNTEERS NEEDED.** At our last meeting the following items were mentioned as needing hotline volunteers:

MULTIPLAN, C-Itoh Letter Quality Printer, Infostar, Okidata 92 Printer, Qume Sprint5, Disk Drives, Micro Buffer 2 Interface.

If you can answer phone questions about these or any other product not included in the current list, please call me or the office. ☞

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# GLOSSARY FOR NEW WAP MEMBERS

## by Robert C. Platt

Apple users are constantly creating new acronyms and buzz words. This brief glossary should guide the newcomer through the New Member Reference Book (NMRB) as well as conversations with other WAP members.

**ABBS** - Apple Bulletin Board System. A computer program which allows users to call via modem and store or retrieve messages or computer programs. (NMRB p. 38)

**Applesoft** - A version of the BASIC programming language which is built into the ROM chips of the Apple II+ and Apple //e. (See Dave Morganstein's series which began in the April 1983 issue of the WAP Journal.)

**Architecture** - The structure or actual physical organization of a computer circuit which determines its behavior.

**Auxiliary slot** - A special slot available only on the Apple //e to hold an 80 column card. Over time, other manufacturers will market circuit boards for this slot. (WAP Journal p. 14, Feb. 1983).

**BASIC** - Beginner's All Purpose Symbolic Instruction Code, the programming language built into each Apple. (See WAP Journal p. 20, February 1983, for the history of BASIC.)

**Baud** - A measure of the speed with which data is transmitted (equivalent to bits per second.)

**Bit** - A binary digit (a 0 or 1).

**Boot** - To load a disk operating system (and in some cases an application program) from a disk.

**Buffer** - A storage place for data. When data is read from a disk, an entire sector is read at a time. The sector must be stored in RAM memory until individual data items are used by the program. "Buffer" can also refer to RAM memory in a peripheral device, such as a printer, where information is stored until it is used.

**Bus** - A group of wires which connect a microprocessor with memory and input/output circuits. The Apple's bus can move 8 bits of data at the same time.

**Byte** - A group of 8 bits, which represent a single character.

**CAI** - Computer Assisted Instruction, a teaching method that facilitates self-paced learning. PILOT is a special CAI language available on the Apple (See WAP Journal p. 22, May 1982).

**Call-A.P.P.L.E.** - The Apple Puget Sound Program Library Exchange - The world's largest Apple user group. (NMRB p. 10)

**Card** - A removable printed circuit board that plugs into one of the expansion slots found on the Apple's main circuit board. Cards provide additional memory, the ability to display 80 columns of text per line, or the ability to communicate with printers and modems.

**Compiler** - A program which translates a high level language, such as BASIC, into machine instructions. (See WAP Journal p. 10, October 1981).

**CP/M** - Control Program for Microcomputers. An operat-

ing system developed by Digital Research for 8080 and Z80 microprocessors. It is the most widely used operating system. A special circuit board is required to run CP/M on the Apple. (NMRB p. 10 & 32)

**CPU** - Central Processing Unit. The Apple's CPU is a 6502 chip.

**Cursor** - A position indicator, which shows where you are on a video screen.

**Disassembler** - A program which converts machine language programs into a higher level language, such as assembly language.

**DOS** - Disk Operating System - the program which organizes, stores and retrieves information from the disk. Most programs which read or write information on a disk merely work through the DOS program, rather than independently, including their own routines for running the disk.

**Eamon** - A series of text adventure games available in the WAP Library (NMRB p. 27).

**Forth** - A "stack oriented" microcomputer programming language (See Bill Wurzel's WAP Journal series which began in December 1982 and NMRB p. 34).

**FORTRAN** - FORMula TRANslation. One of the oldest computer languages used mostly by scientists. Available from Apple Computer for the UCSD p-system.

**Hello Program** - The program stored on a disk which is automatically executed whenever the disk is booted.

**IAC** - The International Apple Core, a federation of Apple User Groups (NMRB p. 38).

**IC** - Integrated circuit.

**I/O** - Input/output, the process of moving data to or from the computer.

**LISA** - Local Integrated Software Architecture, the name of Apple's new \$10,000 computer which should be available in July 1983.

**Load** - Read a program from a disk into central memory.

**LOGO** - A high level language created by Seymour Papert, which includes turtlegraphics and list processing. LOGO is easy to learn and is well suited for first-time computer users and young children. (See May 1983 WAP Journal and August 1982 Byte.)

**Modem** - A circuit which converts the Apple's internal digital information into sounds which can be transmitted over telephone lines.

**Monitor** - (1) A program stored in the Apple's ROM which can be used to inspect or change the contents of the memory and which supports keyboard and screen operations. (2) A video device without radio circuits to receive TV signals.

**MUFFIN** - A program to convert DOS 3.2 files to DOS 3.3 format.

**Pascal** - A high level programming language invented by Niklaus Wirth, a Swiss Computer Science professor, who

contd.

believed that programs should consist of well-defined data structures and well-structured procedural steps. (See NMRB p. 29 for documentation on the WAP Pascal library.)

**PILOT** - Programmed Inquiry, Learning or Teaching. A simple computer language used to prepare computer-based instructional material.

**Power strip** - An electrical device with multiple sockets for plugging in your Apple and peripheral devices. Power strips usually include a master on-off switch and a voltage filter to protect against spikes caused by thunderstorms, etc.

**Prompt** - a special symbol which the computer displays when it is waiting for the user to respond. For example, Applesoft displays a ], Integer Basic displays a >, and the monitor displays a \*.

**Public domain software** - Programs which may be copied without further permission from or royalty payments to the author.

**RAM** - Random access memory. Integrated circuits which store and recall information.

**Random access file** - A collection of data records which can be accessed in any order, one record at a time. This approach offers more flexibility than "sequential files" which must always be accessed in the order in which the records were originally placed on the disk.

**RGB** - A color video monitor which receives separate signals for red, green and blue images. (Special circuits are required to attach a RGB monitor to the Apple II or II+.)

**ROM** - Read only memory. Integrated circuits which have information permanently recorded. This information is not lost when the computer is turned off.

**Scroll** - To change the video display by moving information out at one end (usually the top) to make room for additional information at the other end (the bottom).

**Sector** - A portion of the recording surface of a disk which holds 256 characters of information.

**Shape** - A binary code which instructs the Apple how to draw a design on the hi-res graphics screen. (Applesoft Reference Manual pp. 92-99)

**SIG** - Special Interest group (NMRB p. 9).

**Slot** - A socket on the Apple's main circuit board which can be used to plug in additional circuit cards.

**Spreadsheet program** - A program which permits data to be entered on a video screen and then to have additional data displayed based upon defined relationships. Examples include, Visicalc, Multiplan and THE Spreadsheet 2.0.

**Tech Notes** - A loose leaf reference book written by Apple Computer. (NMRB p. 11)

**Template** - A set of formulas and relationships used to program a spreadsheet program to fulfill a particular application, such as computing income tax returns.

**UCSD p-system** - An operating system developed at the University of California San Diego used by Apple Pascal, Apple Fortran, and Apple Pilot. The p-system is popular because the same system is available on a wide variety of microcomputers.

**USUHS** - Uniform Services University for the Health Sciences, located at 4301 Jones Bridge Road, Bethesda MD (between Wisconsin & Connecticut Aves.)

**USUS** - A nationwide user group for the University of California San Diego p-system. Apple Pascal is but one product which uses this system.

**Utility** - A program which performs a standardized housekeeping task, rather than serving a specific user application.

**Volunteer** - WAP's most treasured asset. Please become one.

**VTOC** - Volume table of contents. A special area on each disk which keeps track of the name and location of all files stored on that disk (also called a "directory" or "catalog".)

**WAP** - The Washington Apple Pi, the second largest Apple User Group in the world. 

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# A PAGE FROM THE STACK

by Robert C. Platt

The library continues to grow through trades with other clubs and by member contributions. Please keep on donating! I will be at the Disk Library table from 9 to 10 am before each meeting and look forward to meeting with you to discuss the WAP Library and your latest programs. We also continue to seek volunteers to help document our existing disks.

## FORTH ERRATA

Several items are left over from last month. Page 70 of the May WAP Journal incorrectly states that Step 7 of the FORTH sysgen procedure is "21 LOAD". In fact, it should read "73 LOAD", because the definitions of ADDNEW, FORTHSAVE and PR# are on screen 73 of Disk 700. I also failed to say that you invoke the full screen editor from Disk 701 with the FORTH word E. For example, to revise screen 80 on Drive 2, type "180 E". Sorry about any confusion.

## NEW MEMBER DISK 134 ERRATA

Line 170 in Applesoft program CPlot+ SETUP AND RUN should read:

```
170 PRINT D$;"RUN CPlot+ CHAR SET EDITOR"
```

In addition, there is a problem with the Shape Table ASSEMBLER. These problems have been corrected on copies distributed after May 11. Thanks for reporting the errors. (For eagle-eyed users who spot further errors on our WAP disks, a Library Disk Error Report Form is included in the back of this issue of the Journal.)

Disks 137, 138 and PIG10 premiered at the May meeting:

### Disk 137: SPREADSHEET A

This disk is a combination of files from IAC Disk 21 and programs donated by WAP members. This is the first in a series of disks supporting "spreadsheet" programs. A spreadsheet program, such as VisiCalc, permits you to enter numbers and text into cells which are displayed on the screen. By defining relationships between the cells, you can prepare complex reports or even your income taxes! These relationships are stored in DOS text files called "templates." Templates can be read by VisiCalc or any VisiCalc-compatible program such as THE Spreadsheet 2.0, distributed by Call-A.P.P.L.E. (I have tested the templates on this disk with VisiCalc, and would appreciate reports on how they function with other spreadsheet programs.)

BASICALC - is a rudimentary spreadsheet program written in APPLESOFT. The source program is included as file BASICALC to allow you to add new features to meet your needs. Please send us any of your enhancements. A faster, compiled version is included as BASICALC.COMPILED. BRUN this file to use the program. Documentation can be viewed by RUNNING BASICALC.DOC.

The disk has several sample VisiCalc template files. The names of these files end with ".VC". To use these, boot up your VisiCalc disk and then enter the /SL command. When asked for the file name, type the name as it appears on the catalog, or use the right arrow key to step through the disk catalog.

BOOLEAN LOGIC EXAMPLE.VC illustrates the use of

Boolean comparison operators in VisiCalc.

CHECK BOOK.VC shows how you can use VisiCalc to maintain a check book register.

COMMISSION SALES EXAMPLE.VC shows how you can use VisiCalc to organize and compute data.

IF MODEL EXAMPLE.VC illustrates table lookups and branching logic.

INDIV EXPENSE REPORT.VC breaks down a businessman's expenses by week and category for an entire year. The template supplies quarterly and annual totals by group.

INDIVIDUALS EXPENSE SUMMARY.VC will track expense categories for several salesmen.

FED TAX 1982.VC is Tom Warrick's template to compute Schedule A and Form 1040. Read his article in the March 1983 WAP Journal (p. 24) for an explanation. Remember, this program is supplied to you for use at your own risk and is not a substitute for getting professional help with your taxes. The program will probably have to be revised for use with 1983 taxes.

REGRESSION.VC is Walt Francis' template to perform a multiple regression analysis on three variables. BRUN REGRESSION.DOC to see an excerpt from his April Visi-column explaining this program.

This disk also includes several Applesoft programs to list VisiCalc files.

VISICALC D FILE PRINTER by David J. Sherman, prints files generated by VisiCalc P commands. It allows you to line up the decimal places of the numbers printed in formatted columns. You may print the entire file or only selected blocks.

VISICALC FILE CHECKER, VISICALC FORMULAS and VISILIST all print out the formulas stored in each cell rather than their values. (You can print out the values with a /P command.) VISILIST is the slowest of the three and requires the printer to be in slot 1. The programs give you the option of listing on the screen or on the printer.

### DISK 138: IAC 23 UTILITIES G

This disk features utility programs donated from the Mini'Apples users group in Minnesota.

PIX UNPACKER (by Dana Lonn) - a binary program that unpacks a compressed hi-res screen image.

MAIL LABELS - an Applesoft program which handles mailing lists of up to 400 entries. Labels may be printed alphabetically or by zip code. CLUB OFFICERS MAIL.LIST is a sample data file to demonstrate the use of MAIL LABELS.

COMPARE MODIFIED (by Tom Edwards) will read two text files containing Applesoft listings to check whether the programs are the same. The program uses the binary routine in STRING INPUT. Lines will be listed as "ADDED", "DELETED" or "CHANGED." The output can be directed to either the screen or printer. Change lines 1210 and 5460 if your printer is not in slot 1 or if you are not using an Epson printer. The com-

contd.

parison of two lengthy programs may take several minutes. EXEC CAPTURE to convert your Applesoft programs into text files.

MAKE LINE CAPTURE - an Applesoft program to create a CAPTURE EXEC file.

HI-RES DUMP,EPSON MX-80 (by Cary Marish & Don Bucher) - a binary program to print the hi-res screen image on an MX-80. It requires an interface card which can output 8 bits of data by byte. RUN DUMP INSTRUCTIONS,A for documentation.

INVERT HI-RES PAGE 1 - a binary program to print the hi-res screen as white on black rather than black on white. See DUMP INSTRUCTIONS,A for documentation.

MOVE SCREEN BINARY A\$8C00 (by Stephen B. Sullivan) - a binary program will copy the text screen to a buffer and then copy it back in a different arrangement in order to create the impression that a part of the text is animated. RUN MOVE SCREEN UTILITY for detailed documentation.

PAYMENT CALCULATOR (by Alan Peterman) - an Applesoft program to calculate the total payment on loans at several interest rates.

AUTO-REDIAL (by Alan Peterman) - a menu driven, Applesoft program to dial bulletin boards with a Hayes Micromodem II. If the board fails to answer, the program will redial the number automatically at specified time intervals.

TEXT WRITER B1 (by Bill Hamelink) - an Applesoft, screen-oriented text editor. The program assumes that your printer is in slot 1. If not, change line 820.

GERMAN (by David Lan) is a flash card drill driver. Although this Applesoft program is set up as a german vocabulary drill, it can be modified for any short answer drill.

BIORHYTHM PRINTER (by John Schoepner) plots biorhythm charts on the screen or a IDS 440 printer. You must specify your birthdate, date for the start of the chart and the number of days on the chart. If your printer is not in slot 1, change line 540.

APPLESOFT AUTO-NUMBER (by Daryl Hammond) is a tutorial on the use of an automatic line numbering program which appeared in the June 1979 issue of Call-A.P.P.L.E.

CHECKBOOK BALANCER will help reconcile a bank statement with a check register.

AUTO PROGRAM (by Bill Decoursey) - an Applesoft program generator which includes input-output routines.

PARABOLIC CALCULATIONS (by Frank W. Claude) - a program to display a parabola based upon a user specified focal point and resolution.

PARABOLIC ERROR (by Frank W. Claude) calculates the limits of the foci of a parabola.

SLOT MACHINE (by Rob Wentworth) is an Integer Basic game. To crank the lever, turn Paddle 1. The speed of the three wheels is based upon the setting of Paddle 1.

POKER DICE MK V (by Mark Anderson) is a game similar to Yahtzee.

TRICOLOR GRAPHICS (by Todd Peterson) is a hi-res color demo. It calls FLIPPER, a binary subroutine by Chuck Boody.

BRAKING DISTANCE (by Todd Peterson) calculates the distance needed to stop an average weight car.

COLOR BARS (by Keith McConnel) is a quick color recognition game.

#### DISK FIG10:

FIG10 is the last disk to be compiled by our out-going Pascal Librarian, Jim Harvison. The following descriptions are taken from his documentation.

VIRT.DOC.TEXT  
VIRTSEG.TEXT  
VRTGLOB.TEXT  
FAKESEGS.TEXT - (David Neumann)

David provides us with an excellent set of routines based on those originally appearing in an article in USUS (see Dave's documentation for article reference). These routines allow you to use in your program a virtually unlimited number of segments by faking out the system thru directly modifying the system tables and getting the system to load additional segments from code files. Read VIRT.DOC.TEXT to see how to use the routines.

SILENT.TEXT - (Typed by Jim Harvison)

This is a Pascal Unit to control a Silenttype printer from routines in the back of the Apple Silenttype Printer manual. Program is self-documenting.

VERBS.DOC.TEXT  
VERBS.TEXT  
VERBS.VOCAB  
GERUND  
PAST  
REGULAR - (Bob Platt)

This is the FIG library's first application using Pascal for educational drill and practice. The program drills and practices Spanish (Tu hablas Pascal?). I think you will find the program flexible for adapting to other languages. VERBS.DOC.TEXT is the documentation for the program, VERBS.TEXT is the program and VERBS.VOCAB, GERUND, PAST and REGULAR are data files containing the words to be used. VERBS.VOCAB contains the infinitives of the verbs used in the other drill files.

VIEW3D.TEXT  
VIEW3D.INFO  
CUBE.TEXT  
OBJECTIO.TEXT  
VIEW3D.CODE  
PYRAMID.TEXT  
MAKEPIC.TEXT  
POLY.TEXT  
FLOOR.TEXT - (Mike Hartman)

These allow for the creation of objects, specifying their orientation to the viewer, other objects and the placement of, and then draws them. It allows you to continue to specify the viewers perspective and move around the object. VIEW3D.TEXT, OBJECTIO.TEXT, and MAKEPIC.TEXT are the source code for the program. VIEW3D.INFO contains information on compiling and using the program. VIEW3D.CODE is a compiled and linked executable file (for use with the 40-column screen). POLY, CUBE, PYRAMID, and FLOOR (all ".TEXT") are sample object-definition files for use with the program. VIEW3D uses the READREALS unit, which is also included on this disk.

READREALS.TEXT - Michael F. Hartman

READREALS is a unit for free-format and error-tolerant input of real numbers from the console. Using READLN

contd. on pg 12

# APPLE TEAS

WAP is conducting small discussion groups around the D.C. area. Below you will find a list of volunteers who will be holding sessions in the next few weeks. These will be informal and last about 2 hours. If you would like to attend, call the host and register with him/her. Each host will limit the size according to his/her wishes and will let you know if there is room

left in that particular tea. Hopefully, there will be ample numbers of sessions to meet the interest.

Session leaders may be needed if the host does not feel knowledgeable about the Apple. If you would like to volunteer your help or be a session leader, contact Paula Benson or the Club Office.

## APPLE TEA SCHEDULE:

| Host             | Area             | Phone    | Date/Time       | Date/Time                  | Leader Needed |
|------------------|------------------|----------|-----------------|----------------------------|---------------|
| Bob Martin       | Laurel           | 498-6074 | Jun 18/2:00     | Jul 16/2:00                |               |
| J & F Lineberger | Bowie            | 464-0527 | Jun 14/7:00     | Jul 12/7:00                |               |
| Albert Merritt   | Camp Spr/Clinton | 449-5572 | Jun 14/7:00     |                            |               |
| Geoff Jensen     | Vienna           | 255-2024 | Jun 14/8:00     |                            |               |
| Henry Kissman    | White Oak/S.S.   | 439-2664 | Jun 18/3:00     |                            |               |
| Ronald LaJoy     | Upper Marlboro   | 627-1162 | Jun 23/7:00     | Jul 14/7:00<br>Jul 28/7:00 | Y<br>Y        |
| Gloria Seelman   | Bethesda         | 365-2281 | Jun 26/3:00     |                            |               |
| D & H Dubester   | Bethesda         | 229-5435 | Jun 29/7:00     |                            |               |
| Ina Concaugh     | Alexandria       | 256-3062 | Jul             |                            |               |
| Ron Bernstein    | Silver Spring    | 890-6855 | To be announced |                            |               |

## TRACKING SMALL BUSINESS RECEIVABLES by L. Benner

This article is for anyone who sends out from 1 to 25 invoices each month; who sends invoices sporadically; and who has trouble keeping up with who owes what and who paid what and when, expected cash flows, follow-ups, and all the other headaches that go with a small business' accounts receivables.

The germ of the idea came from an advertiser in NIBBLE magazine, who reported that a checking account program user was using it to keep track of his receivables. It's a great idea. Here is how it can be done.

1. Using a checkbook program set up an account for your receivables. I use "REC83" with my Powersoft SUPERCHECKBOOK program. Similar programs should work equally well.
2. Enter each receivable as a check on the day you send out your invoices, using consecutive "check" (or invoice) numbers.
3. When the payment comes in enter the payment as a deposit and reconcile both the check and deposit at that time.
4. If you want to know how much money you have outstanding in receivables at any time, just run a list of unreconciled or outstanding "checks".
5. If you want to know your income for the year-to-date, just run the reconciled income for your REC83 account.
6. If you want to know your income or billings for any month, just run your "deposits" or "checks" for that month.

7. If you need to know your billings or income by account, list your entries with account codes or project numbers. I use project numbers, with a separate project number (8301, etc.) that you can sort at the end of the period.

You'll find this is a simple way to pull together some very useful data at the end of the year. It works great.

Page from the Stack contd. from pg 11

to input real numbers will usually lead to your program crashing, because READLN will not recover from user format errors. String-type editing of the numbers is allowed before the carriage return is entered, and in the event of a parsing error the user is allowed to reenter the data. Leading zeros and trailing decimal points are not required. The unit may also be used in conjunction with the TRUNC function to read integers.

Many thanks to Jim Harvison for his outstanding service as PIG librarian. Mike Hartman has agreed to serve as his successor. I would also like to thank Bill Jacobson for volunteering to test our library disks for //e compatibility.

### NEW MEMBER DISK BUG - SHAPE TABLE ASSEMBLER

The following corrections to the SHAPE TABLE ASSEMBLER on New Member Disk (Library Volume 134) are necessary only on those disks distributed before May 12 (not marked with a red "X"). The changes have been incorporated in those distributed May 12 or after (marked with a red "X").

Delete Lines 80, 90 and 100

Change Line 110 to:  
110 LA = 43616

Add the following line:  
525 SH = SH + 1: POKE SH,0

Change Line 730 to:  
730 PRINT : HOME : POKE 0,55

# SIGNEWS

APPLE /// SIG meets on the second Thursday of the month at 7:30 PM. The meeting place alternates between the Walter Reed Medical Center and Universal Computers.

ASMSIG meets immediately after the regular Washington Apple PI meeting.

Business SIG - see "The Bottom Line" elsewhere in this issue.

EDSIG - the education special interest group - see the EDSIG Page elsewhere in this issue.

Home Control SIG will meet after the regular WAP meeting each month.

LAWSIG provides attorneys and those not versed in the law an opportunity to discuss various aspects of computer applications to the law. The LAWSIG usually meets in downtown Washington, D.C. at noon once a week. For information call Charles G. Field, Chairman, 265-4040, or Jim Burger, 822-1093.

LOGOSIG - see the LOGOSIG column elsewhere in this issue.

NEWSIG will meet just after the regular Washington Apple PI meeting. We will answer questions and try to help new owners get their systems up and running. We will also explain how our club operates. The following members have agreed to answer questions over the phone when someone gets stuck and needs help between meetings:

- Bob Chesley 560-0120
- Paul Hoffman 831-7433
- Sarah Lavilla 926-6355
- Boris Levine 229-5730
- Steve Sondag 281-5392

PIG, the Pascal Interest Group, meets on the third Thursday of each month at 7:30 PM at the Club Office.

SIGAMES is the special interest group of computer hobbyists interested in using their APPLES for entertainment. They meet immediately following the monthly meeting of Washington Apple PI.

STOCKSIG meetings are on the second Thursday at 8:00 PM and are currently held at the home of the chairman, Robert Wood, (703) 893- 9591.

Telecomm SIG usually meets after the regular WAP meeting.

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| Transactions Per Disk                                    | 1000                 | 2000-4000                                |
| Number of Codes  | 1                    | 63                                       |
| Automatic Transactions                                   | 25                   | 900                                      |
| Frequency:   | Once a month         | Unlimited                                |
| Double Entry   | NO                   | YES                                      |
| Accounting Background Required                           | NO                   | NO                                       |
| Accommodates Any Type Transaction                        | NO                   | YES                                      |
| Transaction Retrieval                                    | One at a time        | Screen at a time                         |
| Backdate Transactions                                    | NO                   | YES                                      |
| Ability to Interrupt While Printing                      | SOMETIMES            | ALWAYS                                   |
| 132 COL PRINTER REQUIRED                                 | YES                  | NO                                       |
| NUMERIC FORMATTING                                       | 292661               | 292,661.42                               |
| Optional VisiCalc Interface                              | NO                   | YES                                      |
| <b>PERFORMANCE*</b>                                      |                      |  |
| Startup to Transaction Entry                             | 113 sec              | 44 sec                                   |
| Begin Printing Balance Sheet After Entering Transactions | 162 sec              | 1 sec                                    |
| Begin Printing Transactions After Entering Transactions  | 106 sec              | 2 sec                                    |
| <b>RATING</b>  |                      |  |
| Peelings II evaluation                                   | B/D                  | A  |
| <b>PRICE</b>   |                      |  |
| APPLE II/IIe Personal Version                            | \$75                 | \$129                                    |
| IBM PC Personal Version                                  | \$150                | \$195                                    |
| APPLE II/IIe The Business ACCOUNTANT™                    | —                    | \$255                                    |
| IBM PC The Business ACCOUNTANT™                          | —                    | \$295                                    |

\*based on APPLE benchmarks. The Accountant's performance superiority is even greater on the IBM PC

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# TEACHER'S PET: A Review by Bob Oringel

"Teacher's Pet", Version 1.2, by Surkat Software, 1213 Cardinal Lane, Cherry Hill, NJ 08003. This is a program to permit an elementary or high school teacher to manage class/student grades using an Apple II+ computer with a minimum of 48K memory, one disk drive and Applesoft in ROM.

A. Documentation - the documentation is quite extensive, running 12 pages of single spaced script. Its style is clear and it is written for the teacher with minimal computer familiarity. It fully describes the program's methodologies of entering grades, entering weighted grades, correcting existing grades, editing missing grades, dropping lowest grades, and student averages, which are inherent in a teacher's recording and manipulating class grades. The documentation additionally describes the program's File Maintenance menu which permits changes in an otherwise default Letter Grade Table, and provisions for adding or deleting a student, listing students, correcting the spelling of a student or test name, and deleting a test.

B. Program - the program was tested by entering the grades of two high school social studies classes, with widely varying skill levels. The teachers' grades were given to the students in these classes for tests, assignments, notes, quizzes, and extra credit assignments, varying in credit value from a maximum of 215 points, to those with a maximum of 10 points. Partial point credit was given to some students, resulting in half-points as part of some grades.

The Teacher's Pet program has several menus with sub-options, all of which perform as advertised. The program places a couple of limitations on the teacher using it, however, (and oh, how I wish it weren't so), which must be stated.

Under the option for entering a grade, the grades must be whole numbers. No half points may be entered and the maximum grade for any entry is 200. What then do we do with the student who earned 7.5 on a quiz, or the one who earned 215 points on a major test? Under the option for entering weighted grades, a value may be assigned to the grade, determining how much that grade will count towards the average. The weighting factors in the program are spread between 0.5 and 5. A 10 point quiz which should count for 0.1 cannot be entered as such. These are perhaps minor limitations, and may indeed be easily corrected by the programmer.

The bottom line is that Teacher's Pet is an acceptable program to be used as a teaching aid, within the framework of the limitations mentioned.



# "RANDOMLY SEQUENCED LISTS" by C. Swift, Prop., & Son

It was with great interest that we read L. Benner's "Randomly Sequenced Lists" in the April issue. Such handy programs are welcomed by beginners such as ourselves, often for their value in stimulating the creative impulse, in addition to the admiration they engender. We were particularly stimulated to toy with the program to discover its limits on our modest almost new Apple II+ 48K treasure. (But how were we to know that just three months later the //e would appear? Well, that's another story...)

To summarize our playful efforts, we can report that the program worked beautifully, a pleasure we do not always receive. A special joy was presented by the clever device alerting us to the time required for the program to run. In fact, we actually did some stopwatch work and found the offered estimate of running time was nicely estimated. We tried larger and larger numbers, but to our dismay we found the time required soon became prohibitive. In short, the top number we could enter was 2,390 (that's where the OUT OF MEMORY beep caught us), and we just weren't prepared to wait out the 33,746 seconds (Isn't that something like nine hours?) that popped onto the screen.

That's when the creative impulse hit. Couldn't such a useful program be made to operate a bit faster. Perhaps it could even operate with numbers larger than 2,390? Could we do it? AHA!

The modest offering below bespeaks the fruits of our labors. It does not have the elegance of L. Benner's design, but it works! The top limit before OUT OF MEMORY beeps is a bit over 18,000 numbers. It pours out 3,000 numbers in 88 seconds. How could we ask for more?

```
10 HOME : INPUT "RANDOMIZE HOW MANY NUMBERS? " ; N
20 DIM A%(N)
30 FOR I = 1 TO N : A%(I) = 1 : NEXT
40 FOR I = 1 TO N
50 R = INT (RND (1) * N + 1)
60 TEMP = A%(R) : A%(R) = A%(I) : A%(I) = TEMP
70 NEXT : FOR I = 1 TO N : PRINT A%(I), : NEXT
```



# LOGOSIG NEWS

TURTLE TRACKS



by Nancy C. Strange

## MAY 28 LOGOSIG MEETING

Time: 12:30 p.m.  
Place: 1516 Beech Avenue, Bethesda, MD  
at the ELF Facilities  
Topic: Tutorial Continued -- Numbers,  
Words, and Lists

Logo is not just turtlegraphics. It can also work with data. There are three kinds of data objects: numbers, words, and lists. Logo like other languages can manipulate numbers and words (character strings). In addition, unlike many other languages, Logo provides the ability to combine data into structures called lists. These lists can contain numbers, words or other lists. Ron Murray is our leader for today's tutorial. Please also read Ron's article on additional constructs for Logo in which he presents For Next, Do While, Do Until, Case, Cond.

## BUG REPORTS

As a regular part of this column, I will include a section devoted to bugs. A "bug" in Logo is a friendly name for things that do not quite work. This may be because the user does not understand how things work, gets unexpected results, or makes a mistake.

For instance:

THE CATALOG SCROLLS QUICKLY PAST AND CAN NOT SCROLL BACK IN APPLE LOGO; HOW CAN THE USER SEE IT?

I have received many questions on how to stop the continuous display of the catalog. This is a bug to those who can not stop the display.

The user can dump a hardcopy of the catalog for reference as I routinely do. But there is a useful Logo sequence to interrupt execution/display which is often overlooked: Ctrl-W. When displaying the catalog the user can do a Ctrl-W and the display stops. If Ctrl-W is again entered, the next item on the catalog is displayed and each additional time Ctrl-W is entered another item shows. To continue the fast display at any time just press <return> or any key.

This special sequence can also be very helpful when doing turtlegraphic displays. After executing a procedure like polyspl the user can stop the turtle at any time without killing the procedure (like Ctrl-G does). Just press the <return> key (or any key) and the turtle resumes the execution of the procedure. (Ref: Apple Logo Reference Manual, page 88 and Apple Logo by Abelson, page 190.) (Terrapin Logo also has a Ctrl-W interrupt command, see page 12 of tech manual and G-43.)

This is a very simple bug. There are many bugs that you've discovered and/or overcome. If you have one please share it with us. Just drop a note to me at 3152 Bayswater Court, Fairfax, Va. 22031.

## APPLE LOGO NEWS:

The recent Advanced Apple Logo Workshop led by Michael Tempel of Logo Computer Systems was valuable to all those attending. Mike presented an in-depth presentation on Logo. The description of how Logo works with his actor/script analogy added a strong framework to our understanding of Logo. List Processing and Prop-

erty Lists were key areas of interest. Many of Logo's capabilities involve them and what they do is often hard to comprehend completely, if you do not know Logo to that degree. The (New) Apple Tool Kit which is soon to be released by Apple Dealers was used to demonstrate Logo throughout the workshop and was explored by the participants. We currently have a testbed version of this most recent version of Tool Kit. Our copy has most of the tools but lacks the most exciting one: .SYSTEM. This tool is a powerful utility which is used mainly to reclaim lost space to avoid having to reboot Logo. With this tool a person can use the single-key 'zoom' program all day without rebooting Logo, and if several children are using the 'zoom' just use this tool and recycle between each one and the child has the maximum amount (as if just booted and started) of user space to work with. Contact me for more info on the disks, training manual draft or special purchase of Logo. I would like to thank Logo Computer Systems for their continued support and for providing Mike's services.

(Anyone with news on other Logo versions are welcome to contact me, so we can share all information available. -- I still have not received my words and list documentation from Terrapin. Has anyone??)



# JUST IN CASE - CREATING ALTERNATE PROGRAMMING CONSTRUCTS IN LOGO

by Ron Murray

One of the principal characteristics of Logo is the capability for defining new commands and operations. One can invent (or reinvent) programming constructs thought useful in other languages, and at the same time speculate on the reasons for their being there.

In this article we will (re)construct several popular instructions:

- \* FOR (NEXT)
- \* WHILE
- \* UNTIL
- \* CASE

We will then modify the CASE command to produce "COND" command. In these examples we will be using Logo's DEFINE capabilities, list processing, and recursion. The instructions will therefore look somewhat "Logo-like", requiring explicit arguments, some of which will be lists.

## THE FOR (NEXT) INSTRUCTION

In other languages, this instruction requires a variable for recordkeeping. This variable is assigned a start and stop value and (sometimes by default) a step size. Users of this instruction frequently use the variable for other purposes within the loop. The step size is usually an integer and may be positive or negative. Within the range of instructions bounded by the FOR and the NEXT instructions numerous other instructions may be placed.

Having determined the operational requirements of the instruction we will proceed to represent it in a Logo style.

This command will require several arguments: the name of the variable (1), the start value, the stop value, the step size, and a list of actions to be performed. For this example the housekeeping variable will be created (with the MAKE command) and incremented by the indicated step size.

```
FOR :VAR :START :STOP :STEP :INSTRUCTION.LIST
MAKE :VAR :START
LABEL "LOOP
RUN :INSTRUCTION.LIST
MAKE :VAR (THING :VAR) + STEP
IF (THING :VAR) = :STOP [STOP]
GO "LOOP
END
```

While the start value is less than the stop value, the list of actions is RUN, a simple example of "data" being used as a "program". The housekeeping variable is incremented, and execution is directed back to the label "loop". When the start value equals the stop value, execution is terminated (1).

This particular procedure is made very compact by using a GO command, which is not considered good Logo practice. For a version without a GO statement see Abelson, p. 157-8.

Analyzing the idea behind the FOR (NEXT) statement from the point of view of Logo alternatives:

o There is a need to time an interval before proceeding with the program. This use can be superseded by the WAIT command.

o There is a need to repeat an activity a certain number of times: If this is the only requirement, one can instead use the REPEAT command.

o There is a need to relate execution to external variables: One can plug in those variables as the start and arguments and increment or decrement them during a recursive call.

o There is a need to use an incremented number within the procedure: In this case it is necessary to create a variable (with the MAKE command) and increment it. One then has the choice of incrementing the variable within the procedure or constructing a general purpose incrementing procedure. The procedure might sound like this: INCREMENT :VARIABLE.NAME :STEP.

There seem to be at least four ideas lurking behind the FOR (NEXT) instruction; one can construct a FOR (NEXT) instruction and pile them all together, or, by using other Logo commands and capabilities, use one, two, three, or four of those ideas at a time.

## THE WHILE INSTRUCTION

In a WHILE instruction, as long as certain conditions are met, certain actions are to take place. This instruction seems to need a set of conditions to test and a set of actions to execute. If the conditions are no longer true, execution ceases.

```
WHILE :CONDITION :INSTRUCTION.LIST
TEST RUN :CONDITION
IFFALSE [STOP]
IFTRUE [RUN :INSTRUCTION.LIST]
WHILE :CONDITION :INSTRUCTION.LIST
END
```

The Logo version of this construct is quite simple; the list of conditions is evaluated, and if the result is true, the corresponding action is executed. The procedure then calls itself again. If the condition turns out "false", the procedure is terminated. Note that the "conditions" need not only be a conditional statement; any procedure that finally outputs "true" or "false" would work as well.

## THE UNTIL INSTRUCTION

```
UNTIL :CONDITION :INSTRUCTION.LIST
RUN [INSTRUCTION.LIST]
TEST RUN :CONDITION
IFTRUE [STOP]
UNTIL :CONDITION :INSTRUCTION.LIST
END
```

The UNTIL command works in similar fashion; the main difference is whether execution takes place before or after the conditional test.

## THE CASE INSTRUCTION

The CASE instruction may be thought of as a type of multiple IF-THEN statement. There is an expression to be evaluated, and control is directed to the first part in which the expression to be evaluated is true. Such an instruction seems to require an indication that one of its parts has been executed, so that further execution within the case statement will not occur.

The Logo version of a CASE command will again use  
contd.

list processing:

```

CASE :EXPRESSION :CASE.LIST
IF EMPTYP :CASE.LIST (STOP)
LOCAL "FLAG
MAKE "FLAG "FALSE
IF :EXPRESSION = FIRST FIRST :CASE.LIST (MAKE "FLAG
"TRUE RUN BF FIRST :CASE.LIST)
IF :FLAG (STOP)
END

```

There is a test to see if :case.list (1) is empty. A flag is then set to "false" (no procedure is executed as yet). This flag is a local variable and will not interfere in other procedures.

The first item of the first item of :caselist is compared with :expression; if they are the same, :flag is set to "true" and the first item of the first item of :case.list is executed.

Next the flag is tested to see if execution has occurred; if it has, the case command is terminated. If there was no action, the case command calls itself again, after removing the first item from :case.list.

We will call our more Logo-like variation of the case notion COND, in which ALL of the true items in an if.list will cause execution of the corresponding items in a then.list. Separating the two permits easy substitution during the program.

```
COND :IF.LIST :THEN.LIST
```

```

IF EMPTYP :LIST (STOP)
IF RUN FIRST :IF.LIST (RUN FIRST :THEN.LIST)
COND BF :IF.LIST BF :THEN.LIST
END

```

This command is more general than the CASE command. If execution is to cease after the first "true" condition (or procedure that finally outputs "true") one need only use the local flag technique demonstrated above.

Recreating popular programming constructs and comparing them to Logo constructs becomes a typically Logo-like activity: one comes to understand why they are there, one has the option to experiment with them, and one also learns alternate ways of expressing the ideas they embody.

Notes:

1. For a discussion of the differences between Formal Logo and Relaxed Logo see: The Apple Logo Reference Manual p. v-xiv.

2. The FOR, UNTIL and WHILE commands are featured in the Logosig program disk.

References:

Abelson, H. Apple Logo. McGraw-Hill.

Apple Logo Reference Manual. Logo Computer Systems Inc.



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# FILE CABINET FIXES

by J. T. DeMay

Way back in 1978, long before Atari, Osborne, and Sinclair were ever heard of, Apple was giving away a program called File Cabinet. It was included on volume 3 of the Apple Software Bank of Contributed Programs. Submitted, by J. Apple Sede, according to the documentation, and distributed through the small network of Apple Computer dealers, File Cabinet was destined to become one of the most well known programs written for the Apple. It was introduced as "a disk-based Information Storage and Retrieval System...". Information that would be stored in a conventional file cabinet could be entered from the Apple keyboard, manipulated, then selectively output to a printer. Since it was written entirely in "APPLESOFT II", and easily accessible by anyone curious enough to LIST it, many people did. The next logical step was to modify it to add some specific function, or to make some existing function easier to use. I suspect that File Cabinet has been LISTed and modified more than any other program. Many modified versions of the original File Cabinet have become available. As we might expect, an uncertain number of bugs have accompanied the spread of these improved versions. Some are minor, others prevent the operation of the program altogether. If you have a problem with a modified File Cabinet, contact me through the club office, or the ABBS. I will attempt to coordinate the corrections and report them for everyone's benefit.

To start the ball rolling, here are two fixes. The first is unique to "Super File Cabinet" available on WAP library disk #37. An interesting and useful feature added, allows the use of boolean logic to select records for printing, viewing or deleting. Boolean logic is a fancy way of saying that we can select records "Equal to", "Not Equal to", "Greater Than", or "Less Than" some selection criteria. For example, after creating a report format, you will see something like this:

```
SELECTION CRITERIA  
ENTER 'HEADER, OPERATOR, VALUE'
```

To which you are expected to respond:

```
ZIP CODE,EQ,20737
```

or something similar. This contains three distinct entries. They must be separated by commas or each followed by a carriage return. In this example, the HEADER is ZIP CODE, the OPERATOR is EQ meaning equal to, and the VALUE is 20737. Four operators are acceptable;

```
EQ - equal to  
NE - not equal to  
GT - greater than  
LT - less than
```

The problem surfaces when the LT operator is selected. A SYNTAX ERROR in line #9060 is the culprit. It should be:

```
9060 IF SO$ = "LT" THEN IF LEFT$(N$(J,S),LEN (SV$))  
< SV$ THEN 9080
```

The repeated use of ONERR GOTO makes finding errors in File Cabinet very difficult.

The other problem is associated with the "Elec File Cabinet" from WAP library disk #22. Most, if not all,

versions of File Cabinet use the value returned by FRE(0) divided by a constant multiplied by the number of headers in the database to DIMension the arrays required for storing the data. That's not nearly as confusing as it first seems. Let's take a look inside the original File Cabinet:

```
1170 MEM = FRE (0)  
1180 B = INT(MEM / (13 * NH))  
1190 DIM N$(B,NH),R(B)
```

NH is the number of headers (or field titles), and the 13 is the average number of characters per record as expected by the original programmer. This is the reason that the value of ### in ROOM FOR ### MORE RECORDS is often misleading. Compare line #1180 of the ELEC FILE CABINET:

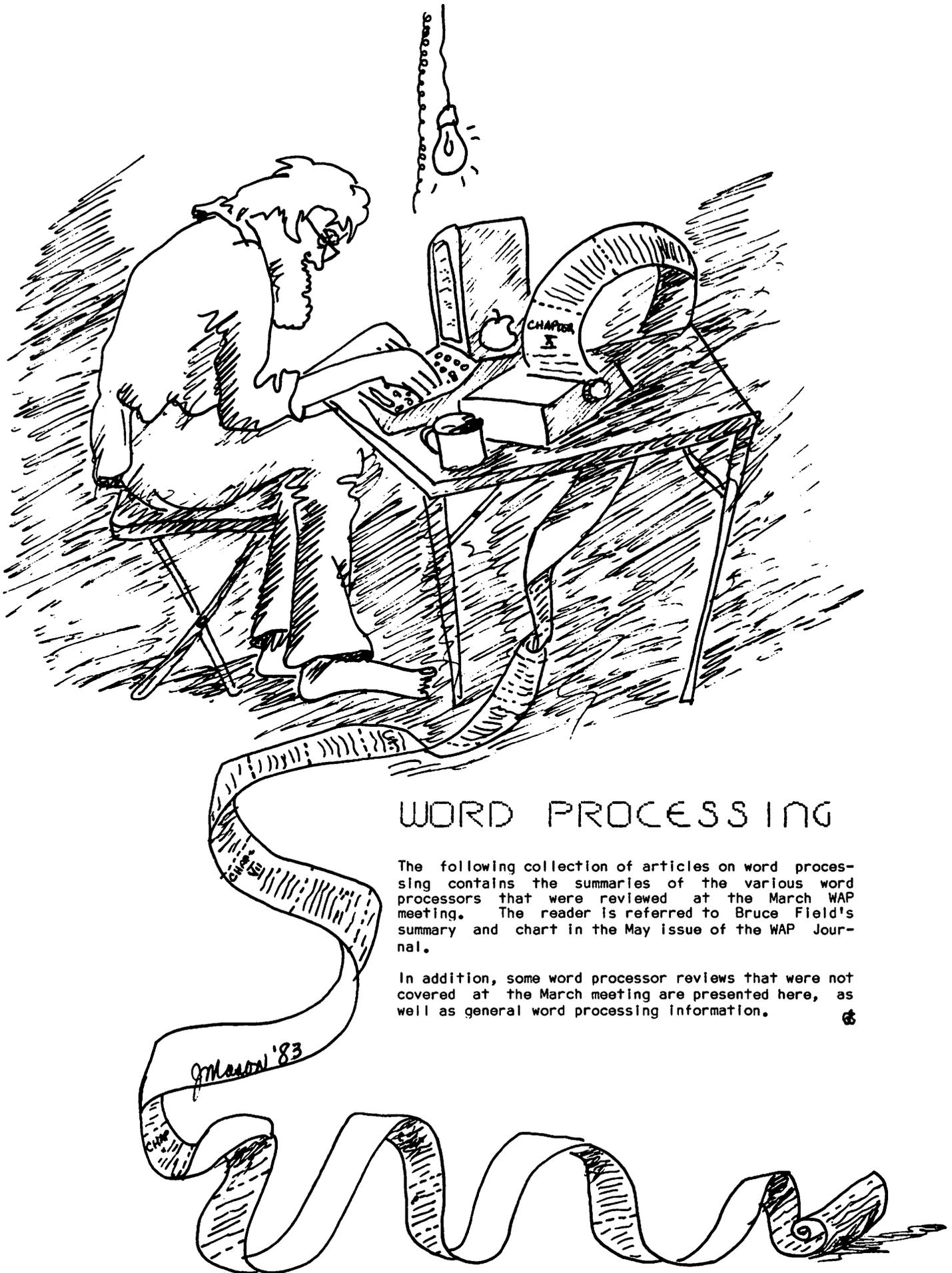
```
1180 B = INT (MEM / (3 * NH + VAL (H$(NH +1))))
```

The 13 has been changed to a 3, which is then multiplied by NH (the Number of Headers), and the VALUE of the header one greater than the last header is added to the results. Assuming that some value were stored in this variable, this might have been used to reserve some operating space for the program. However, I can't find any reference to it in the program. Because Applesoft will always assume a value of "0" for any unused variables this will have no effect. Using a 48K Apple and a database consisting of three fields, MEM=26326, and B=4387. Line 1190 tries to DIMension two arrays to 4387. Obviously, there is not enough room for all those variables, and my Apple responds with an ?OUT OF MEMORY ERROR IN 1190. I suggest using line #1180 from the original program, possibly adjusting the 13 to fit your average field size.

Since File Cabinet is limited to working with data files no larger than the available motherboard RAM, several people have relocated DOS to a memory card, freeing 10K for use by File Cabinet. This causes another problem with the DIMension in line 1190. The VALUE returned by a FRE(0) under these conditions is -28905. Even using an average record size of 30 with 5 headers still yields a negative value for B. Applesoft catches this error also, but instead of reporting it as an ?ILLEGAL QUANTITY ERROR IN 1190, control is passed to the subroutine which builds a new database. The ONERR GOTO in line #1140 intended to detect a FILE NOT FOUND ERROR is responsible. Actually, an incomplete error handling routine is the culprit. Location 222 should have been PEEKed to determine the code for the error and then proceed accordingly, (but that's another story). The fix for the negative value used to DIMension the arrays, is to first determine if the value returned by FRE(0) is negative, and if it is, then add 65535 to convert it to a positive value. I inserted the following line:

```
1175 IF MEM < 1 THEN MEM = MEM + 65535
```

This will take care of that problem, however I'm sure that there must be more. If you come across something from any of the File Cabinets that doesn't work like you think it should, contact me and we will share it with everyone. Next time we will explore the feasibility of using a File Cabinet program to print mailing labels.



## WORD PROCESSING

The following collection of articles on word processing contains the summaries of the various word processors that were reviewed at the March WAP meeting. The reader is referred to Bruce Field's summary and chart in the May issue of the WAP Journal.

In addition, some word processor reviews that were not covered at the March meeting are presented here, as well as general word processing information. 

# LETTER PERFECT

## by Leon H. Raesly

**GENERAL:** Letter Perfect is a single disk drive, menu driven word processor. It is a machine language program, and is very fast and responsive. Once loaded, the program disc can be removed, and a data disk kept in drive #1. Its strengths are: it provides extremely fast printing; it processes files that are either binary OR text; it can access ANY standard text file of a data base (hence completely free formatting of invoices, form letters, fill-in-the-blank insurance or other forms is possible). It can even be used to create it's own data base, with it's own header, if you desire, thus obviating the need for a data base in some applications. Version #6 can chain print files. It has complete format control of the printed page.

Its commands are easy to learn and it has good mnemonics. It will do footers, headers, and page numbering by chapter or the whole book. It works in 40 column mode or makes use of the 80 column boards (including those for the //e and the Franklin computers). You are able to screen format any page, thus seeing the layout without having to print it on a printer.

Letter Perfect will print footnotes changeable from page to page. Although it will not do true footnotes as a dedicated word processor does, it is satisfactory for this purpose.

Letter Perfect is one of the very few that will work with a modem, being especially set-up to work with the D. C. Hayes Micromodem. It will transmit, edit, and receive any text from this modem.

Letter Perfect can merge any file on disk to the file already in memory. It can load any text file created by any method. Thus, it can load VisiCalc files that have been printed to disk, thus giving fast tables formatting, and printout. If you have EXEC'ed an Applesoft file to disk (see my article "Word Processing Made Human" elsewhere in this issue) you can edit Applesoft programs with fast global search and replace, and all the other features of Letter Perfect's editor. You can also load data files (if a text file) and edit them, deleting or adding data, re-save to disk, and use them with its companion data base (Data Perfect) or with selected statistical programs.

**EDIT:** In the Edit/Create Copy mode, Letter Perfect can add space for characters, lines, and paragraphs. It can move large blocks of copy, store them in a buffer, or insert them where ever you wish. It can delete characters, lines, and large blocks of copy. It has a fail-safe on large deletions, confirming that you really wish to delete and that you did not accidentally depress those commands.

Letter Perfect has complete cursor control, allowing movement by character; to the end of a line; to the beginning of a line; to the top of the screen page; the bottom of a screen page. It will move directly to the beginning of the text and the end of the text. It has fast and smooth scrolling through the text, and the speed of the scroll can be controlled by the operator.

Letter Perfect has automatic positioning of words (it moves a whole word to the next line, thus no words left "hanging" partially on one line, partially on another). It will also re-justify the screen text if you have been moving or adding copy with a single

command.

Letter Perfect can also do a fast search on any criterion you wish, stopping at each occurrence. You may then stop the search, or continue the search for the next occurrence of your criterion with a single command. You can also do a fast global search and replace throughout the entire text. At each location of your search criterion, it again asks you if you wish to replace, or continue without replacing. A complete search and replace for 25 occurrences of any criterion within a 10 page, single spaced document takes about 30 seconds.

If you have added the Videx board and the Videx Keyboard Expander, it works well with it, allowing user definable macros, extra fast cursor movement, and full upper and lower case letters on the screen (it displays upper and lower case with any 80 column board.

Letter Perfect also supports the shift key modification without an 80-column board, and has a shift lock to give all upper case, all lower case, or mixed any way you wish. If you have not made the shift key fication, it uses the standard ESCape convention to give upper and lower case on printout, even if you have not installed a lower case character generator.

**PAGE FORMATTING:** Full page formatting is done within the text. The width and location of left and right margin can be easily defined, and altered at will. Top and bottom margins can also be defined for the entire document, or changed on any page. Headers and footers can be used, and their size (number of lines) defined and changed whenever you wish. Page number can be within these headers OR footers, or placed wherever you wish. Any copy can be right and left justified (presenting an even block of copy). Or you can select to have left justification, and right edge uneven as a typewriter would.

Copy can be centered (either a single line, or an entire paragraph), and the point around which the centering occurs can be the center of your formatted page, or changed to be any other point that you wish. Copy can also be right justified only, giving you an uneven left margin, both for a single line, or an entire paragraph. This is particularly useful with page and chapter numbering. Page formatting is done completely within the text. Letter Perfect also allows for negative indenting; thus copy can be inset at smaller margins than the main body of text, and then returned to your original margins at will.

**PRINTING:** Since Letter Perfect is a machine language, fully loaded program, no special print file has to be loaded from disk; thus printing is easy and fast. As mentioned before, printer page format is controlled from within your text, thus providing very easy changing of page format for the printer at any time. Letter Perfect supports ALL printers, and is easily reconfigured for any other printer at any time.

Printing can be stopped at any time, as well as "paused" whenever you wish, beginning again at the next line on command. In addition, it can be "instructed" to print continuously, without pausing at the end of a page, or can be "instructed" to stop at the end of each page (e.g. for changing to a new sheet of paper for cut-sheet printers).

contd.

Letter Perfect will support any type style that your printer is capable of, and allow any necessary CTRL or ESCape characters to be sent to your printer. Thus, type styles can be changed within a single print line, something very few word processors will do. This is particularly useful when you wish a single word in ITALICS or extra heavy EMPHASIZED TYPE. The example below was formatted by Letter Perfect and printed on the MX 80 with Graphtrax +.

If your printer is capable of it, it will print in:

**BOLD TYPE**  
**EMPHASIZED BOLD type**

CONDENSED type

ENHANCED TYPE

ITALIC type

underline words

as well as print <sup>superscripts</sup>

or will print <sub>subscripts</sub>

Its disadvantages are few. It does not do real footnotes (but then NO word processor does), but it can give an acceptable approximation for most purposes. The manual is poor, and requires study (but then I have never found a good manual for any program!). It will not load partial files, so that if your output from another source is too large, you must use some other program to shorten it first, then load it into Letter Perfect. It also has no HELP features, so that while learning the program at first, you must keep the manual close by.

I have used Super Text, Apple Writer II, Word Processor III, WordStar, And several dedicated word processors (Olivetti and Wang) and consider this program the best all-around choice for the Apple (or Atari, for that matter), and actually superior to the low and middle range of the dedicated word processors.

# SCREENWRITER

## by Peter Combes

ScreenWriter II was the the best selling word processor for the Apple in 1982. It was specifically designed to attack the main limitation of the Apple II and Apple II Plus for word processing - the lack of an adequate screen display. ScreenWriter will provide screen displays of 40 column and 70 columns with upper and lower case, all without hardware modification. The arrival of the Apple //e - with upper and lower case as standard and 80 columns as a low cost option, makes these features less important. ScreenWriter writes standard text files rather than the binary files of Apple Writer I, with which it was designed to compete. This allows the use of all sorts of programs that access text files - spelling checkers, communications packages, and so on. If you like, you can edit a Basic routine in ScreenWriter and then EXEC it into the computer memory.

ScreenWriter is full of advanced features, such as indexes and footnotes, but many of them are tricky to use. It is also unusual in that it can create very long text files, not limited by computer memory, but only by the space on the disk. However, it does this by using disk space as "virtual memory", and this can scramble a disk if you try to be too clever and not too careful.

ScreenWriter is good for complicated letters or simple manuscripts. It is not good for writing a letter in a hurry - it will not forgive the mistakes that you make when you are in a hurry, and it insists on saving to disk before it will print properly. At the other extreme, it is not good for writing a complicated manual, because it never knows what is on which page until it prints out.

# MAGIC WAND

## by Eloise French

If you're not sure you need word processing, think again if you do either of these things:

1. Writing of any kind. The ease and elegance with which you can draft, re-arrange, and polish your prose is unmatched when you use a good word processor which you know well.
2. Repetitive clerical chores - sending the same group of people several different letters over a period of time, or sending a long list of people the same letter.

Magic Wand is sophisticated and versatile, and has all the standard word processing features to accomplish whatever you want, if you have the patience and persistence to see your task through to completion.

Since we did not talk about footnotes in the March panel discussion on word processors, I'm going to describe the system I would use to locate footnotes on a manuscript, each one on the page where the numerical reference to it first occurs. My method is typical of the way I've produced most of my good results with Magic Wand - using my knowledge of its capabilities and limitations, I devise a way to make it do what I want.

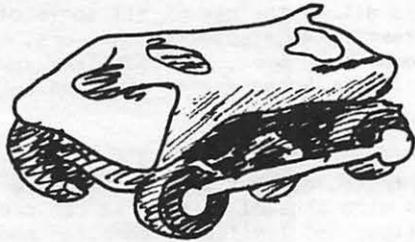
In EDIT, key in manuscript and footnote references, using the superscript capability. On the next line following the footnote reference, embed a command for single spacing (most manuscripts are double spaced), skip a minimum of three spaces, and key in the footnote material. Skip the same number of spaces again, and embed a double space command. Continue with the manuscript.

Print the completed manuscript, using embedded commands for top and bottom margins and numbered pages. With Magic Wand, this printing can be either "Screen On" meaning to terminal, or "Screen Off" meaning on paper. Examine the manuscript to decide where electronic "cut and paste" modifications should be performed to produce pages with each properly numbered footnote at the bottom of the page on which reference to it is made. All printing, including the footnotes, will be within the specified top and bottom margins. Go back into EDIT, and by means of block moves of text, move the footnotes to the locations you decided on and marked on hard copy or careful notes. Print the finished manuscript for the second time.

Three points I'd like to make in praise and warning of Magic Wand follow: This system is not one learned fast and easily - it seemed awkward and cumbersome to me at first - but once learned, it's fast. The edit control keys used are based on touch typing, which is the reason for the speed a touch typist can build up once the keys are learned.

The tutorials which get the user started are excellent and fun to use. The manual seems to me to have been written by a programmer, and I think some collaboration with a skilled user would improve it considerably for the non-programming user.

That brings me to the feature which may be the most important of all - Magic Wand is the only word processor I know of which allows you to program for the purpose of customizing or maintaining the Magic Wand system. For you techies, I'll say that ASCII files using CP/M (get that Z-80 card) conventions are supported in EDIT. One of my colleagues hired a freelancer to write a meeting registration/badge printing program which has worked very well.



## APPLE WRITER //e by Dianne Lorenz

Ease of use and excellent documentation are the selling points of Apple Writer //e. It is a vast improvement over Apple Writer II because it takes advantage of the hardware enhancements of the new Apple //e: 80-column text screen, upper/lower case, a delete key, a tab key, four cursor control arrows, and two function keys.

This program is powerful without being overly sophisticated and is excellent for the first-time user, for families with children, for schools, and for small businesses.

It carries a price tag of \$199.00, and includes two superb manuals, a master, and a backup diskette.

The program begins with a blank screen, no logging-in procedures or menus to slow down the anxious writer; however, several help and additional functions menus are within a keystroke. The strong points of Apple Writer //e are:

- the ability to load your own print constants and tabs when booting the master diskette
- the ability to create macros (user-defined glossary)
- the ability to place footnotes within the body of the text
- a one-keystroke underline character
- being able to load, save and print selected parts of files.

The only drawback I have noticed so far is the lack of a multiple print command in the print menu. This was resolved by writing a WPL program that allows multiple copies. Such a program will be published soon in the WAP Journal.

## WORD HANDLER by Jane Mason

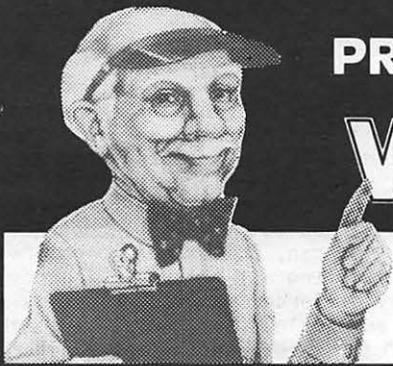
Word Handler is one of the easiest word processors to learn. The commands follow a logical sequence. It is good for students, journalists and office letters. I teach Word Handler in from 15 minutes to 1 1/2 hours, whereas WordStar, for instance, needs six hours of instruction. Following are some of its most important features:

- Upper and lower case.
- 66 columns across - 66 columns is the width of normal text on 8 1/2 x 11" paper.
- No CP/M card necessary, no 80-column card necessary.
- \$199.00 retail.
- You see your letter/document exactly as it will be printed. Capitals and lower case show on your screen; even bold face and underlining will show up.
- Printing of 1-page or multi-page document is easy.
- Uses List Handler (\$75 - \$89) to print multiple copies of the same document, and also for form letters. List Handler works with Word Handler as MailMerge words with WordStar.
- If you have an Apple II with no shift-key modification, you must use escape key instead of shift for capitals.
- On the Apple //e it will work upper and lower case with the shift key. With the new 3.7 version of Word Handler, you use the Open or Closed Apple key instead of the Control key (with 3.5 and older version, use the Control key).

## GUTENBERG by P. K. Wong

The Gutenberg is a powerful word processor which is especially well suited to those who use foreign languages, mathematical equations or graphics in their writing. The user can create special fonts of up to 125 characters each and use them freely in the text along with the normal printable characters. The special symbols will appear on screen as they are entered and printed on paper, fully justified and in proportional font, if one of the supported dot matrix printers is used. The user can also design logos or draw pictures and have them included in the printed output. Pictures created by another graphics packages can also be used, provided it is stored in a standard 34-sector binary format. Output format is controlled by print macros and these can either be embedded within the text file or stored separately. The latter permits the same text file to be printed in several different formats by simply calling up different format files.

The Gutenberg package does not seem to be readily available locally, but can be ordered from Micromation, Ltd., 1 Yorkdale Road, Suite 406, Toronto, Ontario, Canada M6A 3A1.



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# THE FINAL WORD - ANOTHER WORD PROCESSOR

by Loftus E. Becker Jr.

I bought my Apple for word processing, and in the course of using it for the past two years have had extensive experience with four word processors: Magic Window (both I and II), ScreenWriter II, and Wordstar.

None of these has been fully satisfying. Magic Window (either version) is enormously easy to use. It is the only word processor I have ever been able to get running without ever reading the manual, although it took me a while to figure out a few of the editing commands. In my view it could well be the word processor of choice if your work does not require fancy formatting -- for example, for letters and plain memoranda. The major differences between the two are that MWII supports 80-column cards; provides a (fairly clear) 70-column display on the Hi-res screen if you are willing to give up the storage space; and will support both a printer driver and a special video driver if you so desire. (This latter feature made it possible to use MWII with the built-in 80 column display on my Basis 108, something I have otherwise been able to do only with CP/M and Pascal word processors.) The printer driver provided for Grafrax+, for example, vastly simplifies the commands necessary to access underlining, emphasized print, and other special features of the printer. But Magic Window II lacks many advanced formatting features, such as the ability to shift easily from single to double space in a document, the ability to change margins within a document, and similar elaborate formatting abilities.

ScreenWriter II offers tremendous value for the money, especially if you don't have an 80-column card. But if you do you can't use the card (although this may be fixed when the //e version appears), and the hi-res characters don't approach the clarity of a good 80-column display. Complicated to learn, it will nevertheless do most of the things one would want and do them conveniently. With a language card, so that the printing program resides in memory along with the editor, its major remaining defects are that it does not adequately support the Videx Enhancer (this, too, may be remedied in the //e version) and that the footnoting feature is primitively implemented.

I had expected not to like Wordstar, but after a few weeks' use found it far better than I had expected. General text editing is convenient and easy, printer control and support very good (if you have one of the supported printers or can figure out how to configure your own), and for one to whom the shape as well as the words of a document are important, it was pleasant to see an onscreen preview of the final version -- complete with page breaks (though not complete with headers, footers, or page numbers). Yet Wordstar still leaves much to be desired. Reformatting a document is a painful process, especially to one used to the automatic reformatting on printout available with ScreenWriter. Footnotes are not supported at all. (There is said to be an ancillary program, Footnote, which works with Wordstar and does footnotes, but no computer store I have talked with has had a copy to demonstrate.) Nevertheless, with CP/M and 80 columns, I found myself most often using Wordstar in preference to ScreenWriter except when I needed special features (or DOS text or binary file editing) not available on Wordstar.

A review in BYTE led me, through devious paths, to yet another word processor: The Final Word, from Mark of the Unicorn, and available for Apples with 64K, 80

columns, and CP/M. This program, which lists at \$300 (\$100 less than Wordstar) has impressed me, in several weeks' use, as the finest word processing program I have yet come across. Its particular advantages are in the broad variety of options available for formatting documents, its unmatched ability to be configured however one desires (you can, for example, entirely remap the keyboard, redefine all the control codes, and create a completely different map for printouts if your printer has an eccentric printwheel), and the special feature (called 'state save' by the authors) that renders it virtually immune to power glitches or system failure.

1. General Features. The Final Word has all of the features one normally expects in a fancy word processor: cursor movement by character, word, line, paragraph, or to markers; search and replace, local or global, with or without queries at each occurrence of the questioned word; block movement, deletion, and so forth. It has one feature to which I have quickly become devoted: the ability to maintain several files in memory simultaneously, to switch among them with ease, and even to display two of them on the screen at the same time -- so that, for example, one can write a final draft on the top of the screen from notes displayed at the bottom. In addition, it has macro and form letter capacity, taking information from the keyboard or from files. (The latter method seems slightly less convenient to me than ScreenWriter or Wordstar's Mailmerge, but I have little use for it and perhaps have just not mastered it.) If you have a terminal that will show underlining or half-intensity video on screen, Final Word can take advantage of this -- it can, in fact, support up to four separate screen attributes. It can print to disk files or to specially formatted disk files (with a "page" the size of your CRT display, up to 60 lines long) useful for writing instructions or information meant to be read on a video screen.

2. "State Save". "State save" is a special joy. The program works with a "swap" file in which it stores the information you are working with. The size of the swap file is (up to a maximum of 248K) limited only by the amount of disk space you have available for it, and you can pick your own size. Whenever you stop typing for a few seconds, Final Word saves the recent changes in the swap file. Hence when you quit -- or if a system crash erases everything in memory -- its current status is available on disk and can be easily and automatically recovered. In fact, when you start up The Final Word, it returns you to precisely the point that you last left off. Like almost everything else, you can determine how long the machine will wait before saving new changes in the swap file. Longer times reduce disk access but leave a greater chance of losing information. If you put the swap file on a pseudodisk, the disk accesses are barely noticeable -- but you lose protection against a system crash, and can take up where you left off only if you copy the file before powering off.

3. Advanced Features. The Final Word has two basic methods of formatting and printing text. The quick one allows you to print the file precisely as it appears on the screen, with no special formatting features. Alternatively, you can embed formatting commands in the text, and it is these commands that give the Final Word so much power. For a footnote, simply insert "@foot" and enclose the text in parentheses; it

contd.

will be numbered, a superscript inserted in the text, and the footnote placed with its number at the bottom of the page.

Chapters, sections, or subsections? The same idea, and they will be automatically entered into a Table of Contents printed out after the document is done. Indexing is similarly available, as well as a variety of commands for lists, indentations, outdents, and so forth. Making use of these features requires that the text be run through a special formatting program before printing, which adds about 15 seconds per page to the printing process. Such is the power of the commands, however, that I find I never do without it.

One could go on for quite some time -- as the authors do, in a manual of almost 400 pages, which provides a good tutorial for learning the program and installation and special configuration instructions that are a model of completeness. As with Wordstar, most instructions work from a series of "menus": Press one key and the menu appears, press another key or keys for the commands. If you press the keys quickly you bypass the menus. If you don't like multiple keystrokes, and have an available key (control, function, or whatever) you can make a single keystroke perform any of the commands. Onscreen help is available from a Help file.

4. Problems. The biggest problem with The Final Word is that it is greedy with disk space. It was written to be used on computers with far more disk space than Apples normally have, and is impossible to use with one drive. With two Apple drives, all works normally except that you have to switch disks to go from the editor to the printer, and cannot print while editing another document. If you have large-capacity drives (8", or 80-track, for instance) everything will fit on a single disk.

Footnoting, that bane of word processors, is still not perfect -- as the manual notes, "This version" of the program will have trouble with footnotes too long to fit at the foot of the page on which they are placed. Another version is said to be planned for the winter, and it may correct the problem. At least for the moment, if a footnote runs onto the next page you will have either to rewrite the footnote, manually test the page, or else do some of the formatting yourself.

In addition, Mark of the Unicorn seems to have had some trouble with their Apple-format diskette duplication. The first copy I received was defective. Fortunately I had not gotten it mailorder, but from a local supplier who promised to come out and install it for me. He went off and returned a week later with a second set of disks, also defective. The third try finally worked -- and anyone else interested in getting a copy should know that Ashton Computing Services in Maryland now has a working set of The Final Word in proper Apple configuration, in case the copy you purchased from them has the same problems mine had.

All in all, however, I am happier with this word processor than with any other I have used. Much, of course, is a matter of taste: some folks hate complicated commands, others revel in them. What makes the Final Word stand out, however, is the degree to which you can customize it to fit your own preferences (almost all of the default characteristics are modifiable, and can also be changed within a document by formatting commands -- everything from line spacing to placement of footnotes or paragraph indentation), and the unmatched power and ease of its formatting commands. Anyone considering word processing on the Apple, and in possession of CP/M and an 80-column card, should seriously consider The Final Word.

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# MAGIC WINDOW II: A Review

by Jack Warner

A food processor is to a knife and chopping block what a word processor is to a typewriter. With that analogy, the new MAGIC WINDOW II is equivalent to the second most popular French food processor!

MW II is easy to use and works on all Apples (II+, IIe, III) in 40, 70 or 80 column mode. Files generated in one mode can be changed to the other with an easily accessed configuration menu requiring only a few carriage returns and keystrokes.

What I like best is that what you see on the screen is what you get. And, you can get it on paper quickly. Ordinarily, I will go from the editor to the print menu (four keystrokes) which then dumps a file into my Wizard buffered print card. What if your disk is full and you try to save a file on it? With MW II you simply remove the disk and insert any other disk that has a standard Apple format. You don't lose all your hard work. Some of the best WPs require you to keep track of the remaining disk space and will crash if there is insufficient file space during a save. Result: You lose the file forever!

At the March Apple PI meeting various word processors discussed by the panel were compared against the criteria below; so let's see how MW II stacks up:

**Additional Cards:** MW II requires a 64K Apple. No problem for IIe, and most of you by now have bought a 16K RAM Card for your II or II+. (Nowadays you can buy a RAM card for around \$50, if you don't have one.)

For 80-column operation you need an 80 column card in your II or II+. IIe owners are home free. Or, if you don't want to invest yet in this card you can operate MW II in the 70 column full screen mode which uses a generated character set (pioneered by ScreenWriter). MW II's generated 70 column character set looks almost like regular 80-column characters on a monitor. Note that any file generated in any column mode will work in any other. Another important file feature is that you can save text formatted or unformatted. This means the text can, for example, be transferred to CP/M via the APDOS Microsoft CP/M transfer program and then used in WordStar and other CP/M word processors, as well as DBASE II. Thus, you are able to use your files as you upgrade to CP/M.

The screen editor works like a typewriter with the CTRL key plus one other key operating all functions. For example, to kill a line, hit CTRL K. Oops! didn't want to kill that line? Hit CTRL R to restore! Up to 16 lines are held in the Kill buffer and can be restored anytime, anywhere; a nice method to move text simply. Moving larger blocks is not much more difficult.

There is no direct on-screen help file, which I doubt you would need after the first hour of use. Help is provided three ways: The manual, clear, with a tutorial; a "kolor koded keyboard kard" (say that fast three times!) and a file on the master disk you can print out or view on the screen.

The program is memory resident and limits you to the equivalent of 10 single spaced pages of text per file save. I have not found this to be a problem, but rather, it is useful, since you can quickly load and get to the text you want.

Cursor movements on the II are via CTRL key plus one other key, e.g. CTRL Q up a line, CTRL Z down a line. You can skip 14 lines at a time, up or down, and go to the beginning, end or any page with other CTRL letters.

Why MW II? MW I did many of the same things and I liked its ease of use. Kids learn its use in 30 minutes! MW II does all MW I did, plus on-screen 80 columns (you can create even wider pages. Couple this with condensed dot matrix print and your documents look like classified news! Two other new features are great: you can underline with a solid line and a section of the manual explains in simple ENGLISH how to make your Epson do all the things the Epson Manual tantalizingly alludes to! Imagine expanded type, bold face, super/sub scripts etc.! I would assume other dot matrix printers would behave similarly.

As your first word processor, this amazingly simple WP will spoil you. If you are still struggling with other WP's that make you do all the work rather than vice versa, struggle no more! Put a little magic in your Apple!

MW is produced by ARTSCI, 10432 Burbank Boulevard, North Hollywood CA 91601 (213) 985-2922. List Price \$149.95.

## SPECIALTY WORD PROCESSORS by Jay Thal

There are at least two recently developed word processors that were not reviewed as part of the WAP evaluation which, if you have special needs, may be worth considering. They are:

**PEACHY WRITER**, which is designed for use by the vision impaired. Technically a text editor, it provides both a large print display on the monitor screen for the vision impaired and a normal print size for the sighted. The text can be printed out in a standard font or, with an Epson printer, in double size. Written by Dr. Carl Rutledge, it is distributed by Cross Educational Software, P.O. Box 1536, Ruston, LA 71270. (318) 255-8921. \$24.95.

**BANK STREET WRITER**, which is touted as being designed for the whole family, but its strength is that it is so easy to learn that young children can use it. Documentation is limited to only a few pages of text and an on-disk tutorial. It gets its name from the renowned Bank Street College of Education where it was developed. Distributed by Broderbund, 1938 4th Street, San Rafael, CA 94901. \$69.95.

# Operant Systems

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|--|-----|
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| JB-1212 (12" color, composite video) .....             | 279 |
| Zenith ZVM-121 (12" green screen, 15Khz) .....         | 99  |
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| Smartmodem 1200 (300/1200 baud, as above) .....            | 489 |
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| Smart-Cat 300 (RS-232, direct-connect) .....               | 175 |
| Smart-Cat 300/1200 (as above) .....                        | 425 |
| J-Cat 300 (miniature RS-232, direct-connect) ..            | 109 |
| SSM ModemCard (300 baud, audio monitor, emulates Hayes) .. | 235 |
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# PALANTIR: WORDSTAR REVISITED?

by William C. Jacobson

The WordStar program of MicroPro is considered by many to be the most sophisticated word processing package available for microcomputers. There is no doubt that WordStar is a very powerful and versatile program. Because of this very enviable reputation and the similarities described later, WordStar appears to be the perfect foil for an evaluation of Palantir, a CP/M based competitor for top honors.

This does not mean that WordStar is a "perfect" program. In my estimate, no word processor now available meets that criterion. There are features of Palantir and other processors that outstrip similar ones available on WordStar.

Some believe that WordStar's "sophistication" makes it difficult to learn and use. It also is faulted for not performing a number of important functions. For example, it does not allow proportional spacing, although there are rumors of a new version that will have this capability. In addition, WordStar does not provide easy buffering of deletions. This means that those using the word and sentence delete feature must exercise great care, because these entries cannot be restored once they have been removed.

Thus, despite its lofty reputation, the venerable WordStar may not be the word processor of choice in all situations. Enter one of many challengers: Palantir, a product of Decision Software of Houston.

## IS THERE LIFE BEYOND WORDSTAR?

What does Palantir do, aside from proportional spacing, that deserves the attention of those reading this article? One special feature of Palantir is speed. It executes faster than any word processing program I have used. Key strokes are immediately echoed on the screen, and the speed with which one can whip from one menu to another is very impressive. The copy that I reviewed was mounted on an Apple //e with a 6 MHz Applicard Z-80 board and two standard disk drives. A configuration for the Apple III is also available.

The main menu - shown below - is easy to understand. Simply move the cursor to the appropriate command and press RETURN, or enter the initial letter of a command for immediate execution. In addition, a touch of the ESCAPE key will cancel any command, or return you to the main menu from the edit screen and various sub-menus.

Table 1: Palantir Main Menu

-----  
EDIT READ SAVE BACKUP FILE PRINT TYPE DEFINE HELP

Default Disk B: - Programs on A: Terminal: Alle

Current File: PALANART.WP      Size: 18K  
Current Location: Page 1 Line 1 Column 1

Disk A 98% Full 3K Left  
Disk B 66% Full 41K Left

-----  
This menu also contains information on disk space available for all drives attached to your system. This feature should help eliminate problems associated with insufficient floppy disk space during a SAVE operation. The TYPE command on the main menu allows you to use the computer like a typewriter, with key

strokes sent directly to the printer.

The FILE command menu is another example of the simplicity and attention to detail of Palantir. This menu, as shown below, is an excellent example of clear writing.

Table 2: Palantir File Utility Menu

-----  
Main        -- Return to the main menu  
Directory -- List the files on a disk  
Inspect    -- Display the contents of a file  
Erase      -- Remove a file from disk  
Rename     -- Change the name of a file  
Copy       -- Make an exact copy of a file  
New Disk   -- Replace the disk in a drive  
-----

The NEW DISK option is a CP/M Version 2.2 convention, where a warm boot must be performed each time a disk is changed. The new CP/M version 3.0 of Digital Research eliminates this requirement. A bonus of using this command is another disk readout that provides the following information:

| <<Drive 'B: '>> | KBytes | Pages | Percent |
|-----------------|--------|-------|---------|
| Total Capacity  | 128    | 64    | 100     |
| Available       | 39     | 19    | 32      |

| File Counts | Total | Pgms | WP | Backup | Other |
|-------------|-------|------|----|--------|-------|
|             | 9     | 2    | 2  | 2      | 3     |

The INSPECT function allows you to look at any file on disk at any time, without affecting the file being edited. This is particularly useful for obtaining data from another file, or for verifying that a particular file is the correct one, prior to loading it into memory.

Once I became familiar with the commands for Palantir, I began to enter groups of instructions to the computer in rapid succession (e.g., goto main menu, backup file, goto print menu, print document). The speed of execution was excellent. For example, if I press the ESCAPE, B and E keys without pause, the program will return to the main menu from the edit screen, backup the file in memory on disk and return to the precise spot where I entered these commands.

## PALANTIR ADVANTAGES/DISADVANTAGES

So it is fast and has some interesting menu options, but how does it compare with WordStar? There are a number of very similar features:

- Horizontal scrolling for wider than normal documents;
- "Ruler lines" at the top of the edit screen (and elsewhere) for tab settings and margin control;
- Screen formatting and reformatting of documents;
- Non-printing lines that show where page breaks occur, and
- Cursor position readouts at the top of the edit screen (page, line and column).

contd.

As you will see, WordStar and Palantir handle many of these functions quite differently.

One of the most awkward functions of WordStar involves imbedded ruler lines. For those unfamiliar with this term, a ruler line indicates graphically the setting for left and right margins, and standard and numeric tab stops. The line shows where the margins are set, and where each available tab stop is located. The standard ruler line is located at the top of the edit screen. The current default settings are shown on that line. This is a very powerful feature where it is necessary to change the default settings at several places in the text.

WordStar uses a series of strange commands to create and/or modify ruler lines. Even after a ruler line is set up, a separate series of commands must be used to actually set the margins. Also, margins must be reset each time the operator moves to another part of the document. That is, if one wishes to indent some paragraphs, the above steps must be followed; then the margins must be reset for their "normal" parameters for the rest of the document. This means that if the indented paragraphs and tab settings in a WordStar document are to be edited at a later date, the margins must be reset once again, or they will not be properly aligned. Also, the CONTROL-B (reformatting) command must be used judiciously in WordStar, or the specially indented margins will be reset to the global setting, regardless of the existence of a ruler line. Thus the lines are only a guide. The whole ruler line process in WordStar is, to say the least, a real "pain."

Palantir handles margins and ruler lines very simply. A few keystrokes set up and adjust the ruler line. These settings do not have to be reset when data are edited, and the Palantir reformatting command will not reset special margins to the global setting. In addition, all data affected by the ruler line are automatically reformatted to the new margins, once a ruler line has been created. This is a real joy to use.

Palantir also offers a fast way to indent paragraphs, where it is not necessary to set up a new ruler line. You position the cursor at the desired column and enter CONTROL-S,I. All subsequent lines will wrap around to that column, until the return key is pressed. In addition, if you wish to indent a paragraph that already exists, the above commands will automatically reformat the paragraph to the new settings. This feature is especially useful if you wish to outdent a number or "bullet" character for each of a succession of paragraphs, as I did with a prior section of this article.

A feature that I consider almost essential in a word processor program is the page break indicator. This is a visual, non-printing line which tells you precisely where one printed page will end and another begin. WordStar and Palantir insert a line of dashes wherever page breaks occur, and permit the insertion of "hard" or user defined breaks anywhere in the text - that is, when you wish to change the location of a break for reasons of aesthetics or readability.

As with other features, however, the way these programs accomplish visual page breaks is very different. WordStar does this automatically whenever the requisite number of lines are reached. Palantir requires a separate procedure to set the page breaks. For this extra work, Palantir rewards its users with some other very useful options. For example, you may instruct Palantir to use "widow" and "orphan" line controls to make sure that the last or first line of a paragraph does not print on a separate page. This eliminates many of the adjustments that normally would have to be made in WordStar.

In addition, Palantir offers a visual way of keeping intact, on one page, all of the contents of a table or other section of text that possibly could be split onto separate pages during printing. You simply enter CONTROL-S,I where the section to be protected begins, and CONTROL-S,I where it ends. These settings are shown in inverse video on the edit screen. Thus it is not necessary to count the number of lines to protect, as with WordStar and other processors. Additional lines of data may be entered into tables that are already protected without adjusting the current settings.

Both programs offer "what you see is what you get" screen formatting; however, Palantir does not justify lines on the edit screen. In WordStar, the screen shows an even right margin when justification is on, and a ragged margin when it is off. In Palantir, the right margins always appear ragged on screen but print out using one of three settings:

- Justified for even right margins
- Semi-justified for moderately uneven margins
- Normal for random margins

This is a minor advantage for WordStar, because the words per line will remain constant for either processor, regardless of how the margins appear on the screen.

The unusual semi-justified setting offered by Palantir is for those who want relatively even margins, but do not want their work to look computer generated.

Another major advantage of Palantir is the ease of changing default settings for the screen and printer. It is difficult if not impossible to modify those for WordStar. With Palantir, you simply make whatever changes you want, then save these new standard defaults to a file named "Default.WP" on the master disk. Every time you boot the master disk, these defaults will be in effect.

Special settings for a given file also may be saved with that document. Thus, if you decide to alter the standard default settings for one document only, these settings will be saved with that document, and available for any future editing. This can be accomplished with WordStar only through the use of commands imbedded in each document, a procedure that is neither as convenient or simple as that for Palantir.

Palantir includes without additional cost a package called MAILOUT. This is a form letter function much like MailMerge of MicroPro. The command and general structure of the two programs appear to be very similar. I like this type of program for standard letter formats. I use window envelopes routinely, and it is essential that each piece of correspondence be laid out very precisely. Although I did not test MAILOUT extensively, it seems to be far more powerful than MailMerge for complex form letter operations, but harder to use.

A feature of Palantir that I find useful is the ability to have headers and footers that contain multiple lines. This is accomplished by entering CONTROL-S,H or -S,F as many times as necessary. The program then offers you the option of locating your headers/footers on odd, even or all pages. WordStar permits only single lines, and the procedure for creating them is not nearly as simple as that for Palantir.

#### THE WORDSTAR ADVANTAGE

WordStar enjoys a distinct advantage over Palantir in three important areas:

contd.

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- The ability to RUN other programs from the main WordStar menu;
- The availability of some very powerful MicroPro programs that are complementary in almost all respects with Wordstar, and
- The standardization of cursor control and other commands with some non-MicroPro software, such as the very versatile dBASE II program of Ashton-Tate.

I like the RUN feature very much. This means, for example, that one may boot the CalcStar financial modeling program from the WordStar main menu, create or modify a table using that Visicalc-like package, and transfer these data to a disk file. Once I "quit" CalcStar, I am immediately back into Wordstar, and can merge (and edit, if necessary) the table that I created. If the data for the CalcStar table are available on the DataStar or dBASE data management programs, I can create a disk file after calling that program from the WordStar menu. Once that is completed, I return to the WordStar menu, call up CalcStar, create the table, then merge the table with the document I am composing. Everything is totally compatible. This is incredible power!

The value of standard cursor and other commands by WordStar should not be minimized. This means that you need to learn these commands only once, and then may apply them to all complementary programs, including dBASE.

Other WordStar features that Palantir does not have include:

**DOT COMMANDS.** These are print-time commands buried in the text of a document. For example, the left margin may be changed by inserting ".PO n" at the beginning of a line. The variable "n" represents the additional columns to offset the left margin. This is very important in WordStar, because there is no other way to make these changes. Most of these functions are handled differently by Palantir, as mentioned above.

**PRINT SPOOLING.** This allows one, within certain limitations, to output a document to the printer, and then edit another document while printing is taking place. It is an excellent feature, and works very well with WordStar.

**CURSOR MOVEMENT.** The WordStar convention is CONTROL-E,S,D,X instead of arrow keys as on Palantir, and various keys in the same part of the keyboard for other types of cursor movement and scrolling commands (word, line, screen, document, etc.). Once you get used to this setup, it works very well. This arrangement also conforms to a widely held notion that the greatest typing productivity is achieved if a typist's hands remain in the standard keyboard position at all times. Thus, according to this theory, arrow keys are less efficient than the keyboard-oriented arrangement of WordStar. To a certain extent, this may be a matter of taste, but I believe that there is some validity to the argument. It is possible to change the Palantir keyboard command structure to partially emulate that of WordStar. This can be done by patching the Palantir master file called WP.COM. I did this for a number of Palantir commands and it improved my productivity significantly.

**DELETE CHARACTER.** One character delete operations are virtually identical between programs. Words and sentences, however, cannot be deleted with a single key stroke in Palantir. They can be in WordStar using the CONTROL-Y,T keys. Palantir provides this through a SET/Delete feature. With that command, you enter

CONTROL-S,D in succession and then use various keys to define the words, sentences or paragraphs to be deleted. For example, you may use the space bar (words); the down arrow key (lines); or any other character that exists in the text (e.g., a period for a sentence, a comma or an alphabetic character for all text up to that point). If your computer has reverse video, the designated text appears in inverse, so that you can see with great precision what is to be deleted before executing the delete command. In both programs, items deleted are lost forever. However, in Palantir you can use the command - CONTROL-S,B - to copy/delete information. It uses the same procedures as SET/Delete. Data can then be retrieved quickly if necessary. This is an extremely powerful and desirable feature, and is far easier to use than the cumbersome block command of WordStar.

**OTHER PROGRAMS.** In addition to the RUN function of WordStar that was discussed previously, there are two basic, extra cost word processing programs listed on the WordStar main menu: MailMerge and SpellStar. As with the RUN command, control is returned to WordStar once these programs have been terminated. This is very convenient, particularly when making spelling corrections with SpellStar. It is unfortunate that Palantir does not have a similar provision for compatible spelling check programs. Without such a menu item, you must "quit" Palantir, boot the spelling check program, quit that program, and then re-boot Palantir.

#### THE DECISION

Palantir's overall features make it very attractive. It is fast, easy to learn and use, and has a number of routines that make it superior to WordStar for many tasks. Even if you like Palantir, I would not eliminate WordStar and other popular programs from serious consideration. WordStar is incredibly versatile. If the capacity of WordStar to interact with other programs is important to you, it may be the processor of choice.

The only way to make a knowledgeable decision is to try each one and make a purely personal choice as to which is best for you. In making this assessment, you should take into account the features that are really important, and discount those that are interesting but not critical. For the features of choice, the decision should be based on which program executes them best.

Even cost may not be a major consideration. Both programs are expensive (about \$250-300 for the basic program at discount houses). Palantir includes a form letter program, MAILOUT, and you must pay extra for the similar MailMerge program of MicroPro. However, packages that include WordStar, MailMerge and SpellStar have been offered for as little as \$400.

Do not despair if you are torn between two word processors that have features you consider essential for different types of jobs. This is not unusual. I use two processors for most of my work, and two others for highly specialized applications. For example, neither WordStar nor Palantir support automatic footnoting, indexing, tables of contents or elaborate formatting of documents. There are programs that do all of these beautifully, but they are harder to use and not particularly appropriate for normal correspondence or relatively short, uncomplicated documents.

I would not make a decision on any word processor software, however, without giving Palantir a trial. You may be very pleasantly surprised!!!

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# WORD PROCESSING MADE HUMAN

by Leon H. Raesly

The type of program most widely used by Apple owners is a Word Processing program. And yet it is often the least effectively used. So I would like to talk of several ways to "Humanize" a Word Processor (certainly most manuals are worth little or nothing!).

**CONCEPTUALIZATION OF A WORD PROCESSOR** - Almost all of the Word Processors are built around the same concept. To help you in understanding them, think of them as a very old house. As with all old houses, each Word Processor has a center hallway, and this center hallway connects to each of the rooms in the house. To enter the house, you enter the center hallway, and from there go to each room. If you are within a specific room of the house, you must reenter the center hallway to go to another room.

This is also true of Word Processors. When you "boot the program" (start it running), you are placed in the center hallway of the program. This is usually a Main Menu (with programs such as Letter Perfect & Apple Writer II), or a Cursor Mode (as with Super Text & Screen Writer II). The only real difference is style, not function. In the "Old House" the "Rooms" are analogous to the "Functions" in a Word Processor.

With the Main Menu style of approach, you move a Cursor (usually a pointer of some kind) up and down the choices. From this Main Menu you can enter the Add Copy "room" (function), the Edit "room" (function), the Printer "room" (function) etc. From each of these "rooms" (functions), you must return to the "Center Hallway" (Main Menu) to enter another "room" (perform another function). Typically, you exit a "room" (function) with either an ESC(ape), or a Ctrl-Q.

With the "Cursor Mode" style, you have displayed in front of you whatever text you have written (or loaded). If you have typed nothing yet, the screen is usually blank (or may display "Status" lines that might tell you what "Mode" you are in, how many characters have been typed, how many characters you may still enter, etc.). In this "Cursor mode" you can move the cursor (usually a blinking square, or a "greater than" symbol { > } ) around, and even off the screen. But be not afraid, the copy will scroll with you, that is add a new line of copy at the bottom of the screen, and remove one from the top!

With the "Cursor Mode" style, you usually enter different "rooms" (functions) by various Ctrl commands, such as Ctrl-P for printing, Ctrl-E for edit, etc. Again, as with the "Main Menu" style, you must exit the "room" (function) that you are in to the "Cursor Mode" before you can enter another "room" (function).

**SAVE TO DISK** -To follow the analogy further, all old houses will have an attic. When you wish to store an item you put it in the attic, and to use it, you must move it from the attic where you stored it to the living room. All Word Processors follow the same analogy. To "store" (save) an item (previously typed text), you must move it to the "attic" disk. And similarly to use an item, you must move it (previously written text) from the "attic" (disk drive) to the "living room" (the computer's memory). Most Word Processors do not actually move the text, but make a copy of it onto the disk, thus leaving you with a copy on disk, and also in the computer's memory.

With the "Main Menu" style, this usually means moving the menu pointer to the disk save command (usually words such as SAVE, or TEXT SAVE, or DISK SAVE. With the "Cursor Mode" style, this are usually Control commands such as Ctrl-S. With both styles, moving a text file (previously typed text) from disk to the computer's memory involves words such as LOAD, LOAD FILE, or commands such as Ctrl-L, Ctrl-F, etc.

**FUNCTIONALLY ORGANIZED CATALOG OF COMMANDS** - The first thing that I suggest that any person do while learning to use a Word Processor, is use it to create a specific product, a functionally organized catalog of commands. Even if there is one with the manual (which there usually isn't!), creating such a catalog will enable you to begin to understand the program.

Usually, the method I use is to first create an outline of "types" of commands, such as Delete Commands (delete a line, a character, a word, a paragraph, a block of copy, all from the buffer, a file, all before the cursor, all after the cursor, all of text, etc.), Insert Commands, Move Commands, etc. This process of building this outline then starts you thinking about the different functions that are possible with your Word Processor. Use the manual as a resource, looking up headings, perhaps in an Index, to get as many functions identified as you can.

The next step is to set up this outline to be used with the final catalog. Here, find and use the commands to center the headings, change type style, etc. Again, copious hunting through the manual is usually necessary. Throughout this step, you will often find different functions (such as Buffer Commands) that you hadn't thought of before, and insert them in your outline (thus causing you to locate and use whatever "insert" commands there are!).

Now, list under each of the headings the actual function, the command, and the page number within the manual where you can find that function. An example from Letter Perfect would look like this:

| FUNCTION           | COMMAND | PAGE |
|--------------------|---------|------|
| Delete a character | CTRL D  | 30   |

In the example the caret sign (^) represents Ctrl (CONTROL), thus the ^F represents a Ctrl-F, which is the Format command. The f3 tells the printer to use type style 3, which is emphasized print. The ^C represents Ctrl-C, which is the centering command, and the ^B represents Ctrl-B, which is the bold print (double size) command which will be sent to the printer. Following the centered, bold heading is another format line, with the ^F standing for Ctrl-F, and the f0 telling the printer to return to regular style type. The actual function is to delete a character, the command is a Ctrl-D, and the reference is on page 30.

As this "Functionally Organized Catalog of Commands" is developed, mastery of the Word Processor is also achieved, and the end product is then very useful as a quick reference. Indeed, as it is being put together, it usually becomes more and more useful, and I find myself referring to it, even though not yet completed,

contd.

rather than the manual for the quick refresher for different commands that have been already cataloged!

As a part of this catalog, I include defaults for the various formats, the printer, the page, the screen, etc., and any other aspect that I can conceptualize. The process of writing this takes about 2 to 3 hours, and even when I have first learned the Word Processor by another technique, I have found that I added a much broader proficiency by creating such a catalog.

**ORGANIZE YOUR WORD PROCESSOR DATA DISKS** - Right from the start, organize a library of data disks for your Word Processor. It will soon happen that you will be using several data disks anyway, and nothing is more frustrating than trying to find a particular text (let's see, I wrote that back in February of last year, and that should be disk #2, or was it #3 - I know it is here somewhere!), and not know on which disk it is located. Make the schema some system that makes sense to you. I use General Correspondence, Apple Related, Manuscripts - Finished, Manuscripts - Under Development, Family, Other Job, Miscellaneous, etc. Label each disk clearly, and always save the type of composition on the correct disk. As time goes on, you will find that you can create new categories with a new disk from the Miscellaneous disk. When that occurs, be sure to "clean" the Miscellaneous disk by transferring to your new category. Later on, if the library gets large enough, you can even index it on a data base, being sure to always enter each new text to the Index.

**WORKING DISKS** - Initialize a special "working" disk. This is then used to save anything you write with a Word Processor while it is under development. When the item you are composing is completed, save it to a permanent disk, in whatever method you have set up as a library of disks. Then, when the working disk gets full, you just initialize it again, to get rid of all of the material on it. If you use the method of saving files periodically while creating them described below, using a working disk to create the various texts will assure that you only have useful complete files on your permanent disk.

**SAVING YOUR TEXT** - In terms of making a Word Processor more human, nothing is worse than completing your article, then having the computer crash. Or saving it to disk, and going back later and finding there was a flaw on the disk, and most, or all, of it is gone. A procedure I use to protect me is twofold. First I save whatever I am typing about every 15 minutes (this is approximately one screen-full of copy). Second, I save it under different names on a special "working" disk. I usually use T (for text), and sequentially number them. Thus, T1 is the first screen of text, T2 is the first and second, T3 the first, second and third, so that I can not lose more than about 24 lines of text (assuming that I follow my own advice, and save every time I have added about a screen-full of new text!). After completion I save the full text to my permanent disk, and then reload it to make sure that it saved correctly!

#### SPECIAL TECHNIQUES

I will describe in a rather brief way many of the special techniques which are possible with most Word Processors. Most of these would take an entire article to describe in detail (and some have!), and I hope that they will "tickle your imagination" so that you might think of ways to use them yourself.

**FREE FORMATTING A DATA BASE** - This technique uses the Word Processor to "free format" a data base (DB). In the December and January issue of WAP I covered one such application. If your Word Processor has the capability to access a Text file from within a letter or

copy of any kind (such as does Letter Perfect for example), you can then "free format" any data base (if it uses a text or binary file to store data). Such uses might be to fill in a form (such as an insurance form, or the income tax - where you use the data base to itemize your deductions, total them within the Data Base, and access these totals, and format them on the form, through the Word Processor). If it uses a binary file, we have a program in the WAP Library which will convert binary files to text files, so use that program first to convert into another file (text), then use the Word Processor on the converted file.

"Free formatting" also lets you create invoices, bills, paid receipts, and any other full page format from a single record within the data base. Thus, an entire system of record keeping can be built from just these two programs, the appropriate Word Processor and Data Base. If you have need for these types of applications, make sure that your Word Processor and Data Base are compatible. One of the major considerations is to make sure that BOTH use a standard DOS 3.3 for the data disk (or have provisions to transfer data from their files to a standard DOS 3.3 file) and do not use a DOS that has been specially created. Unless it is standard DOS 3.3 (or the older DOS 3.2), the files are not accessible from another program.

**YOUR OWN LETTERHEAD** - Although writing is usually thought of as the first application for a Word Processor, usually it is for letters that it is used. You can compose and print your own letterhead with a Word Processor and either a dot matrix or "letter quality" printer. Let's take first the letter quality printer. Here, you usually have variable print wheels. So create a one line text with your name, and choose a suitable print type that you like. Usually the letterhead is centered, but place it wherever you like. Then print a series of these (perhaps 25 to 50). If you are using cut sheets, always align these to start at the same place. If continuous pin feed, start at a replicatable starting point. Now save this text to disk, in some way identified as part one of your letterhead.

Next, create a new file with your address on one line, and city, state and zip on another. You may wish to include your telephone number. Choose a different type style, align the paper the same way you did before, and print these on the earlier printed paper. Volla, your own customized stationery. Save this text also to disk, indicating that it is part two of your letterhead.

With a dot matrix printer, it becomes a lot simpler. Create a file with your name on one line, and address on the second, city state and zip on the third, perhaps your telephone number on the fourth. Now place in the file your Word Processor commands for centering each line. Also, you may wish to make your name in double size, emphasized, and telephone in condensed print. As much as possible, use your dot matrix capabilities to use different sizes, styles, etc. for name, address lines, and telephone number. Now save this to disk. When you wish to type a letter, load this letterhead in the Word Processor, enter the add text mode of your Word Processor, and just type your letter. When you print it, both are combined into a single document, and you haven't had to reformat for your letterhead.

For both types of printer, it provides greater impact to have the letterhead in one color (perhaps blue), and the body of the letter in another color (perhaps black). This way it resembles more a pre-printed letterhead.

**INDIVIDUALIZED STANDARD LETTERS** - If you have the

contd.

ability to merge a previously written file with the current text in memory, a great deal of time can be saved with standard letters. You already have your letterhead from above. Now, create a number of standard paragraphs that you might use. In an order writing application for a business, for example, there might be paragraphs on the following subjects: receipt of order, shipping procedure, shipping date, a thanks, and a standard close. Make each of these a separate file, and save it to disk under some mnemonic that will help you remember it, or by number. Now print a hard copy of it, so that in the future you can see what they are. To write a letter, you would load your letterhead, merge whichever paragraphs you are using, and last will be your standard close. Then print it. Usually you can write a letter in less than 1 minute that would usually take 10 to 15 to type from scratch.

**ARTICLES AND MANUSCRIPTS** - Most people write an outline of their article, and then write the article from the outline. With a Word Processor, the outline can become the literal framework of your article. After writing the outline with your Word Processor (and saving it to disk, of course!), load the outline in the Word Processor. Now, using the outline as it shows on the screen, actually type your article section by section within the outline. This assures that you do not miss any sections that you had planned, and also keeps the outline in front of you as you type. When complete, just delete the outline headings from within your text, and you end with the completed article (save it to disk also, of course).

**SPECIAL OCCASION CARDS** - Christmas, Chanukah, birthday and other special occasion cards can be made with a dot matrix printer, your Word Processor, and one of the special graphic utilities that lets you compose figures easily, and dump them to the printer. You can run the composed image in the lower right 1/4 of the paper. Choose a color ribbon that you like, and print as many as you wish. Now load the paper (same side up) in a reversed direction. Use your Word Processor to compose the message, and print it in the lower right 1/4 again. When you fold this paper, you will have your picture on the front, outside, and the message on the inside, right side. A customized card just by you. If you do not wish to use the graphics and dump, you could also use the Word Processor to print a "greeting" message on what becomes the front, and a written message inside. There are also several excellent, easy to use text writers that will allow you to compose with fancy type, perhaps Olde English, and dump to your dot matrix printer. Many of these are between \$30 and \$50.

**MULTIPLE NEWSY LETTERS** - For a big family (or perhaps a business Newsletter), you can use your Word Processor and the Data Base to write customized newsletters to all on your mailing list (or Christmas/Chanukah list!). Just write the letter, using the appropriate commands within the newsletter to tell it when running to access the Data Base, and place the persons name in the salutation (or body) of the copy. Now when you run it, each copy will have many references to the one person that is receiving it, just as if you had written them a personal copy of the letter. You can always add a handwritten P.S. to any that you wish, to make it look even more personal. After all, even this "chain" newsletter is still more personal than 100 purchased identical cards you might otherwise use!

**CREATING FORMS** - In my business, the last year before we purchased our first Apple computer, we spent over \$3000 for printed forms, and also had to store all of them (about 65 different forms). Last year our total cost to produce all of these forms, plus quite a few more, was less than \$450! A savings of more than 85%! The key was using a Word Processor to compose them, saving them on disk (we had to also index them, but

this was no problem on a Data Base), and then printing them on demand using the Word Processor and a dot matrix printer.

Creating forms on a Word Processor is simple and fast, if your Word Processor has merge capability. First, create the Header information on your working disk. This would be whatever information might be repetitive on all copies, such as your letterhead you created above! Include space also for "fill in the blank" information. This might be name, date, etc.

Now, save this as a header (I save under the name of "H" (without the quotes). Next, if your form has a series of columns to be completed (such as a listing of checks, to whom, how much, date, balance, etc.) complete a new text for the body (or text) of the form. Here use underline for the blanks you will fill in, and separate them in to columns with the straight bar, if your Word Processor supports it, or perhaps the asterisk ( \* ) if it does not. Create only one line (or row) of this "fill-in-the-blank" text. Next, save this also to disk as "T" (again, without the quotes). Now create your final text with any "footer" information. This might be page "page number" of "pages" or whatever is appropriate. Again, save this to disk (I use "F").

Now, to complete the final form, load your header from the disk. Then merge the text line as many times as you wish these lines on the form (in this example, perhaps 50), then merge your footer from the disk. You now have a completed form, which you can save to your permanent disk for later running on your printer. When printing you may wish to use 2 or 3 part carbon sets for pin feed (or fan fold, as it is sometimes called). These are low cost, and available from many suppliers. When printing, use the color of ribbon you wish, and the number of carbon sets that you wish. This total creation process usually takes me about 10 minutes per form.

**USING YOUR WORD PROCESSOR AS A DATA BASE** - You can use your Word Processor to create a simple data base. Generally, consider that the first field is an identification field, and is used as a key for each record. To create a record, determine the number of fields that you will need. For instance, a mailing label file might need the key field, first name, last name, street address, city, state and zip, a total of 7 fields. To create a field, enter the data, then depress return. For a single record your screen would look like this:

```
      P
      Lee
      Raesly
his street address
      his city
      his state
      his zip
```

The P is in the key field, indicating that I am a Psychologist. Now you can search this file with the Word Processor to find only those records which match whatever key you wish. If you set the printer page format through the Word Processor to six lines, and load your printer with gummed labels, you can then print them direct. You could apply these labels to 3 x 5 cards, and voila, a mailing list. And one that you can easily update with address changes, using the search feature and the key field to locate the record.

If your Word Processor supports a data base merge feature you will need a header for it. You will also need to count the number of records, and always have the same number of fields. If you do not have any data to enter, use a { RETURN } for a blank line. There must be at least this for each field.

contd.

The following program will create the header for Letter Perfect, and perhaps others.

```

100 D$ = CHR$ (13) + CHR$ (4)
200 HOME : VTAB 12: PRINT "THE FILENAME OF THE
    DATABASE IS -->"; HTAB 36: INPUT N$
300 HOME : REM CLEARS SCREEN AND HOMES CURSOR
400 VTAB 12: HTAB 8: PRINT "TYPE THE NUMBER OF
    FIELDS";: PRINT CHR$ (95);: PRINT CHR$ (95);:
    PRINT CHR$ (95);: HTAB 33: INPUT F
500 HOME : VTAB 12: HTAB 8: PRINT "TYPE THE NUMBER OF
    RECORDS";: PRINT CHR$ (95);: PRINT CHR$ (95);:
    PRINT CHR$ (95);: HTAB 34: INPUT R
600 F% = F / 256:R% = F - (F% * 256)
700 POKE 768,F - 1: POKE 769,R%: POKE 770,F%
800 N$ = N$ + ",HDR"
900 PRINT D$;"BSAVE ";N$;"A$300,L3"
1000 HOME : VTAB 12: HTAB 8: PRINT "THE HEADER FOR
    YOUR DATABASE";: VTAB 13: HTAB 8: PRINT "HAS BEEN
    SAVED UNDER THE NAME ";: VTAB 15: HTAB 16:
    INVERSE : PRINT N$: NORMAL
1100 VTAB 22: HTAB 1: END

```

EDITING A BASIC PROGRAM - Your Word Processor will do a fine job of editing a Basic program, using global changes, fast searches for all occurrences of a variable name, etc. There are two steps to this process. First, you need to create a text file of the program. Page 78 of your Apple DOS manual tells how. What you do is write the following 7 line program as the first three lines of the Basic program. Then you RUN it. The converted file will be saved under the name TEXT FILE LISTING. Be sure you do not have an earlier conversion saved. If you do, rename the old one before running the new one.

Once you have converted it, you would load it into your Word Processor in its normal manner. Then, when you have completed your editing, save it again to disk under whatever name you wish. Be sure to remember the name. To convert it back to a program file, simply type EXEC FILENAME (where FILENAME is the name you gave to the file). You will get a whole series of the Applesoft or Integer (depending which language you are using) filling the screen to overflowing, but worry not, each simply means that another line has been entered from disk. When it is through, the lines will stop flowing up your screen. At this point save the program back to disk with the SAVE command, giving a filename, of course. You now have the edited program back on disk again, this time as a Basic program.

Here is what the program looks like:

```

1 D$ = CHR$ (13) + CHR$ (4)
2 PRINT D$;"OPEN TEXT FILE LISTING"
3 PRINT D$;"WRITE TEXT FILE LISTING"
4 POKE 33,30
5 LIST n-ss,n-ee
6 PRINT D$;"CLOSE"
7 TEXT : END

```

The n-ss is the starting line number of your program, and the n-ee is the ending line number of your program.

THE END OR THE BEGINNING - Now you have some different ideas of what can be done with a Word Processor and a little imagination. And maybe the Word Processor seems a little more humanized to you now. So I come to the end of this article, but perhaps with your imagination and creativity, it can be a beginning for you. I would appreciate it if anyone who comes up with a different application for a Word Processor, would write me and let me know about it. With the generosity (or forbearance) of the Editor, I will share them all with you in a future article. Thanks for listening.

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# SCREENWRITER PRINTER CONTROL PATCH

by Gregory Anderson

I can understand how Peter Combes feels about running the ScreenWriter hotline for Apple Pi (Apple Pi, February 1983). When I first started marketing a program called MX-MAGIC last November, I was unprepared for the deluge of distress calls from fellow Apple owners unable to coax all the fancy features out of their dot-matrix printers with their word processors. In response to their queries, I have found solutions to the word processor/prINTER interface problem for several popular word processors. Here is the solution for ScreenWriter II, the first of what I hope will be a series of articles.

## THE PROBLEM

I like ScreenWriter best of all the word processors I've used on the Apple, and an informal survey revealed that a plurality of Apple Pi members use it. With built-in footnote, indexing, upper/lower case, and 40/70 column capabilities, it's probably the best word processor in its price range.

One thing that has always frustrated me about the program, however, is its inability to embed printer commands in the body of the text. Five hundred dollars for a NEC 8023A, and no way to access its special features within my documents! Most good word processors (WordStar, Super-Text) include a user-definable printer patch area, but not ScreenWriter. The problem, then, was to create a user-definable printer patch that would become part of the ScreenWriter machine code.

## THE SOLUTION

I found the solution on page 153 of the ScreenWriter manual, where I discovered that ScreenWriter sets aside page 3 inside the Apple (\$300-300) for custom printer drivers. In that space, I created a filter through which all output passes before being sent to the printer. Most characters slip right through the filter, but a few control characters (10, to be exact) get trapped in the filter and are reassigned before being passed to the printer.

The whole procedure of modifying ScreenWriter takes about a half hour and requires 3 steps:

1. Boot ScreenWriter and choose the already-included driver that matches your printer card.
2. Append the new print driver listed below and save it.
3. Run CUSTOMIZE and reconfigure RUNOFF so the new routine will be included automatically every time you use RUNOFF.

### 1. GETTING STARTED

Boot ScreenWriter and choose Option 3 (EXIT) from the main menu. Then CATALOG the disk and look for the binary file which describes your printer card. If you don't see your card listed, pick APPLE PARALLEL DRIVER.OBJO; it works in most cases not specifically mentioned. Now type the following to load the file, enter the monitor, and list the contents of the file in machine language:

```
IBLOAD (YOUR FILE NAME HERE) <RETURN>
```

```
ICALL -151 <RETURN>
```

```
300L <RETURN>
```

```
0300- 48          PHA
0301- AD C1 C1    LDA  $C1C1
0304- 30 FB      BMI  $0301
0306- 68          PLA
0307- 8D 90 C0    STA  $C090
030A- 60          RTS
030B  00          BRK
```

This is the listing for the Apple Parallel card; you should see something similar to the above on your screen. Carefully copy all the machine bytes in the second column up to the first numeral 60 (48 AD C1 C1 30 FB 68 8D 90 C0 60). You'll need to insert these elsewhere later on.

### 2. THE MAIN ROUTINE

Now enter the following lines of machine code, remembering to end each with a carriage return (I have inserted the Apple's asterisk prompt for convenience):

```
300: C9 85 D0 09 20 A0 03 AD <RETURN>
308: A6 03 4C 80 03 C9 86 D0 <RETURN>
310: 09 20 A0 03 AD A7 03 4C <RETURN>
318: 80 03 C9 8B D0 09 20 A0 <RETURN>
320: 03 AD A8 03 4C 80 03 C9 <RETURN>
328: 8C D0 09 20 A0 03 AD A9 <RETURN>
330: 03 4C 80 03 C9 8E D0 09 <RETURN>
338: 20 A0 03 AD AA 03 4C 80 <RETURN>
340: 03 C9 90 D0 09 20 A0 03 <RETURN>
348: AD AB 03 4C 80 03 C9 95 <RETURN>
350: D0 09 20 A0 03 AD AC 03 <RETURN>
358: 4C 80 03 C9 96 D0 09 20 <RETURN>
360: A0 03 AD AD 03 4C 80 03 <RETURN>
368: C9 97 D0 09 AD AE 03 4C <RETURN>
370: 80 03 EA EA EA C9 98 D0 <RETURN>
378: 07 AD AF 03 EA EA EA EA <RETURN>
```

CHECK YOUR TYPING CAREFULLY BEFORE CONTINUING! When you're sure it's correct, dig out the hex digits you copied earlier and enter them starting at \$380 as follows:

```
380: 48 AD C1 C1 30 FB 68 8D 90 C0 60 <RETURN>
```

Your hex digits will be slightly different, of course, but the principle is the same. Finally (for now), enter the following:

```
3A0: A9 1B 20 80 03 60 <RETURN>
```

At this point you'd probably like to know what you've just done, so let's stop and take a look. You have just created a filter through which every character will pass on its way to the printer. The following characters will get trapped in the filter and reassigned:

```
<CTRL> E          <CTRL> N
<CTRL> F          <CTRL> P
<CTRL> K          <CTRL> U
<CTRL> L          <CTRL> V
```

If any of these characters is encountered, the subroutine will snatch it out of the flow and replace it with an <ESC> character plus one other character which you are about to define. In addition,

contd.

<CTRL> W                    <CTRL> X

will be trapped and replaced directly (without sending an <ESC>).

Now it's decision time: How do you want to use these ten characters? I've got a NEC 8023A, and I use the following:

| <CTRL> CHR | PRINTER FEATURE          | HEX CODE |
|------------|--------------------------|----------|
| <CTRL> E   | -- emphasis on           | (21)     |
| <CTRL> F   | -- emphasis off          | (22)     |
| <CTRL> K   | -- condensed printing    | (51)     |
| <CTRL> L   | -- elite printing        | (45)     |
| <CTRL> N   | -- normal printing-plca  | (4E)     |
| <CTRL> P   | -- proportional printing | (50)     |
| <CTRL> U   | -- underline on          | (58)     |
| <CTRL> V   | -- underline off         | (59)     |
| <CTRL> W   | -- double width on       | (0E)     |
| <CTRL> X   | -- double width off      | (0F)     |

Write down your ten choices, keeping them as mnemonic as possible. Then open your printer manual (probably to an Appendix entitled CONTROL CODES) and look up the <ESC> sequences in HEXADECIMAL for each feature you want to use. For the NEC/ Prowriter (they're the same machine, incidentally), you turn on the emphasis by sending 1B 21 (<ESC> !) to the printer. Since the <ESC> character (1B) is automatically sent in the first 8 control sequences, you're really looking for the character following the <ESC> (21 in this case). Write it down in the margin of your Apple PI next to the <CTRL> character you plan to use, as I've done above on the right.

The last two <CTRL> characters, <CTRL> W and <CTRL> X, are designed to send just one character without an <ESC> preceding it. For most dot-matrix printers, this is just fine for turning double width on and off, usually with 0E and 0F respectively.

Now that you've got a table of ten values to substitute, type them in order at \$3A6 as follows:

3A6: 21 22 51 45 4E 50 58 59 0E 0F <RETURN>

Again, your numbers will vary, but the principle is the same.

That's it! The subroutine is ready to be saved back to the disk. First, however, you should rename the file you are going to replace so you don't lose it permanently:

3DOG <RETURN>

IRENAME (ORIGINAL FILE NAME HERE), (A MODIFIED FILE NAME HERE) <RETURN>

Now save your new file by typing

IBSAVE (ORIGINAL FILE NAME HERE), A\$300, L\$B0 <RETURN>

### 3. FINISHING TOUCHES

Congratulations! You've made it through the difficult part. All that's left is to modify ScreenWriter using CUSTOMIZE and RUNOFF.

Reboot the ScreenWriter disk and choose option 6 (EXAMINE DEFAULT PARAMETERS) to reacquaint yourself with the settings you're already using. Then choose option 7 (ENTER CUSTOMIZE) and answer all the questions as you usually would up to the one about including a special printer driver. Answer Y and choose the printer card which corresponds to the file you just modified. Then finish up CUSTOMIZE and

return to the main menu.

Now choose option 2 (ENTER RUNOFF) and select page 5 (Display the PRINTER SPECIFICATIONS) once it's loaded. The first line on page 5 is

Slot number or driver address:     \$300

There's probably a 1 there right now, unless you were using a printer driver previously. In any event, change the answer to this question to \$300. Then return to the main RUNOFF menu with a <CTRL> Q and select option 7 (SAVE DEFAULT PARAMETERS). From now on, ScreenWriter will automatically load your new subroutine and send output through it on the way to your printer.

### IN SUMMARY...

That's about it. In case you've never done it, you embed control characters in your text by typing a <CTRL> X and then the control character you want to embed. For example, to embed a <CTRL> E, type <CTRL> X <CTRL> E. The E will appear with an underline to remind you that it's a control character.

One other note. I've never been thrilled with ScreenWriter's 40-column character set, so I designed my own. It's on the same disk I sent to Bernie Urban with the text of this article, so I guess he'll include it in the Apple PI library. To load it automatically when you boot ScreenWriter, transfer it to your master disk. Then

LOAD APPLESOFT (or APP2 if you don't have a file named APPLESOFT)

and add these two lines:

17820 PRINT D\$"BLOAD CHARTABLE,A\$C00"  
18820 PRINT D\$"BLOAD CHARTABLE,A\$C00"

ISAVE APPLESOFT (or APP2)

Having problems? Give me a call any time from about 9 AM until 10 PM at 342-8307. Since I work out of my house as a self-employed programmer, I'm generally around during the day. Good luck!

## SCREENWRITER PRINTER UTILITY

```

↓
↓
I can understand how Peter Combes feels
about running the ScreenWriter hotline
for Apple Pi (Apple Pi, February 1983).
When I first started selling a program
called MX-MAGIC last November, I was
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queries, I have found solutions to the
word processor/printer interface pro-
blem for several word processors. Here
is the solution for ScreenWriter II, as
the first of a series of articles.
↓
↓

```

### END EDITOR RAM

```

COMMAND:
5 10 15 20 IN:APPLE PI
25 30 35 40 OUT:APPLE PI.2

```

11/15/83

# EDSIG NEWS

## by Peter Combes

### EDSIG Calendar

Tuesday, June 7th at 7.30 p.m.

"Computers in the Classroom - The Ideal Versus the Reality" - a Round Table chaired by Mary Brown.

Tuesday, July 5th at 7.30 p.m.

"Three Approaches to Educational Programming" - David Wyatt

All EDSIG meetings are held in Lecture Room A, Building A, of the Uniformed Services University of the Health Sciences, on the campus of the National Naval Medical Center, 4301 Jones Bridge Road, Bethesda, MD.

### Meeting Reports

Tuesday, May 3rd, 1983 at 7.30 p.m.

"Karel the Robot" - Dr. Paul Keller

"What I like about Logo is that it is a visual approach to programming. Many people don't get past the turtlegraphics, and this is quite legitimate. The visual reinforcement is there. This is a world of difference from when we thought ourselves lucky to have a FORTRAN compiler that gave error messages in English!"

"However, with Logo you get to the point of wanting to do certain things that should be easy but aren't. How can we make an easy jump to a language that lets us do real work?"

Dr. Keller remarked that the Pascal implementation on the Apple is better, easier to use, and more flexible than the two versions he has on the Univac at the University of Maryland. The difficulty lies with the manuals. "The handbook reads as if the first few chapters had been left out!" Pascal is by no means easy for the beginner.

Karel the "robot" is an "easy start" into the world of Pascal. In the spirit of Logo, Karel's instructions are limited to those that move the "robot" about the screen. All those tricky variable declarations that are demanded by Pascal are missing, as indeed are all the complicated data structures of Pascal.

Karel is in many ways similar to the turtle in Logo, but the commands he originally "knows" are even more limited. He can move only forward, he can turn left 90 degrees. He can sense a wall half a block away. He can sense a "beeper", pick it up and put it in his bag. His world is bounded on the South and West by walls, extending to infinity and impenetrable.

The robot control primitives are very few:

```
move
turnleft
pickbeeper
putbeeper
turnoff
```

As in Logo, quite complicated structures can rapidly be assembled, using simple commands. A program to make Karel "climb three stairs" and pick up beepers at each one is as follows:

```
BEGINNING-OF-PROGRAM
```

```
DEFINE-NEW-INSTRUCTION turnright AS
BEGIN
  turnleft;
  turnleft;
  turnleft
END;
```

```
DEFINE-NEW-INSTRUCTION climb-stair AS
BEGIN
  turnleft;
  move;
  turnright;
  move
END;
```

```
BEGINNING-OF-EXECUTION
```

```
climb-stair;
pickbeeper;
climb-stair;
pickbeeper;
climb-stair;
pickbeeper;
turnoff
```

```
END-OF-EXECUTION
```

```
END-OF PROGRAM
```

Both Logo and Pascal users will recognize the structures. This program can be made even more economical by using ITERATE, a command similar to Pascal's REPEAT.

Karel was not originally intended to be machine implemented. The idea was that students would work out procedures on paper and discuss them before moving on to a "real" language on a machine. (The same, incidentally, is said to be true of Pascal). However, a Karel simulator is now on the market, and Dr. Keller demonstrated this on a standard 64k Apple II. He demonstrated the simple "up the steps" program shown above, and an impressive maze solver, which although it gave the impression, while it was running, of using Artificial Intelligence, was made up from very simple procedures, and was only 29 lines of easy code. "Stepping" and "Trace" functions are available on the simulator, though they are rather slow.

One very good feature is that the Karel simulator seems impossible to "crash" accidentally. It is very restrictive of the commands it will accept, but will not do anything silly if it receives any other input.

The main failing at the moment is the graphics. Logo gets a lot of its appeal from its attractive graphics. Karel is currently stuck in the days of TTY graphics.

Dr. Keller concludes that Karel is a useful device to ease the transition from Logo or BASIC to Pascal. It is popular with students, and produces the required results. The question remaining, of course, is whether Pascal is worth the effort. Dr. Keller admitted that in emergency situations, he still uses a mix of BASIC and machine language, and he has the impression that many professional programmers do the same. Yet the claims made for Pascal are still impressive, and we seem to be held up by the deficiencies of the current implementation - the poor string handling and the complicated declarations. ("And the "wooden" file I/O", adds Dr. Keller.)

On the other side of the Atlantic, Comal has strong adherents - "All the advantages of Pascal with none of  
contd.

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| column card with inverse video ROM, soft-      |     |
| switch, and Osborne CP/M manual .....          | 434 |
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| 49 key 4 octave keyboard .....                     | 659 |
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| Super Text (40/80 column) .....   | 104 |

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| Quick Stat (New powerful statistics package) . | 89  |
| Visicalc .....                                 | 168 |
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## INFORMATION MANAGEMENT--

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| SuperFile (search and retrieve information  |     |
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| WordStar; cross index and retrieve parts of |     |
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| MX-80 (the classic) .....                      | 430  |
| MX-100 (friction/tractor, 132 columns) ...     | 639  |
| NEC 8023A .....                                | 444  |
| Okidata 92A (160 cps, correspondence mode).... | 498  |
| 93A (wide carriage model of above)....         | 848  |
| IDS Prism 80 (3.4K buffer, 200 cps).....       | 999  |
| Prism 132 .....                                | 1249 |
| with color and graphics .....                  | 1599 |
| C. Itoh ProWriter .....                        | 389  |
| ProWriter II .....                             | 685  |

## INTERFACES AND PRINT BUFFERS--

|   |      |
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| Pkaso printer interface .....                       | 135  |
| Pipeline buffer (random access printing!).....      | call |
| Grappler + interface with graphics .....            | 129  |
| Wizard BPO (16K buffer) with graphics .....         | 135  |
| Microfazer, by Quadram (universal, 8 to 512 K) call |      |
| HARD DISK DRIVE (Floppy now, hard later!)           |      |
| Davong 5-Megabyte Winchester drive .....            | 1479 |
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its niggles" - but in the U.S., Comal is only available on the Commodore Pet - a situation to which Apple owners are not accustomed! Perhaps Modula II will save the day.....

#### Forthcoming Events - Dianne Lorenz

##### SUMMER COMPUTER WORKSHOPS AND CONFERENCES

Third Conference on Microcomputers in Education and Training, June 23-24 1983, Arlington, Virginia. Contact: Society for Applied Learning Technology, 50 Culpeper Street, Warrenton, VA 22186 (703) 347-0055.

National Educational Computing Conference (NECC/83) 'A Symposium on Computer Literacy: Baltimore, Maryland Convention Center. June 5-8, 1983. Computer literacy in elementary, secondary, college and continuing education - what are the resources and strategies for addressing these needs. Contact Doris Lidtke, Towson State University, Baltimore, MD 21204.

COMPUTERS AND THE HUMANITIES: Sixth International Conference. June 6-8. North Carolina State University, Raleigh, North Carolina. Linguistic analysis, foreign languages, music, art. Contact Sarah Burton, PO Box 5380, North Carolina State University, Raleigh, NC 27650.

MICROCOMPUTER SYSTEMS: TOOLS OR TOYS?. Association for Computing Machinery. June 23, 1983. Gaithersburg, MD. Contact Bonnie Adams, 840-8525 for program description and registration information.

COMPUTERS IN EDUCATION '83. Conference: June 27-June 29. Summer Institute: June 20-24 & June 29-July 15. Graduate credit given from summer institutes. Hosted by the University Conference Center at Rutgers, Livingston Campus, New Brunswick, NJ. Contact the Institute for Professional Development, (609) 924-8333.

NATIONAL EDUCATIONAL COMPUTER CONFERENCE. June 28-30. New York City. Emphasis on computer education in the classroom. Contact National Educational Computer Library, PO Box 293, New Milford, CT 06776. (203) 354-7760.

#### \* \* \* KIDS and COMPUTERS \* \* \*

Below are just a sampling of the computer camps in the Washington area. Many camps offer some computer experience, but the following advertise as primarily being computer or computer-oriented camps. See the April issue for information on nationwide computer camps.

AIMATH - Adventures In Mathematics and the Humanities: National Cathedral School and Georgetown Day School in Washington. All levels of BASIC and Pascal plus machine language. AIMATH also offers courses in math, moral decision making, mythology, and public speaking. Two-week sessions for children in grades 4 - 12. Call Art Tenney, 229-4817 or Lane Thayer, 560-3539.

Beauvoir Summer Programs - 'Computers, Computers' : 3500 Woodley Road, Washington. Call 537-6599.

ELF - 'Computers and the Arts' : A Computer-Oriented Summer Day Camp for Children ages 6 - 14. Bethesda Country Day School and the B-CC YMCA. Using the computer languages BASIC and LOGO, students will learn to program color graphics and sound on the Apple //e. Arts, music, and sports are part of each day's activities. Call 493-9696.

Hood College - Computer Camp for High School Women : One week session, July 31 - August 6 in Frederick, Maryland. Hands-on computer experience in addition to a full roster of summer camp activities. Call (301) 663-3131, ext. 305.

Sidwell Friends Computer Programming : 3825 Wisconsin Ave., Washington. Full-day sessions for one week, half-day sessions for two weeks, starting June 20. Beginning and advanced programming in Basic and Logo (Pascal will be demonstrated). Eighth graders through adults. Call 597-8133.

St. Albans : Mt. St. Alban, Washington. Computer courses with an emphasis on math and logic. Call 537-6450.

TIC Computer Camps - Mt. Vernon College : Open to children ages 7 - 16. Two-week sessions beginning June 24th from 9 am to 3:30 daily. 3 hours intensive programming (Logo, Basic, and Pascal) and 3 hours vigorous athletics. Call Karen Rosenbaum, 241-5542.

Mary Mullins - BASIC programming for students in grade 5 and up. LOGO programming for students in grades 2 - 4. Junior Word Processing for students in grade 5 and up. Five two-week summer sessions - one to two hours daily in NW Washington. Call 537-0226.

The Summer Computer Camp by Computer Workshop. A daytime camp for ages 8-14. Learn programming by designing video games. Further information from Tony Carey, Computer Workshop. (301) 468 0455.

CAMPS IN DC AREA - Computer Clinics in Mclean this summer. 2-week, 3-hr/day sessions for students 8-18, at different levels of computer literacy. Computer fundamentals; programming includes graphics and Pascal, Logo; getting your computer ready for College. Begins June 20. Paragon Technologies, Mclean, Va., 556-9659.

Legacy International Youth Program - Summer Camp. June 25 - August 7, ages 9-18. Comprehensive learning environment with exciting computer activities. Opportunity to learn programming and to develop "globally oriented computer software and international amateur radio and microcomputer teleconferencing network". In foothills of Virginia Blue Ridge Mountains. Contact 522-1407; 1141 North Glebe Road, Arlington, VA 22201.

#### LETTER OF APPRECIATION FROM IRS

The following letter dated May 9, 1983, was sent to WAP from the Internal Revenue Service.

Dear Mr. Morganstein:

Thank you for including an article on the Volunteer Income Tax Assistance (VITA) program in the newsletter of Washington Apple PI. In the article, we requested members of Washington Apple PI to volunteer the use of their home computers and their skills to assist VITA volunteers in preparing tax returns for low income, elderly, handicapped and non-English speaking taxpayers.

The response from Apple computer users was overwhelming. Since this was only a test to determine the feasibility of offering computerized VITA assistance in the future, we selected only one individual to participate in this activity. The volunteer, Bert Cooper of Hyattsville, tested three software packages and assisted my staff in offering assistance at a local VITA site on March 26, 1983.

The idea of computerized tax preparation was well received by both volunteers and taxpayers. If computerized VITA assistance becomes a reality, we certainly would welcome the participation of user's groups such as Apple PI. Thank you again for your assistance with this endeavor.

Sincerely,

Walter M. Alt, Director  
Taxpayer Service Division

# MICROWORLD

## LETTER QUALITY PRINTERS

|                                    |         |
|------------------------------------|---------|
| BROTHER DAISYWHEEL (PARALLEL) ...  | 756.00  |
| BROTHER DAISYWHEEL (SERIAL) .....  | 825.00  |
| BROTHER TRACTOR FEED .....         | 125.00  |
| C. ITOH STARWRITER F10 13", PAR .. | 1159.00 |
| C. ITOH STARWRITER F10 13", SERIAL | 1159.00 |
| C. ITOH PRINTMASTER 55 CPS, PAR .. | 1475.00 |
| C. ITOH PRINTMASTER 55 CPS, SERIAL | 1475.00 |
| COMREX COM-RITER CR-1 17 CPS, SER  | 579.00  |
| SMITH-CORONA TP-1 (PARALLEL) ....  | 600.00  |
| SMITH-CORONA TP-1 (SERIAL) .....   | 600.00  |
| SMITH-CORONA TRACTOR FEED .....    | 119.00  |
| TRANSTAR TRANSTAR 140 40 CPS ...   | 1240.00 |
| TRANSTAR BIDIRECTIONAL TRACTOR ..  | 179.00  |
| TRANSTAR 2K BUFFER OPTION .....    | 35.00   |
| SANYO PR 5500 15 CPS, PARALLEL ..  | 625.00  |
| XEROX 630 PRINTER, 40 CPS, SER     | 2200.00 |
| XEROX 620 PRINTER, 20 CPS, SER     | 1275.00 |
| XEROX RUTISHAUSER FORMS TRACTOR    | 245.00  |

## DOT-MATRIX PRINTERS

|                                     |         |
|-------------------------------------|---------|
| EPSON FX-80 10", 160 CPS, PARALLEL  | 525.00  |
| EPSON MX-100 13", 80 CPS, PARALLEL  | 610.00  |
| C. ITOH PROWRITER 10", 120 CPS, PAR | 335.00  |
| C. ITOH PROWRITER 10", 120 CPS, SER | 529.00  |
| C. ITOH PROWRITER II 13", PARALLEL  | 635.00  |
| C. ITOH PROWRITER II 13", SERIAL .. | 685.00  |
| NEC PC-8023 PRINTER .....           | 435.00  |
| OKIDATA MICROLINE 82A 10", SER/PAR  | 389.00  |
| OKIDATA MICROLINE 83A 13", 120 CPS  | 630.00  |
| OKIDATA MICROLINE 84P 13", 200CPS   | 1100.00 |
| OKIDATA MICROLINE 84S 13", 200CPS   | 1010.00 |
| OKIDATA MICROLINE 92 10", 160 CPS   | 485.00  |
| OKIDATA MICROLINE 93 13", 160 CPS   | 839.00  |
| FORMS TRACTOR FOR 80 & 82A .....    | 55.00   |

## MODEMS

|                                     |        |
|-------------------------------------|--------|
| RS-232C                             |        |
| ANCHOR SIGNALMAN MARK 1 .....       | 73.00  |
| HAYES 300 BAUD SMARTMODEM .....     | 192.00 |
| HAYES 300/1200 BAUD SMARTMODEM ..   | 470.00 |
| NOVATION 103 SMART-CAT MODEM ....   | 160.00 |
| NOVATION 103/212 SMART-CAT MODEM    | 409.00 |
| NOVATION J-CAT 300 BAUD, DIRECT ... | 99.00  |
| APPLE II                            |        |
| HAYES MICROMODEM II W/TERM. PROG    | 263.00 |
| SSM TRANSPAK 1 300 BAUD MODEM-      |        |
| CARD, TRANSEND 1 .....              | 275.00 |
| SSM TRANSPAK 2 300 BAUD MODEM-      |        |
| CARD, TRANSEND 2 .....              | 305.00 |
| SSM TRANSPAK 2+ 1200 BAUD MODEM-    |        |
| CARD, TRANSEND 2 .....              | 735.00 |
| SSM TRANSPAK 3 300 BAUD MODEM-      |        |
| CARD, TRANSEND 3 .....              | 389.00 |
| SSM TRANSPAK 3+ 1200 BAUD MODEM-    |        |
| CARD, TRANSEND 3 .....              | 810.00 |

## MONITORS

|                                    |        |
|------------------------------------|--------|
| ANDEK COLOR I 13", COMPOSITE COLOR | 269.00 |
| ANDEK COLOR II 13", HI-RES RGB ... | 589.00 |
| ANDEK COLOR III 13", MED-RES RGB   | 349.00 |
| ANDEK COLOR IV 13", HI-RES RGB ..  | 985.00 |
| ANDEK 16 COLOR RGB IBM INTERFACE   | 10.00  |
| ANDEK APPLE II RGB INTERFACE ....  | 139.00 |
| ANDEK VIDEO 3006 12", GREEN, 18MHz | 130.00 |
| ANDEK VIDEO 300A 12", AMBER, 18MHz | 139.00 |
| ANDEK VIDEO 3106 IBM COMPATIBLE,   |        |
| 12", GREEN .....                   | 157.00 |

## ANDEK VIDEO 310A IBM COMPATIBLE,

|                                     |        |
|-------------------------------------|--------|
| 12", AMBER .....                    | 153.00 |
| COMREX CR-5400-G 9", GREEN, 20MHz   | 129.00 |
| COMREX CR-5400-Y 9", YELLOW, 20MHz  | 132.00 |
| COMREX CR-5400-A 9", AMBER, 20MHz   | 136.00 |
| COMREX CR-5500 12" GREEN .....      | 85.00  |
| COMREX CR-5600-G 12", GREEN, 20MHz  | 143.00 |
| COMREX CR-5600-Y 12", YELLOW, 20MHz | 147.00 |
| COMREX CR-5600-A 12", AMBER, 20MHz  | 153.00 |
| COMREX CR-6500 COMPOSITE COLOR ..   | 295.00 |
| COMREX CR-6600 13", RGB, 380 x 240  | 399.00 |
| NEC JB-1201 12", GREEN, 20MHz ....  | 147.00 |
| NEC JB-1260 12", GREEN ECONO, 15MHz | 100.00 |
| NEC JB-1212 12", COLOR, COMPOSITE   | 265.00 |
| USI PI-1 9", GREEN .....            | 105.00 |
| USI PI-2 9", AMBER .....            | 125.00 |
| USI PI-3 12", GREEN .....           | 130.00 |
| USI PI-4 12", AMBER .....           | 136.00 |
| TAXAN VISION I 12", MED-RES RGB ..  | 285.00 |
| TAXAN VISION III 12", HI-RES RGB    | 495.00 |
| TAXAN KG-12N 12", GREEN, 18MHz .... | 105.00 |
| TAXAN 12" AMBER MONITOR .....       | 115.00 |
| TAXAN APPLE II RGB INTERFACE ....   | 79.00  |
| TAXAN APPLE III RGB CABLE .....     | 19.00  |
| TAXAN IBM RGB CABLE .....           | 19.00  |
| ZENITH ZVM-121 12", GREEN .....     | 85.00  |

## DISK DRIVES

|                                    |        |
|------------------------------------|--------|
| APPLE II                           |        |
| AXLON RAMDISK 320K SOLID STATE ..  | 995.00 |
| MICROSCI A2 DISK DRIVE .....       | 225.00 |
| MICROSCI A40 DISK DRIVE .....      | 256.00 |
| MICROSCI A70 DISK DRIVE .....      | 332.00 |
| MICROSCI C2 CONTROLLER CARD .....  | 69.00  |
| MICROSCI C47 CONTROLLER CARD ....  | 69.00  |
| RANA ELITE 1 PLUG COMPATIBLE, 163K | 258.00 |
| RANA ELITE 2 40 TRACK, 326K .....  | 399.00 |
| RANA CONTROLLER CARD .....         | 96.00  |
| RANA ELITE 3 80 TRACK, 652K .....  | 525.00 |
| APPLE III                          |        |
| MICROSCI A3 DISK DRIVE .....       | 274.00 |
| MICROSCI A73 DISK DRIVE .....      | 385.00 |
| MICROSCI A143 DISK DRIVE .....     | 479.00 |
| ATARI                              |        |
| RANA 1000 SLIMLINE DRIVE DRIVE ..  | 379.00 |

## MEMORY EXPANSION

|                                    |        |
|------------------------------------|--------|
| APPLE II                           |        |
| WESPER MICRO SYSTEMS WIZARD 16K .. | 55.00  |
| STB SYSTEMS 16K RAM CARD .....     | 105.00 |
| STB SYSTEMS 64K RAM CARD .....     | 189.00 |
| STB SYSTEMS 128K RAM CARD .....    | 315.00 |
| STB SYSTEMS APPLEWRITER PATCH .... | 29.00  |
| STB SYSTEMS DISK EMULATOR DOS 3.3  | 39.00  |
| STB SYSTEMS DOS TOOL KIT .....     | 29.00  |
| STB SYSTEMS VISICALC 80 EXPAND ... | 69.00  |
| STB SYSTEMS PASCAL EMULATOR .....  | 29.00  |
| STB SYSTEMS CP/M EMULATOR .....    | 29.00  |
| MICROSOFT 16K RAM CARD .....       | 63.00  |
| PROMETHEUS 16K RAM CARD .....      | 56.00  |
| MICROTEK 16K RAM CARD .....        | 66.00  |

## CO-PROCESSOR CARDS

|                                |        |
|--------------------------------|--------|
| APPLE II                       |        |
| ALS CP/M PLUS CARD .....       | 260.00 |
| MICROSOFT PREMIUM SYSTEM ..... | 420.00 |
| MICROSOFT CP/M SOFTCARD .....  | 219.00 |
| ALS SYNERGIZER .....           | 475.00 |
| ALS Z-CARD .....               | 119.00 |

## HOW TO ORDER

For prompt and courteous shipment, send Money Order, Certified Check, Cashier's Check, Mastercard or Visa. Do not send cash. Personal and business checks must clear our bank before processing. No credit card is charged or check cashed until actual shipment is made to you. Shipping, Handling, and Insurance charge is 2% of total order with a \$3.00 minimum. We ship to continental U.S. (shipping to all other destinations is at cost FOB Washington DC) Sorry, no C.O.D.s. Virginia state residents please add 4% of total order for sales tax. Credit card orders please add 3% to final total. All merchandise shipped brand new, factory fresh, with manufacturer's warranty. We process your order the day it is received and normal delivery time is two to four weeks. Most items in stock ready for immediate delivery. Multiple items are sometimes shipped separately. Mail order only. No other discounts. All sales final. All items subject to availability. Prices subject to change without notice. Be sure to accurately enclose the following information: your name, address, city, state, zip code, telephone number (optional), tax ID number (if applicable), purchase order number (if you require one), method of payment, and the names and quantities of the items you wish to order. Visa and Mastercard users will need to give the following information: card number, expiration date, and cardholder's name.

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Our prices are the lowest available. But if indeed you do buy from us and within 30 days you see another store selling the same product for less money, we will issue you a MICROWORLD credit for that full difference to use towards future MICROWORLD purchases.

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# MICRO WORLD

P.O. Box 7376  
Alexandria, VA 22307

# Q & A

## by Bruce F. Field



Q. I have encountered a most frustrating problem that I have been unable to solve. It involves trying to delete a line from an Integer program which shouldn't be there in the first place. I've tried a number of ways to delete the line which occurs in the enclosed listing, but it refuses to go away. Can you tell me how to do that?

A. The following comments apply to Applesoft as well as Integer Basic programs. Basic stores the program in memory with extra bytes included in each line to point to where the next line starts in memory. If for some reason these pointers get disturbed the program may not operate or list properly. Short of a hardware error the only way the pointers could be modified are by erroneous POKES or by a berserk machine language program. So, a good rule of thumb is to always save your program before running it.

Now, how to get rid of the unwanted line. Experienced programmers may use the Monitor to try to reconstruct the pointer bytes; however I don't recommend this for less experienced users. Deleting the line with a Basic 'DEL XXX' command often will not work because the pointers are out of place; similarly simply typing the number followed by <return> may not work. One solution is to try and delete a range of lines which includes the offending line. For example if the erroneous line is line number 5000 and it happens to be imbedded between line numbers 4500 and 4510, try 'DEL 4500,4510'. If both 4500 and 4510 are 'good' lines this will probably remove the bad line and you only have to retype lines 4500 and 4510. Sometimes more drastic action is called for. In this case save the program to disk and type in the Capture program listed on page 76 of the DOS 3.3 Manual. (Although this program is in Applesoft, only line 2 needs to be changed for Integer Basic, use D\$ = "" with a Ctrl-D typed between the quotes.) For line 6, the LIST command, substitute the starting line number in your program and a line number a few lines before the bad line and now run it. This will create a text file of the first part of your program. Now change the LIST command in line 6 to start a line or two after the bad line and list to the end of the program. Also change the name of the text file and run the program again. Clear memory with a NEW and EXEC into memory the two text files you just created. Voila! Your program should be restored minus the line or two you left out, type these in, save the program and you're back in business.

Q. I have a problem booting-up the system from disks I have initialized. Most of the time the system will not boot with these disks. Commercial disks and disks initialized on friends' machines boot with no problem. Furthermore, disks I have initialized boot on other systems with little or no problem. I have taken the complete system to my dealer for repair. They realigned the disk and checked rotation speed. The system seemed to work fine the first day or so I had it back, but then the intermittent problems began again. I have removed and reseated all the chips in the drive and the controller card, and the intermittent performance seemed to improve slightly. Any help you could give me would be greatly appreciated.

A. This sounds like a toughie. I do have a couple of suggestions though. Some TVs or video monitors emit electromagnetic radiation that can disturb the disk drive if they are placed close together. Usually a foot or so of separation is more than enough. Also, for a while Apple shipped some drives with out-of-round spindles. It seems possible that if the spindle is only slightly off, disks initialized on good systems will boot on yours, whereas if you initialize a diskette, remove it and re-insert it in the drive, any misalignment may be increased causing the disk to fail to boot. One test you could perform is to initialize a diskette, leave it in the drive, and try to boot from it. If this works a number of times, I would take the drive back to the dealer and have them check the spindle.

Q. How can WordStar be installed to provide such features as italics and "short character" printing that the Epson MX-80 printer (with Graftrax +) provides through Esc "4" and Esc "5"? I have been told that these features can be utilized by means of the Print Control (or Dot) commands provided "patches" are made in accordance with assembly listing instructions given in the WordStar manuals.

A. WordStar provides four USER functions that are accessed by Ctrl-P and either Q, U, E, or R. These functions can be used to send strings of up to six characters to a printer. To use them you must first load the desired character sequences into WordStar. The character sequences may be loaded by running the Install program and answering the questions according to the instructions. This process can be confusing the first time through. I suggest that you attend a CP/M SIG meeting and someone there should be able to tell you exactly how to do it.

Q. How can you do superscripts or subscripts on a C.ltoh Prowriter?

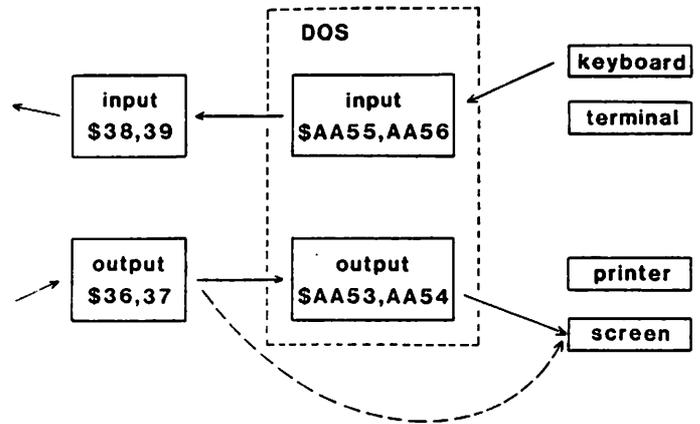
A. The Prowriter has two commands to control whether a line feed command will move the paper up or down. In addition there is a command to control the amount of paper movement. To print a subscript you need to redefine the length of the line feed, print the line feed character, print the subscript, change from forward line feed to reverse line feed, print another line feed, and restore the original line feed length if necessary. A superscript is printed similarly. In Applesoft it might look like this.

```
PRINT "NORMAL ";
PRINT CHR$(27);"T08";:REM LF = 8/144"
PRINT CHR$(10);:REM PRINT LINE FEED
PRINT "SUBSCRIPT";
PRINT CHR$(27);CHR$(114);:REM REVERSE LF
PRINT CHR$(10);:REM PRINT LINE FEED
PRINT CHR$(27)"A";:REM 1/6" LINE FEED
PRINT CHR$(27);CHR$(102);: REM FORWARD LF
```

Now that I've gone through all this I don't think it will work with a Prowriter. The problem is that whenever a line feed is printed, the printer also does an unwanted carriage return. If you can find some way to defeat this the above sequence should

contd.

work. I have access to an Apple Dot Matrix printer and an NEC 8023, both of which are supposed to be almost identical to a Prowriter. The NEC executes the above code perfectly, the Apple DMP does not. Other than keeping track of the number of characters printed on the line and sending spaces to return the head after a line feed (not possible with present word processors) you are out of luck. (If someone could correct me on this I'd be glad to hear it; it seems incredible that you can't do superscripts and subscripts on a Prowriter or Apple DMP!)



Q. With my new Apple //e I can't save programs when in the 80 column mode. After typing SAVE and a filename the computer just sits there for a little while, beeps, and prints 'SYNTAX ERROR'. Can you tell me what's happening?

A. This problem is not restricted to the //e but also happens with the II+. The problem is that you are using PR#3, PR#0, and IN#0 commands in your Applesoft program to turn the 80 column mode on and off. When you run the program, you are "turning off" DOS so that subsequently none of the DOS commands like LOAD, SAVE, CATALOG, etc. work. However LOAD and SAVE are also Applesoft commands to load and save to cassette tape. During the time delay after you type SAVE the Apple is actually sending data out the cassette output. When it is done it reads the rest of the command (the filename) which isn't a valid command and gives you a syntax error.

The solution is:

When using DOS commands from within an Applesoft program, especially PR#, and IN#, ALWAYS preface the command with a Ctrl-D character.

Why is this so? It has to do with the way that Apple DOS and Applesoft work. There are no commands in Applesoft that can be used for disk operations. For example, you cannot put the command CATALOG directly in an Applesoft program. The Applesoft interpreter does not understand this command and would generate a syntax error. Instead what happens is that the DOS constantly "looks" at what the Apple is printing to the screen or printer, and when it sees a carriage return followed by a Ctrl-D character it assumes that the following characters being "printed" are actually a DOS command.

Thus in an Applesoft program you must remember to print IN# and PR# commands with a Ctrl-D. One way to do this is:

```
100 PRINT CHR$(4);"PR#1".
```

The CHR\$(4) function prints a Ctrl-D to the output device.

What goes wrong? In order for DOS to work properly it must always be "looking" at the output being printed or displayed on the output device. The figure diagrams this process.

Memory locations \$36 and \$37 normally contain the address of a machine language routine in DOS. When the Apple is ready to output a character it checks \$36 and \$37 for this address and then goes to the address. This should be the machine language routine in DOS that checks to see if the character being printed is a Ctrl-D. If the character isn't a Ctrl-D it passes the character along to the output device, i.e. the screen. If you do a PRINT CHR\$(4)"PR#1" in Applesoft the characters are passed along to DOS which changes memory locations \$AA53 and \$AA54 to point to slot 1. Then the next characters printed will go through DOS and be directed to the printer in slot 1. But, suppose instead you executed an Applesoft command PR#0 (without any PRINT CHR\$(4)) then, memory locations \$36 and \$37 are changed by Applesoft to point directly to the designated output device, in this case the screen. Now if you try to print DOS commands (or any characters) they bypass DOS as shown by the dashed line at the bottom of the figure, are ignored by DOS, and are printed on the screen instead.

Input through DOS works in a similar way; everything you type at the keyboard goes through DOS before it is passed along to Applesoft. One difference is that you can type DOS commands directly without typing a Ctrl-D first. If you type IN#0 or PR#0 from the keyboard these are treated as DOS commands. So, the only way you can bypass (disconnect) DOS is by executing the Applesoft commands PR# or IN# from a program.

DOS has one other feature with regard to input and output. If you have executed a PR#0 from a program for example and disconnected the output side of DOS, the next time your program requests input (by a GET or INPUT command) DOS will see that locations \$36,37 are not properly set, and will change them to correctly point to DOS. Thus to completely disconnect DOS you must disconnect BOTH the input and output paths. If this happens you can restore everything by pressing RESET (with a II+ or //e, but not a II) or by executing CALL 1002.

## BYLAWS AMENDMENT

At the May 11 meeting of the Executive Board of Washington Apple PI, Ltd., the following amendment to the Bylaws was adopted. This amendment addresses the necessity for WAP office staff members to write checks on WAP funds for certain items such as postage, COD deliveries, etc.

### AMENDMENT TO ARTICLE XII, SECTION 1: DISBURSEMENTS

Designated staff shall have the authority to sign checks in an amount not to exceed \$2000.00, from an Imprest fund established by the Treasurer.

# GETTING STARTED IN FORTH: PUTTING IT ALL TOGETHER - I I

by Bill Wurzel

Last month we discussed the data structures for our "Computer assisted cipher solver." Now we're ready to tackle the Forth code itself. We can sketch out the main execution loop like this:

```

: CRYPTO
  Initialize variables and tables
  Accept ciphertext from keyboard (terminate
  with **)
  BEGIN
    Cursor to screen bottom and print "?"
    Get input command
    Does line begin with single character?
    IF
      Put this character on TOS
      OPCODE
      Did table search in OPCODE yield valid CFA?
      IF
        EXECUTE
        Print the translation so far
      ELSE
        Beep the beeper
      THEN
    ELSE
      Beep the beeper
    THEN
    Put Quit-flag on TOS
  UNTIL ;
  
```

This schema is pretty straightforward and needs little explanation. Notice the use of Quit-flag. We'll define this variable to contain a 0 except when the execution of 'END' (the Forth word associated with 'E' in OPTAB) sets it to 1. So, inventing appropriate Forth names where we need them, we can complete the main driver loop like this:

```

: CRYPTO
  INITIALIZE
  BEGIN
    BOTTOM CHAR ? EMIT QUERY
    BL WORD HERE C@ 1 =
    IF
      HERE 1+ C@
      OPTAB -DUP
      IF
        EXECUTE SHOWNEW
      ELSE BEEP
      THEN
    ELSE BEEP
    THEN
    QUITFLAG @
  UNTIL ;
  
```

Before we go any further, we can test the program logic by first defining the easy words outright and dummifying up the harder words like this:

```

0 VARIABLE QUITFLAG
: BEEP 7 EMIT ;
: BOTTOM CR CR CR CR ." BOTTOM OF SCREEN ";
: INITIALIZE 0 QUITFLAG ! CR ." INITIALIZE
  VARIABLES HERE " CR ;
: DOSUB CR ." SUBSTITUTE " CR ;
: UNDO CR ." UNDO LAST SUBSTITUTION " CR ;
: CLEAR CR ." CLEAR ALL PLAINTEXT " CR ;
: END 1 QUITFLAG ! ;
MAKEOPTABLE OPTAB      C CLEAR
                       S DOSUB
                       U UNDO
                       E END      $
  
```

Remember to first copy in the definition of MAKE-OPTABLE from last month. Forth words can only be defined in terms of already existing Forth words! This also means, by the way, that the order in which we define the Forth words in the dictionary is the exact opposite of the order in which we develop them. The word CRYPTO, for example, must be the last word defined in the dictionary although it was the first one developed.

Now that we are (or should be) satisfied that the main loop logic is okay, we can start developing the component Forth words. Forth programmers generally seem to agree that good Forth code consists of many short words, not a few long intricate words. I like the rule that if a Forth word cannot fit comfortably on one screen, it is too long. Another clue is that when you start having big trouble manipulating quantities on the stack, the word is probably too long. With that in mind, we'll begin the "step-wise descent" into finished code. Since the data structures were discussed last month, the following words shouldn't require too much comment:

```

: INITIALIZE
  INIT-VARS HOME ." ENTER CIPHERTEXT (TERMINATE
  WITH '*');"
  CR CR GETCODE SHOWNEW ;

: SHOWNEW
  TRANSLATE ( CIPHERTEXT IN CBUF INTO PLAINTEXT
  IN PBUF )
  ( USING THE TRANSLATE TABLE TRTAB )
  HOME PRINTBUFS SHOWALPHA ;

: SHOWALPHA ; ( TRY YOUR HAND AT DEVELOPING THIS
  WORD - )
  ( SEE COMMENT LATER ... )

: PRINTBUFS
  0 NUMLINES @ 0
  DO
    1+ LINELEN @ OVER OVER SWAP
    PRINTLINE +
  LOOP DROP ;
  
```

NUMLINES is a variable containing the total number of lines of ciphertext (and therefore, the total number of lines of plaintext). Remember that LINELEN is a vector containing the number of characters in the TOS line, going from 1 to NUMLINES. Since the loop index goes from 0 to NUMLINES-1, we need to add a one to get the correct "subscript" for LINELEN. In defining PRINTBUFS, we have implicitly required another word PRINTLINE which should go TOS characters (call this the "displacement") into CBUF and print the next NOS characters, generate a carriage return and then do the same for PBUF, giving a line of cipher with the substitutions right underneath it. Note that the proper displacement for printing any line is the sum of all the linelengths before it. These line lengths are accumulated on the stack underneath the two stack parameters for PRINTLINE. That explains the 0 which PRINTBUFS stacks immediately (the initial displacement) and the addition right before LOOP. Keeping in mind that PRINTLINE will pop the two values it needs off the stack, try jotting down the contents of the stack as each word of PRINTBUFS is executed to get a feel for how it works.

contd.

```

: PRINTLINE ( LENGTH DISPLACEMENT --- )
  OVER OVER CBUF + SWAP TYPE CR
  PBUF + SWAP TYPE CR CR ;

: END
  ." EXIT PROGRAM? (Y/N) " ?YES
  IF 1 QUITFLAG ! THEN ;

: CLEAR
  ." OKAY TO CLEAR ALL SUBSTITUTIONS? (Y/N) " ?YES
  IF INIT-TRTAB THEN ;

: ?YES ( GET LINE OF KEYBOARD INPUT, LEAVE A ONE ON
  THE )
  ( STACK IF THE INPUT WAS THE SINGLE
  CHARACTER 'Y' )
  ( AND ZERO OTHERWISE )
  QUERY 0 WORD HERE COUNT 1 = SWAP C@
  CHAR Y = AND ;

```

Notice that it would have been simpler to define ?YES like this:

```

: ?YES KEY CHAR Y = ;

```

But KEY works like GET in Applesoft - it doesn't wait for a carriage return. The first definition above does require a carriage return, giving the user one more chance to decide if he really meant to enter 'Y'. Take your choice!

```

: DOSUB ( CODESTRING/PLAINSTRING )
  ( S QWERT/ATION - SEE LAST MONTH'S
  COLUMN )
  CSTRING CHAR / GETSTRING
  PSTRING 0 GETSTRING
  CSTRING C@ PSTRING C@ -
  IF ." STRING UNEQUAL - REENTER "
  ELSE PSTRING 1+ CSTRING COUNT 0
  DO
  OVER OVER 1 + C@ SWAP 1 + C@ SUBST
  LOOP DROP DROP
  MOVE-SUB NEW-SUB
  THEN ;

```

This word is associated with the operation character 'S' in OPTAB and does the following: 1) Isolates the nonblank characters between the operation character 'S' and the delimiter '/' and moves them in string format into the variable CSTRING. 2) Isolates the characters between the delimiter '/' and the end of line and moves them in string format into the variable PSTRING. 3) Issues an error message if the strings are of unequal length. 4) Updates TRTAB to reflect a substitution of each character in CSTRING by the corresponding character in PSTRING (see last month's column for how TRTAB is constructed.) Note that we need a word GETSTRING which should count the nonblank characters between the current input text character pointer (IN) and the character on TOS and store this count in the address NOS, followed by the characters themselves. MOVE-SUB should move the CSTRING part of the substitution into the current "substitution ring buffer" (for UNDO - see last month) and NEW-SUB should update the substitution buffer pointer NEXT-SUB to point to the next buffer in the ring.

```

: GETSTRING ( TOADDR DELIM --- )
  WORD HERE SCOUNT ROT SWAP CMOVE ;

: SCOUNT ( ADDR --- ADDR STRCOUNT )
  DUP C@ 1+ ;

: MOVE-SUB
  CSTRING SCOUNT NEXT-SUB @ SWAP CMOVE ;

: NEW-SUB
  NEXT-SUB DUP @ 4 - @ SWAP ! ;

```

```

: SUBST ( CODECHAR PLAINCHAR --- )
  SWAP TRTAB + DUP C@ BL = UNDO-FLAG @ OR
  IF C!
  ELSE ." CHARACTER " TRTAB - EMIT
  ." ' ALREADY IN USE! " BEEP CR
  ." (HIT ANY KEY) " KEY DROP DROP
  THEN ;

```

So far, so good. We'll finish off the program next month!

MTFBWY!

#### C LANGUAGE GROUP

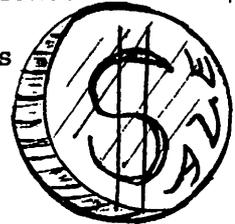
A 'C' language group has been established to help each other learn all we can about programming a microcomputer in C language. The program will include all aspects of the arts, science and discipline of computer programming. The recommended study book is "The C Programming Language" by Kernigan and Ritchie, Prentice-Hall, 1978. So far no dues, and Officers will be elected in June 1983.

The group meets at 7:30 PM at the Madison Center on the second and fourth Wednesday of the month, i.e. June 8 and 22. Madison Center is located on Glebe Road two blocks west of Military Road in Arlington. Reginald Creighton is the group leader and contact. His work phone is (202) 357-1596 and home (301) 840-0632.

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# DISABLED SIG

by Jay Thal

\*\*\*\*\*

DISABLEDSIG JUNE MEETING  
THURSDAY, JUNE 9, 1983, 7:00 P.M.  
Chevy Chave Community Center  
Connecticut Ave. & McKinley St., NW, D.C.

\*\*\*\*\*

The May meeting of the DISABLEDSIG was privileged to hear two speakers: Richard Barth and Barry Strassler. Messrs. Barth and Strassler both spoke on the important issue of telecommunications. Though their discussions were developed independently they reached the same conclusion relative to the immediate goal for telecommunications.

Mr. Barth has run the Handicapped Education Exchange (HEX) for over two years. HEX is a free, 24 hour bulletin board which serves as a general message center on matters relevant to the handicapped. The unique feature of HEX is that it will accept ASCII or BAUDOT (TDD) communications. HEX was originally developed under a grant from the U.S. Department of Education, but is now operated by the Amateur Radio Research and Development Corporation (AMRAD).

Telecommunication Devices for the Deaf (TDD) uses the BAUDOT system of encoding. BAUDOT is based on a five bit data code which, obviously, can only address 32 characters -- the secret is that SHIFT allows access to all upper case letters, numbers, and punctuation. The usual devices used are teletypewriters (TTYs), and transmission rate is limited to 60 words per minute -- very slow by most standards but until ASCII based technology came within the reach of individuals it was the only game in town for the hearing impaired.

As Mr. Barth noted, with microcomputers, higher baud rates, and storage, there is no reason that the deaf need to communicate in the slower BAUDOT mode. Software ASCII - BAUDOT translators have been written and need only 200 bytes. Yet, none of the available communications software have included such a translator.

The HEX bulletin board telephone number is (301) 593-7033. For more information on HEX and AMRAD, Richard Barth can be contacted at 11523 Charlton Drive, Silver Spring, MD 20902.

Barry Strassler is the Executive Director of Telecommunications for the Deaf, Inc. (TDI), which is located at 814 Thayer Avenue, Silver Spring, MD 20910. TDI's telephone number is (301)-589-3006. Mr. Strassler, himself deaf, felt that there is a need to shift from BAUDOT to ASCII -- but that the shift must be by design not by will. His concern is that there are over 100,000 TTD owners, most of which are of lower income. The availability of low cost surplus TTYs represented a communications revolution for the deaf -- but conversion to ASCII capability may not be as inexpensive.

Mr. Strassler felt that of available micros the Apple was the most flexible for the needs of the deaf. However, he had to agree with Richard Barth that software and hardware manufacturers have not been as responsive as they could be. Even Novation isn't fully sensitized, though its Apple Cat has a deaf firmware option (the firmware only works in half-duplex mode and makes

the Apple into a dumb terminal). What Mr. Strassler felt is needed is an automatic (low cost) tone detecting modem that would shift between ASCII and BAUDOT. His highest praise went to the AMRAD system and the system detailed by Ned W. Rhodes in the January 1982 issue of BYTE -- virtually identical in hardware, the software differs in that the AMRAD displays normal for incoming and inverse for outgoing messages while the Rhodes program does not. A great need is direct interfacing of modems and printers with BAUDOT code -- only ASCII Express, The Professional does that with the Novation Apple Cat.

Summing up, Messrs Strassler and Barth felt that, since the WAP is in the process of upgrading its bulletin board system, it is an opportune time to include as part of the ABBS service BAUDOT compatibility. The DISABLEDSIG ratified that concept as a high-priority item.

\*\*\*\*\*

In our May article, The DISABLEDSIG felt that two of our most immediate objectives would be the provision of signers for the hearing impaired at the general meetings; and the newsletter on disk for the vision impaired. Those concepts were endorsed by WAP's directors and will be available by June. We thank the directors and WAP.

\*\*\*\*\*

In earlier articles we have noted the existence of a bi-monthly newsletter called CLOSING THE GAP which is devoted, solely, to the use of microcomputers for the handicapped. CTG's April-May issue was a real barn burner. It had articles on: Speech Synthesis Technology for the Blind; Providing CAI for the Mentally Retarded; Multiply Handicapped Babies Using Computers; LOGO for the Learning Disabled; and an important article on the Novation Apple Cat which described some hardware modifications necessary to effectively use it as a TTD. CTG, P.O. Box 68, Henderson, MN 56044 -- \$15 per year.

\*\*\*\*\*

Apple has some special parts which can help persons with motor problems with their hands. This includes locking keys (CTRL, etc.). Bethesda Computers, locally, has experience with the installation.

\*\*\*\*\*

PEACHY WRITER is the name of a word processing program designed for the visually impaired. It prints to screen double-size letters, and dumps the same to EPSON printers. (It will also display and print normal text size.) PEACHY WRITER costs \$29.95.

## \* \* \* \* \* SOFTWARE COMPETITION

The Council for Exceptional Children (CEC) is running a competition to locate outstanding software for both handicapped and gifted children. Prizes will be awarded in 12 categories. The categories include: Early Childhood Education; Communication Disorders; Physical Handicaps; Mental Retardation; Teacher Education; Learning Disabilities; and Gifted and Talented.

contd. on pg 51

# TIDBITS FROM NEWSIG

by Bernie Benson

Hello from the special interest group for new WAP members and new microcomputer owners. Just some assorted tidbits this month.

**New Member Packet:** As announced previously, but worth repeating, the Washington Apple PI club is now asking a one time (new) membership fee of \$7. This covers the cost of the New Member Reference Book and the New Member Disk which all new applicants will receive upon joining the WAP. The book contains much information about the club and its activities as well as documentation of library disks and more. The disk contains popular utility programs useful for learning programming, and disk management. The book and/or disk is, of course, available to existing club members for the same price. As with many aspects of the club, all of us will gain from the dedication and special talents of a few. In this case we have Bob Platt and Betsy Harriman along with the other regulars to thank for their very fine compilation and publication of the book and disk. It will make the NEWSIG job much easier.

**APPLE //e news and rumors:** If you bought an APPLE //e before mid-May or so you most likely got a Revision A motherboard. Soon after beginning production of the //e, Apple added a few features that allow double density graphics to be displayed, fixed a few bugs on the board, and called it Rev. B. They have agreed to replace all Rev. A boards with Rev. B boards free of charge. The local computer stores will do the work but details are still unclear with some stores. There seems to be no time limit for requesting the change so there's no real rush unless you are interested in trying some double hires graphics or special video applications. Speaking of not rushing, rumor has it that several new multipurpose boards for the //e auxiliary slot will be introduced by mid-summer. They will include extended memory, RGB video generators, 80 columns, clocks, etc. If you can stand to wait you may get to take greater advantage of the auxiliary slot. By now you should know to ask if the product you are buying is specifically compatible with the //e. Many products now either have a version for the //e or have an upgraded version for all Apples.

**NEWSIG meetings:** Beginning this month we will start a rotation system for leaders at NEWSIG meetings. This will allow me to attend some other SIG meetings and give NEWSIG a slightly different flavor each month. Everyone, new and old, is welcome to attend NEWSIG meetings each month after the main meeting and participate by asking or answering questions in a small informal discussion. We already have 5 volunteers to lead the meetings and I would encourage others who may be looking for a way to get involved with WAP to begin by helping at NEWSIG.

**Alternatives:** I spent a lot of time this Spring learning Assembly Language. If you're interested in learning how the Apple REALLY does its thing, LDAs and STAs may be for you. Roger Wagner's column "Assembly Lines" published each month in Softalk is a good place to start. Assembly Language is not for everyone but it does impose few if any limitations on the programmer. Programming style and techniques can be very unique and creative and, as usual, so can results. Again, I believe you will get much more satisfaction from your Apple if you're programming it, and not vice versa.

**END:** That's all for now. I hope to have some good news from the Boston Applefest by the time this is published.

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# THE BOTTOM LINE

by Leon H. Raesly



How to make money with your Apple (TM) computer! - A subject that probably all of us have thought about. Well, today I am going to share a few ideas with you about different ways to make money with your Apple! I will not talk of the capital involved, or how to sell, it, or other matters relating to the successful operation of a business. Starting a business takes a lot of heartache, sweat and tears. That part is up to you!

**TYPING SERVICE:** This is the way most people have already thought of - offering a typing service using a Word Processor. You can do term papers for students, business correspondence, manuscripts, and so forth. You should be able to do them for less than the professional service, at least at first to get started, since you do not have the \$20,000 cost of a dedicated word processor, or the office overhead.

**RESUME SERVICE:** While similar to a typing service, resumes are quite different. Besides typing what is provided, you could prepare several standard layouts, and load these from a data base. Then using a word processor, format the standard data onto the printed output, with special paragraphs that are added in the word processor. This combination would allow you to have a low price for the pre-developed resume, and a much higher price for the custom ones.

**GOVERNMENT FORM 171:** With a data base properly formatted, this difficult government application can be easily completed by you, and for a lot less than the usual \$30 charged to complete one copy of this complicated form.

**JOB APPLICATION SERVICE:** Really a combination of the above, you write a letter of application, resume, and 171 if appropriate. Then using your data base to collect a mailing list, send applications for a person to as many government offices or businesses per day as requested. As your mailing list develops, you will be able to use it with other persons with less input into the data base for your list!

**ART & CHART SERVICE:** An expensive service that many people have to buy is the preparation of charts and graphs for presentations. With an Apple and a graphics program, you can do all kinds of graphs and charts, fast and easy. Using a graphics dump, these can be saved to disk, and then printed. These can be in black and white, on paper, or on special transparencies for overhead projectors. In addition, with the Transtar printer (\$599 advertised price) you can print your charts in seven colors and thirty tones! Since currently all this is done by advertising and art houses by hand, you should be able to command a good price for this work!

**MAILING LISTS:** There are many mailing list services available, but none of the commercial services want to bother with the small (50 to 300) lists. Offer a low cost service to do this, with a charge for the disk, so much for each entry, and a fee per change. You can deliver not only gummed labels, but directory lists for the small social groups and businesses. You could also charge a small monthly "maintenance" fee, simply to keep this list available.

**MAILING LIST SERVICE:** Similar to above, but here you pick special categories for a list that the commercial houses don't bother with. The key idea here is to select small, specialized, unique lists for your

development. This might be lists such as psychologists in private practice, Senators of the U.S. or state governments, all copy services in the area, all beltway bandits with government contracts, etc. Using a data base, you can sort by zipcode, and select those you wish to print. A dot matrix printer is satisfactory for these labels, and you charge not only for the list rental (usually about \$50 per TM, but also \$20 per thousand for affixing labels, sorting and bagging ready for the Post Office. Delivery can be by a standard delivery service, or yourself for an extra charge.

**INVENTORY SERVICE:** Fortunately for those thinking of making money with an Apple, everybody does not have one. So the simple things that anyone with an Apple can do, can be sold. Offer an inventory service, both to businesses and individuals. You could maintain their inventory of stamps, or coins, or supplies in a business, giving them monthly lists, with cash value of the collection at that time. Or make it a quarterly service, with the data base doing an automatic update for you of the value. It is a simple thing to do with a data base such as the General Manager.

**TAX SERVICE:** Using one of the better tax programs, such as The Tax Preparer, offer an income tax service. You can take a short course on tax preparation from a community college, or from H & R Block. You do not have to be an accountant to do taxes, and indeed H & R Block does not use them. If an individual has a form that complicated, he is already using his own accountant.

**WRITE SOFTWARE REVIEWS:** Even though a simple idea, it is still timely. With so many microcomputer magazines on the market, they are hungry for articles. So who is in a better place to write such reviews than you, who have already purchased and used the software! Write to all magazines first, asking for their writer's guide. Then write your article or review, and submit it to the first magazine. Don't give up if you get rejected; rewrite the article in the manner suggested by the editor, and either resubmit to that magazine (if they suggested it), or submit it to another magazine on your list. Dot matrix printed copies are usually accepted, but by all means make sure it is a new ribbon, with good dark copy. Don't use a heat sensitive printer; most magazines will not accept them.

**CROSSWORD PUZZLES:** There is at least one book available on using your Apple to write all the different types of crossword puzzles. An Apple does the "fitting in" work. You use the programs described, and develop your data base over a period of time. As your data base becomes more complete, the writing becomes easier and easier. There are lists available of the various newspapers and magazines that will buy them.

**WRITE A WEEKLY COLUMN:** With your experience (even as a beginner), write a regular column on some aspect of owning or using an Apple. Submit it to one of the many small local papers, possibly even offering to write it "for free" at first. Develop your skills, then try going to the larger weekly papers, possibly even national.

**PROVIDE A WEEKLY RECIPE SERVICE:** Starting with friends or neighbors, provide a "Recipe of the Week" service. Use a data base to store them, and a word processor to

contd.

format and print them, with additional text added in the word processor. Save these over time, then assemble them for publication through a national publisher. During the development of the service, start free to friends, solicit their thoughts and reactions, and after several months start charging for the service.

**STOCK MARKET OPERATIONS:** If you are into the stock market, use your Apple and any of the several programs to keep yourself posted and current on the various markets and services. If you are not in the market yourself, use your modem and the stock programs to provide a service for those small entrepreneurs who do not yet have an Apple, and cannot afford to buy the big services direct.

**CAMERA READY LAYOUT SERVICE:** Many small printers need camera ready copy. With a letter quality printer, and "cold type" (transfer type) you can provide this service faster and cheaper than type setting services, and it will be top quality work.

**BOOKKEEPING SERVICE:** You can use many of the programs to offer check book balancing and other bookkeeping services. Balance sheets and P & L's are fast and easy to do. You could focus your business service on the individual and service station, etc. that does not need the big companies, and provide a low cost, fast service.

**CHRISTMAS CARD LIST & CARDS:** Maintain Christmas card lists for friends and neighbors, and provide directory printouts, as well as labels or directly printed envelopes. Using a graphics program, and a graphics dump, create unique, special cards. Using colored ribbon, provide them in various colors. Or using the multi-color printer above, print them in "glorious color". You can provide them as a single copy, or run as many as they want!

**INSURANCE INVENTORIES:** For people and small businesses maintain inventories of their personal property. This can then be used for insurance claims in case of loss or theft. The value can be a part of the data base as you set it up, so that you can also provide a dollar value by type of items, as well as a total.

Well, perhaps you have the idea now. Any use that you would have for an Apple is a potential service to be sold to the public. Let your imagination go wild, and have fun doing it!

#### WAP BUSINESS SIG

The WAP Business Sig met last month with K. C. Shaw presenting a number of topics. Thanks for your efforts, K. C., from John New and all. This month the topic will be a general discussion of various ways to make money with your Apple, and it is expected that all present will share their ideas, and that there will be present within the group a number of people who have tried various ideas, and are willing to share their experiences. I hope to see you there. Thanks for listening.

Disabled SIGNews contd. from pg 48

The contest will be judged by representatives of the CEC, Johns Hopkins University, the John F. Kennedy Institute, and George Mason University.

Within each category several prizes will be given AND Utility Programs for adapting other software are also eligible. All entries must be received by October 15, 1983. Entry forms and more information are available from: Software Search, Department of Field Services, The Council for Exceptional Children, 1920 Association Drive, Reston, VA 22091. (703) 620-3660.

## BUGS & OTHER PARASITES

Bill Fry submits the following:

On club disk 131 which I just picked up at the April meeting is a program called "RECIPE BOX". My copy had two bad lines, 145 and 150, which I printed out as they were (with the surrounding lines which seem OK).

```
140 VTAB 11:HTAB 10: PRINT "BY MARILYN FETTINGER"
145 VTAB 15: HTAB 6: PRINT "PRESS RETURN FOR
      RECaxmnamd
      (HGR
      " GET ( PR# GET HCOLOR= gz
      mf1/2mznadmfE5E (MAX 15)": PRINT:
      HTAB 11: INPUT " ";R$
155 IF LEN (R$) > 15 THEN HTAB 12: PRINT LEN (R$) -
      15; H$(5);: GOTO 150
```

I think this is the fix, but I have not put any recipes in it and so have not tested the full program, although I see no more obvious chaos in the remaining code:

```
140 VTAB 11: HTAB 10: PRINT "BY MARILYN FETTINGER"
145 VTAB 15: HTAB 6: PRINT "PRESS RETURN FOR RECIPE
      FILES"
150 VTAB 17: HTAB 6: PRINT " OR ENTER FILE NAME (MAX
      15)": PRINT: HTAB 11: INPUT " ";R$
155 IF LEN (R$) > 15 THEN HTAB 12: PRINT LEN (R$) -
      15;H$(5);: GOTO 150
```

Bill Basham of Diversi-DOS™ sent the following correction to the office:

The first release of Version 2-C of Diversi-DOS contained a bug. When you read to the end of a text file with an ONERR in effect, you may read some extra garbage data before the ONERR is executed. To see if you have the bug, boot a disk with Diversi-DOS and type: PRINT PEEK (43519). The correct value is 223. If you don't have this value, then the following changes will fix the bug:

```
Boot Diversi-DOS disk and choose Option #9
LOAD HELLO
2045 POKE 43519,223
SAVE HELLO
Use Option 2 to add Diversi-DOS to all your disks again.
```

If you plan to do interrupts while reading text files with a GET, you should enter the following to be completely safe (if you don't understand this, forget it!)

```
A9A3:E8 E8 E8 E8 BD 01 C9 FD D0 31 9A
```

The only recent changes are to the documentation. For example, the following program will change the VERIFY command to a file printer:

```
10 DATA 32,168,172,240,251,32,197,159,76,27,173
20 FOR I = 44315 TO 44325: READ J: POKE I,J: NEXT
```

# PRINTING VISICALC ON THE MX 70/80/100

by Leon H. Raesly

While all of the following information can be deduced from the VisiCalc manual and a hexadecimal conversion chart, it takes a lot of time, so I would like to pass on to those interested how to print a VisiCalc output on the Epson, in compressed mode, at either 6 lines per inch, or 10 lines per inch; in double strike mode; emphasized mode; or emphasized, double strike combination mode, and of course how to return to normal size.

First, the assumptions. I am assuming that you are using either an Apple or Epson parallel card in slot #1. While these setup strings will work in other circumstances the information is predicated on this.

Now, let's look at the ASCII codes necessary for the Epson, and their hexadecimal equivalents, but don't try them now. Wait until you get to the section for the specific command you wish:

| ASCII | HEX. | PLAIN ENGLISH | EPSON FUNCTION           |
|-------|------|---------------|--------------------------|
| 008   | 08   | Eight         | Set line spacing to 1/10 |
| 015   | 0F   | Fifteen       | Turn on compressed mode  |
| 018   | 12   | Eighteen      | Turn off compressed mode |
| 027   | 1B   | ESCAPE        | Precede certain codes    |
| 069   | 45   | Sixty-nine    | Turn on emphasized mode  |
| 070   | 46   | Seventy       | Turn off emphasized mode |
| 071   | 47   | Seventy-one   | Turn on double strike    |
| 072   | 48   | Seventy-two   | Turn off double strike   |

In each of the codes above, as well as all of the set-up strings below, "0" is a zero, not the alphabetical letter "o".

To operate all these modes, you first depress /, then the letter P, then a RETURN. So in all of the following examples, you would precede the commands shown with / P <RETURN> (of course, do not type the < and >, and do not type the word RETURN, but rather depress the RETURN key.)

To turn on the compressed mode, you would enter the following:

```
" ^ H 0 F <RETURN>
```

(DO NOT PLACE ANY SPACES BETWEEN THEM. I AM SIMPLY DOING THAT FOR CLARITY!) The " tells VisiCalc that what will follow will be a set-up string. The ^ H tells VisiCalc to make it a standard ASCII code, and the 0 F is the hexadecimal equivalent of 15. After the return, and for all examples below, you would give the lower-right coordinates of the rectangle you wish to print, followed by a <RETURN>. You must always precede a set-up string with the quotation mark.

While this will print in compressed type, it is still in Elite spacing of six lines per inch. It usually is to your advantage, if using the 16.7 characters per horizontal (typing) inch of compressed type, to also have more lines per vertical inch. The Epson will also set its vertical line spacing to 10 lines per inch (or 1/10 as they don't say in the Epson manual!)

To do this, the set-up string would be:

```
" ^ H 1 B ^ H 0 8 <RETURN>
```

As before, do not place any spacing between the characters. The two new hexadecimals in this string are 1B, which stands for 27, the ESCAPE code, and 08,

which is eight in English! What becomes obvious then, since this does work, is that a series of control codes can be used for a single set-up string, and I will look at that for combinations in a minute.

To turn off the compressed type, you can turn off the Epson (making sure first that your paper is aligned at the top of the next sheet, so that the Epson's form feed stays accurate), and then turn it back on. This also resets the vertical line spacing to 6 lines per inch, the default setting), or you can be fancy and send the following set-up string:

```
" ^ H 1 2 <RETURN>
```

This turns off the compressed mode. To return the vertical line spacing to 6 lines per inch:

```
" ^ H 1 B ^ H 0 2 <RETURN>
```

You are probably getting the hang of it by now, so I will just give the set-up strings for two more modes. To send the command for double strike, the set-up string looks like this:

```
" ^ H 1 B ^ H 4 7 <RETURN>
```

To turn off the double strike, you would type this as the set-up string:

```
" ^ H 1 B ^ H 4 8 <RETURN>
```

To turn on the emphasized mode, the set-up string is:

```
" ^ H 1 B ^ H 4 5 <RETURN>
```

And to turn it off, would be:

```
" ^ H 1 B ^ H 4 6 <RETURN>
```

Since you can combine characters, it is also possible to combine control strings, as we have been doing. Thus, you can get BOTH double strike AND emphasized print from your Epson with VisiCalc. The set-up string would be:

```
" ^ H 1 B ^ H 4 5  
^ H 1 B ^ H 4 7 <RETURN>
```

You can turn them off by sending the combined "turn-off" commands, or sending them separately. Incidentally, you can also send the set-up string to put the Epson in a particular print mode, and then depress the ESC key twice. This will enable the Epson in whatever print mode you sent to it, but will return you to the screen without printing anything. The Epson will stay in that new print mode until you either change it, or turn it off, and back on, when it would be in the default print modes.

One thing that I like to know is whether the Epson has received the string of commands. To do this I tell it to ring the buzzer if received. All that has to be done is to send the command to "ring the buzzer". This is 007 in ASCII, or 07 in hexadecimal. So at the end of each set-up string I add the set-up command of ^ H 0 7. Upon depressing the RETURN, the Epson gives me a satisfying 3 1/2 second buzz, and I then know that the set-up string was received! Thanks for listening.

# SOFTVIEWS

by David Morganstein

\*\*\*\*\*

The Graphic Solution (TGS). This package is the solution to the Apple animator's needs. It will easily create animated sequences which can be projected from within your BASIC program. While it is not a plotting package like the Prime Plotter reviewed last month, it can be used to edit plots which you have created by another means.

Some of the features of TGS include: a powerful hi-res editor with the ability to switch between the hi-res screen and a blow-up of a section on the lo-res screen; and variable speed animation of text and graphics. Animation is accomplished with a "projection" machine language module which you can save on your own disk and use as a subroutine. To animate, you create a series of slides by dropping shapes into a window. The slides can then be run together at varying speeds to create a "film".

The editing operation is very easy to use, once you become familiar with the commands required. Moving from hi-res to lo-res is accomplished with a single command so that you can quickly perfect the shapes you need. An excellent feature is the ability to create a macro command (unfortunately, only one may exist at a time). For those unfamiliar with the idea, a macro is a single command abbreviation for a sequence of commands. Very complex shape construction can be performed by the use of a macro capability. As a quick example, consider a sequence of commands to display each of several shapes, one after another, and add each shape to the "film" under creation, moving the display window slightly after each display. The resulting macro can be used to project the entire sequence with a single keystroke.

The manual is exceptional. It includes a careful discussion with examples for you to enter of each command. The manual proceeds from the easier operations to the more sophisticated features, building on what you have already learned. There is a reference section for quick look-up of specific commands once you have completed the tutorial. The TGS manual even includes quiz questions at the end of each section with answers supplied at the back! Unfortunately, it does not contain an index. However, I usually found what I wanted using the table of contents.

Three disks are included: a copy-protected program disk and copyable sequences and demo disks. A back-up of the program disk is provided (replacements are available for \$10.00). The sequences disk contains examples of shapes and pre-assembled sequences used by the tutorial. The demo disk contains a self-running demonstration of TGS capabilities.

The manual suggests that a newsletter will be sent to inform owners of new developments and that a revision which takes advantage of 16K memory cards is forthcoming.

I found TGS easy to learn and to use. If animation is your requirement TGS offers a powerful solution to your problem. (Accent Software, Inc., 3750 Wright Place, Palo Alto, CA. 94306 (415)-856-6505. \$149.95.)

Ⓔ

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# LETTERS TO THE EDITOR

## RECAP OF SELECTED TECH NOTES

by John Kapke

Dear Editor:

A short note to say "Thanks" for your assistance while I browsed the Club library. For the members who are able to visit the office there is a fine selection of Club procured and (HINT!) member donated publications. As a member of several user's groups, I have often read of the Apple Tech Notes which have been distributed to IAC member clubs, but had never had the time to drive to Washington or fly to Australia to inspect them myself. Johnny Appleseed's education deficiency is being corrected.

Attached is a partial recap of those Tech Notes. I've skipped the Apple /// sections on various Apple products and am just starting the Fortran and Pascal sections. In the meantime, members who see a topic of interest can now ask local dealers or check with local interest groups for appropriate excerpts.

SECTION 1300.990.00 - Apple II Reference Manual Errata: Corrects typos in PEEKs, POKEs, decimal, hex and assembly routines - a must if you are into hardware volts, ohms, Apple pin numbers, and registers. This is useful if you don't want a "fried" Apple or wasted time.

SECTION 2200.990.00 - Apple Plot Manual Errata: Corrects typos but contains clues for use with Qume printers, VisiCalc and the Super Serial Card; also contains advice on how not to delete X and Y coordinates and how to overlay as many as four (4!) graphs. A Pippin-type sampler.

SECTION 2600.002.00 - This nifty section is unlike the above, all cider, no vinegar. A sampling includes short programs like avoiding program and hi-res conflicts (one or both pages), shape loader and saver, HPlot to alter a draw, hi-res screen swapping, mixing DOS and hi-res, user defined functions with Chain, printing text screen to printer, lengthening random number sequences, a garbage collection warning message ("Please Standby") program, first line overflow avoidance, and a "print using" simulator. Truly Golden Delicious.

SECTION 2600.990.00 - Applesoft Reference Manual Errata: Corrects typos unworthy of a reference but provides tips on TAB (X) and SPC(X), FRE(0), input string length, log of X base 10, and decimal POKEs for annunciator outputs (with maximum milliamperes) and string pointer corrections. Now your Apple can sing instead of gurgle.

SECTION 2600.991.00 - Applesoft Tutorial Errata: Essential if you are starting to use the tutorial as intended. This should have been a handout to all new Apple II owners. This is worthy of user group republication to bushels of new seedlings.

SECTION 3200.001.00 - Centronics Printer Interface: Contains programs with necessary PEEKs and POKEs enabling and disabling keyboard, video and printer; also has sweet six liner for "Is your printer on?" and assembly code for slowing down those carriage returns. As the man said, "If you have one of those, you need one of these." To maximize your harvest.

SECTION 3700.004.00 - Disk Operating System: Contains something for everyone including programs for dumping DOS text files, saving room when BSAVEing hi-

res, speeding up I/O Pascal (!) on the Basics Disk, ignored DOS commands, binary file address and length parameters, Muffin and copy protection, machine routines above DOS file buffers, Interrupts, BRUN HELLO (?), DOS text files to printer and text file format, DOS vs. hi-res, guess the booted Dos, renumber fix and append, disk layout, chain, and printer problems with Phone List. This section made Johnny Appleseed's day.

SECTION 3700.990.00 - The DOS Manual Errata: A quick read to find several memory address corrections, polishes on otherwise waxed Apple.

NOTE: There is much more than these in the Notes. Time and space have imposed their natural limits. 

## HOW APPLE PI SAVED THE DAY by Mary Lynne Poole

Dear Editor:

I am just a beginner on my Apple. In the eleven months I've owned it I've rejoiced over the power of the machine and despaired over the difficulty of the manuals. The kids have taken to it easily. But my husband, Bill, by his own admission, has "not yet backed the Apple out of the driveway".

My plan to rectify this imbalance was to buy a tax preparer program that would both help Bill with one of his most dreaded chores and introduce him to my new toy.

Failure and frustration! The Howardsoft Taxpreparer simply could not be made to work, despite a week of frantic calls to the dealer, the Howardsoft people, and to two members of our Hotline, and despite receiving a revision disk. What a disappointment! (They promised a refund and have since done so.) Tax deadline was near.

Articles by Tom Warrick and Roy Rosfeld on VisiCalc tax templates in the Apple PI magazine pointed to a possible solution. VisiCalc had been sitting in our bookcase waiting for me to need to learn it. That time had arrived.

The ending is a happy one: after working through only two chapters of the VisiCalc manual I was able to use Roy's template. Bill supplied the line item figures. He was impressed with the split screen effect that I was able to produce and with the column of numbers that could be changed like magic by a keystroke. The tax returns are complete. Both my Apple and I were flattered when Bill said, "That's the first time I've ever had fun doing taxes!"

Three lessons from this affair:

1. Beware of untested programs you need in a hurry.
2. Given a good manual, a beginner can learn the bare bones of a complex program, dive in, and solve problems by looking them up as they occur.

3. A little help from your Apple PI friends means a lot. Thanks to Roy and Tom for their templates and to Leon Roesly for helping me figure out how to print in compressed mode.

6

The second item I would like to refer to is Leon Roesly's column on evaluating Data Base Management programs for the Apple (WAP March 1983, "The Bottom Line"). I realize an author doing an article of this type cannot be familiar with every program on the market, so let me show you how Data Reporter ranks using Leon's system.

I believe Data Reporter is the finest DBMS available for the Apple, bar none. In only three of Leon's 12 criteria does Data Reporter come out low. In #1, Data Reporter does not use standard text files. In #2, it cannot be used in a word processor, at least not in the Apple Pie Processor that I use. Finally, in criteria #7, some points are taken off, since the Report Generator in Data Reporter is somewhat cumbersome to use. Other than these three areas, the Data Reporter does everything one could ask, does it better, faster and easier than any DBMS that I know of, including the vastly over-rated and over-priced DB Master.

Using Leon's criteria, Data Reporter has a rating of 109. Incidentally, I am not in any way involved with The Data Reporter or Synergistic Software, but I am a novice computerist who has found a great program and I wish others would also find it. For more on The Data Reporter, I would refer readers to a series of articles on the program currently running in the Newsletter of the Mini-apples User Group in Minnesota (Ed, Note: available for reference in the Club Reading Library at the office).

6

## PRINTER TABBING & DATA REPORTER

by Thomas E.  
Militello, M.D.

Dear Editor:

A couple of items in the March, 1983 issue of WAP Newsletter caught my eye, and I thought I would send you some comments. The first concerns a comment by Bruce Field on page 8. Bruce states, "I hope everyone knows that you cannot use TAB ... beyond 40 columns." I frequently need to do just that in some of the programs I write or use, and there is a very easy solution. Please refer to Apple Orchard (Winter, 1980). On page 55 John Crossley of Apple Computer, Inc. presents a marvelous little routine called Tabber, which allows TABBING all the way out to 132 or more. I have used this routine with my Epson and it works beautifully, exactly as John describes it in the article.

(Ed, Note: For your convenience we have reproduced elsewhere in this issue John Crossley's article from the Apple Orchard. Please note that it references DOS 3,2,1, but there should be no reason why it would not work with DOS 3,3.)

## SCREENWRITER ENHANCEMENTS FOR THE MX-80 FT

by Donald L. Hall

Dear Editor:

I am a novice computer owner (I've had my Apple II since last August) and don't really know much about the technical workings of these marvelous machines. I just load the software and away I go. My biggest use is maintaining a mailing list for an organization I belong to and preparing my kids' school research papers (using ScreenWriter II). The latter experience caused me to learn how to access the various type styles and functions available on my Epson MX-80 FT printer.

To begin with, I wasn't happy with the underlining done in accordance with the instructions on page 154 in the ScreenWriter II manual. I prefer a solid line under words, not just a dash under each letter. I thought surely that if the printer can be instructed to make dashes, there must be a way to make a solid line. Then I discovered the discussion of the "Replace Character" on page 76 of the SW II manual. That discussion, in conjunction with Appendix B in the printer manual, led me to the way to not only create solid underlining, but to access the type styles and superscript and subscript that are available on the Epson printer.

Appendix B of the Epson manual lists the various con-

trol codes that are used to instruct the printer to perform certain functions. So, by using the "Replace Character" function, I assign a replacement character to each of the control codes I will need for writing a paper.

In order to get the printer to perform the way I want it to, I simply precede the text with a list of all the replacement characters and their control code assignments, and then when I arrive at the spot in the text where I want the special type style or underlining (or whatever), I simply enter the replacement characters I need and then, without a space, enter the text that is to be italicized, underlined, etc., immediately followed by the characters I need to turn off the special print function.

What follows now is a chart I put together so that I can quickly enter the replacement characters I need to make the printer do what I want it to. I show a sample of the particular function that I want performed together with the control codes (I've entered these by hand) that I need to turn the function on and off. I thought that this might be of some help to other WAP members. So I share it with you in case you might like to print it in a future issue of the newsletter.

contd. on pg 57

# TABBING WITH APPLE PERIPHERALS

by John Crossley  
Apple Computer, Inc.

## INTRODUCTION:

This driver allows the user to TAB normally without substituting POKE 36,X for TAB(X). IT DOES REQUIRE THAT THE PR#(slot) be replaced with a CALL wherever it occurs in the program and that DOS 3.2 or 3.2.1 is in the system. It is customized for a certain type of interface in a certain slot when it is entered and will not work in any other configuration.

## SOFTWARE ENTRY

First you must determine the value for the four variable parameters for the card. Look at the table for the interface that you will be using and determine the value for A, B, C, and D for the slot that the interface will be used in.

### PARALLEL INTERFACE

|      |    |    |    |    |    |    |    |
|------|----|----|----|----|----|----|----|
| SLOT | 1  | 2  | 3  | 4  | 5  | 6  | 7  |
| A    | 02 | 02 | 02 | 02 | 02 | 02 | 02 |
| B    | C1 | C2 | C3 | C4 | C5 | C6 | C7 |
| C    | F9 | FA | FB | FC | FD | FE | FF |
| D    | 07 | 07 | 07 | 07 | 07 | 07 | 07 |

### SERIAL INTERFACE

|      |    |    |    |    |    |    |    |
|------|----|----|----|----|----|----|----|
| SLOT | 1  | 2  | 3  | 4  | 5  | 6  | 7  |
| A    | 07 | 07 | 07 | 07 | 07 | 07 | 07 |
| B    | C1 | C2 | C3 | C4 | C5 | C6 | C7 |
| C    | F9 | FA | FB | FC | FD | FE | FF |
| D    | 05 | 05 | 05 | 05 | 05 | 05 | 05 |

### SILENTYPE PRINTER

|      |    |    |    |    |    |    |    |
|------|----|----|----|----|----|----|----|
| SLOT | 1  | 2  | 3  | 4  | 5  | 6  | 7  |
| A    | 07 | 07 | 07 | 07 | 07 | 07 | 07 |
| B    | C1 | C2 | C3 | C4 | C5 | C6 | C7 |
| C    | 04 | 04 | 04 | 04 | 04 | 04 | 04 |
| D    | CF |

### COMMUNICATIONS CARD PRINT ROUTINE

A = 07 B = 03 C = 02 D = 03

Enter the monitor with CALL -155 and, using the value from the above tables for the items within '<>', type:

```

3B0:A9 < SLOT >
:20 95 FE
:A9 8D
:20 ED FD
:A9 C5
:85 36
:A9 03
:85 37
:4C EA 03
:20 < A > < B >
:48
:AD < C > < D >
:85 24
:68
:60
    
```

To check your typing, type:

**3B0L**  
and compare your listing to the one below for a parallel interface in slot 1.

```

03B0- A9 01      LDA #$01
03B2- 20 95 FE   JSR $FE95
03B5- A9 8D      LDA #$8D
03B7- 20 ED FD   JSR $FDED
03BA- A9 C5      LDA #$C5
03BC- 85 36      STA $36
03BE- A9 03      LDA #$03
03C0- 85 37      STA $37
03C2- 4C EA 03   JMP $03EA
03C5- 20 02 C1   JSR $C102
03C8- 48         PHA
0369- AD F9 07   LDA $07F9
03CC- 85 24      STA $24
03CE- 68         PLA
03CF- 60         RTS
    
```

Now return to BASIC with 3D0G. SAVING THE PROGRAM TO DISK:  
The driver should be in memory before the printer is used. Save the driver by typing:

BSAVE TABBER, A\$3B0, L\$20  
USING THE PRINTER:  
NOTE: If the Apple's video is enabled, don't tab past the 40th column. It may ruin your program.  
The first time you want to use the printer you must load the driver. From command mode, type:

**BLOAD TABBER**  
This may be done from a program by entering:  
**100 PRINT D\$;"BLOAD TABBER"** assuming that D\$ is a control-D.  
The first time the printer is needed, the interface must be initialized. CALL 944 will turn on the printer and send out a carriage return to initialize the interface. Subsequently, initialization is not needed and CALL 954 will return to the printer without printing a carriage return.

Don't use PR#1, use CALL 944 or CALL 954.

Most of these interfaces have parameters that can be POKEd to modify the interface and the Parallel Printer Interface has its ctrl-I commands. These POKEs and commands should be issued just after the CALL 944. They needn't be repeated after the CALL 954.

When you want to switch back to the video monitor for output type PR#0. From within a program this must be in the form of  
**200 PRINT D\$;"PR#0"**

EXAMPLE PROGRAM:

```

100 LET D$= CHR$(4)
110 PRINT D$;"BLOAD TABBER"
120 CALL 944
130 PRINT "THIS WILL BE PRINTED"
140 PRINT D$;"PR#0"
150 PRINT "AND NOW BACK TO THE SCREEN"
160 CALL 954
170 PRINT "NOW FOR A TABBING DEMO"
180 FOR J=1 TO 76 STEP 5
190 PRINT TAB(J);J;
200 NEXT J
210 PRINT
220 PRINT D$;"PR#0"
230 END
    
```

27 45 1 Underlining looks like this. 27 45  $\emptyset$

27 83  $\emptyset$   $\rightarrow$  Superscript looks like this. 27 72 27 84

27 83 1  $\rightarrow$  And subscript looks like this 27 72 27 84

27 52 Let's try italics. 27 53

15 Here's what compressed mode looks like. 18

27 69 And here's bold face (emphasized mode). 27 70

And finally, here's an example of:

27 87 1 double width 27 87  $\emptyset$



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File #: \_\_\_\_\_

Your Name: \_\_\_\_\_

Home Phone: \_\_\_\_\_

Library Disk #: \_\_\_\_\_ Program File Name: \_\_\_\_\_

Nature of problem: (What did you do just before the error?)

\_\_\_\_\_  
\_\_\_\_\_

Can you repeat the error? yes \_\_\_ no \_\_\_

Did you get an error message? Go into monitor mode? Keyboard locked up?

\_\_\_\_\_  
Do you know of a solution to this problem?

\_\_\_\_\_

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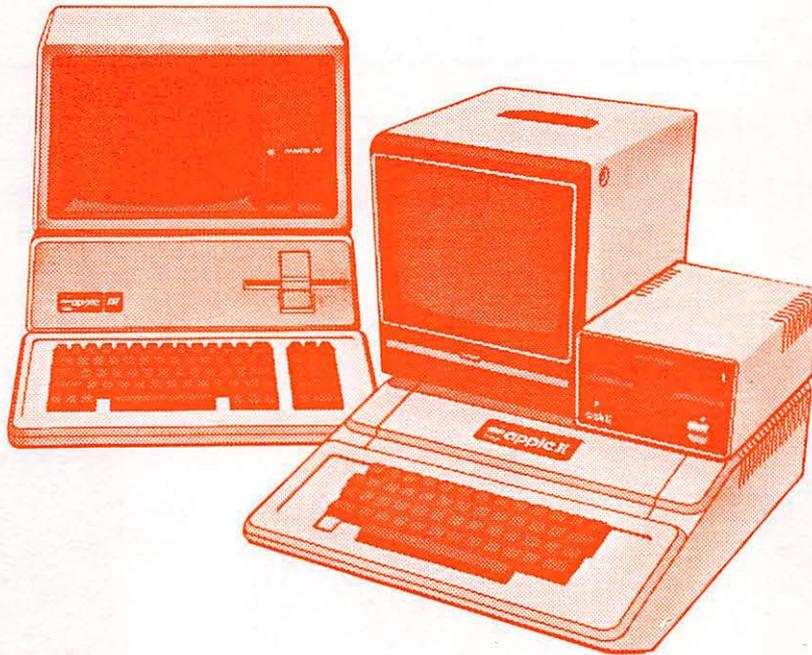
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