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Washington Apple Pi



Volume 5

February 1983

Number 2

Highlights

THE APPLE //e

THE SCREENWRITER HOTLINE

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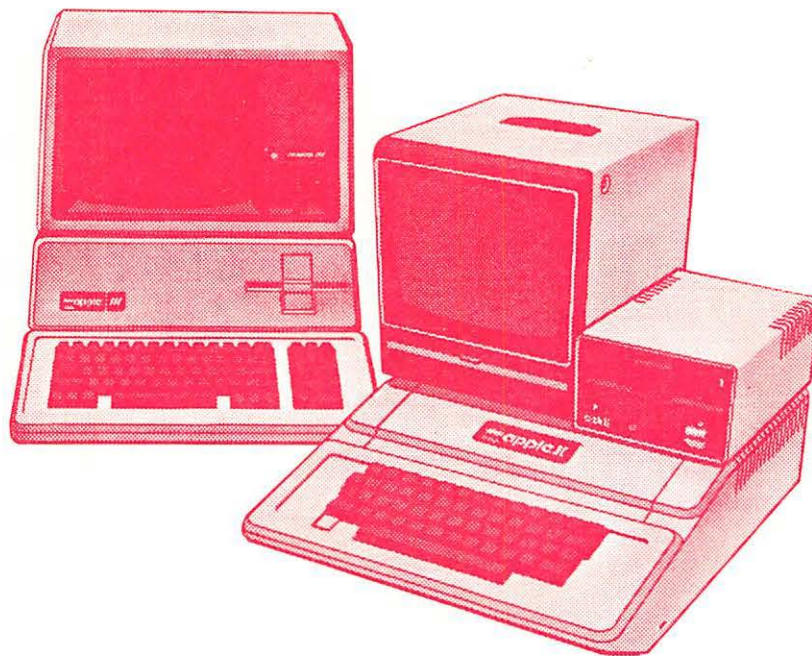
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HOW DOES IT WORK?

The Prime Plotter is a modular system where each of its elements, such as the statistics, the plotting routines, and the character sets, can be replaced by another module. Thus, the base system can continuously be extended and enhanced by add-on modules.

EASE OF USE

The Prime Plotter is a menu-driven system • Default parameters are displayed and can be changed before each step • Simple and easily learned terminology • Prompts with legal range for each input • Value or expression input • Excellent error handling • Optional inverse cursor with top-bottom/left-right scrolling • And... you will discover much more.

EXTENSIVE DOCUMENTATION

A comprehensive manual with step-by-step tutorial and samples to ignite your creativity • A reference card • Demo files • Continuous support with a free subscription to our user newsletter and periodic new add-on Modules (see below).

FEATURES CHECK LIST

General: No limit overlay and/or frames within one screen • Multi-screen display of both graphics and text • Over 100 colors.

Data Management: Convert DIF files • Create data files • Edit, transform, add, or group data sets • Display, save, or print data and statistics.

STATISTICS

- Curve Fit Regressions:** Linear • Logarithmic • Exponential • Geometric • Inverse • Inverse Log • Spillman • Nth Order.
- Trend Analysis:** Averaging • Moving Average • Smoothing • Growth Rate • Frequency & Cumulative histograms • Logistic curve.
- Distributions:** Normal • Gamma • Chi-square tests and contingency table analysis.

In Addition: User defined functions and sub-routines • Basic stats on any data set (sum, mean, S.D. etc.) • Customized Modules (see below).

X-Y CHARTS

Options: Data/fit • Log scale • HI-LO • Error bars • Axis of origin • User defined parameters for frame, axes, tic marks, grids, labels and graph types.

Graph Types & Parameters: Over 20 symbols for scatter • Variable line thickness • Dotted line with variable increments • Variable step for area fill • Bars with variable width and 6 filling methods in 15 steps • 3-D bars, or 3-D area fill in 4 directions, variable width and filling step • Up to 15 multiple bars on same tic mark • 10 different figures for unique figure charts.

PIE-CHARTS

User Defined: PIE size (horizontal & vertical) • Location • PIE area used • 3-D PIE width • Unlimited number of pieces • Unlimited overlay of filling methods per piece • 1-5 groups of pushed and/or exploded pieces.

LABELING

Two methods, shape table and a special character generator, provide: Uppercase • Lowercase • Small letter • Greek alphabet • Scientific symbols • Your own shapes or character set (compatible with the Apple Tool Kit™ sets) • Placement in any screen location • 8 different directions • Multi-level super and sub script • Variable forward-backward spacing • 8 different rotations with shapes.

Designs: Bold • Partially bold (horizontal or vertical) • Double size • Double bold • Inverse type and double width, or double height characters with the character generator • Additional 20 unique typeset designs.

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GRAPHIC UTILITIES

Inverse/invert, fill, or frame areas, even copy to another area • Free-draw of lines and shapes • Shape drawing.

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Review your work at any time, stop at any moment and print the image or save it to disk. With this power, you can design unique multi-screen presentations of graphs, titles, data display and stats. Switch between the hi-res and the text screens, insert delays, plan an erase, or replot mode, and store the whole show in a fraction of the usually required space. You can also compress images for quick load (instead of redraw) and even chain files for an hour-long show, with hold, jump backward-forward, print, and save functions at your disposal.

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- PLOTTER INTERFACE for the popular HP 7470A and the STROBE 100™
- BUSINESS RISK ANALYSIS module.
- 3-D PLOTTING module.
- MAPPING module.
- THE PRIME TYPESETTER.™ For the creation and management of shape tables, character sets, figures, typesetting designs, and much more.
- Customized statistical modules can be ordered for a nominal fee.

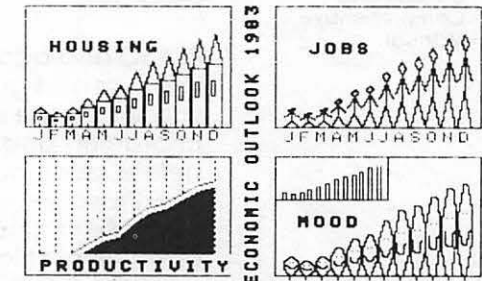
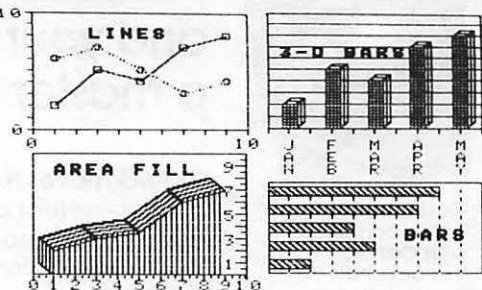
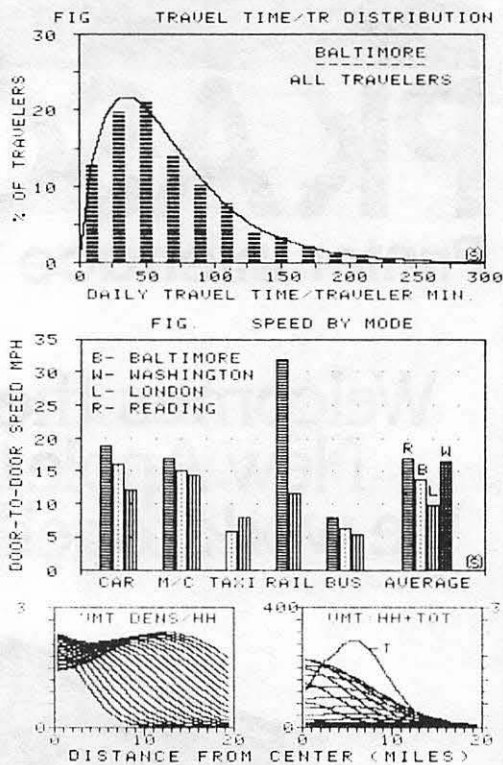
Requires: Apple II plus (48K) with a language card or 16K RAM card in slot 0 • DOS 3.3 • At least one disk drive • A printer • A graphic printer interface card, like the Grappler™ or Pkaso, is recommended.

See a demonstration at your local computer store or send for a demo disk, \$15.00, refundable with purchase.

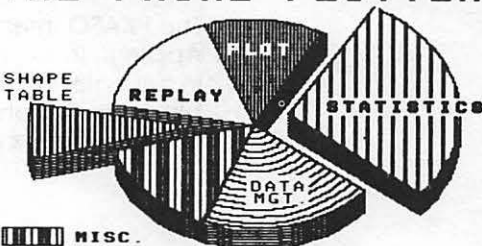
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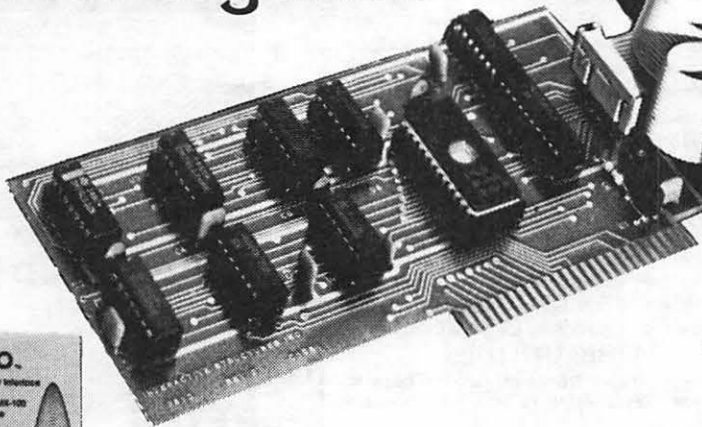
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PKASO Interfaces come complete with Cable, Instructional Diskette and Comprehensive Manual.

The PKASO family makes you and your Apple Computer a master of text and graphics.

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The IS Pipeline™ Printing Buffer with Random Access Printing stores paragraphs or pictures for printing in any order—any number of times!

- Universal—works with any parallel (Centronics style) computer/printer combinations.
- 8K to 128K Bytes of memory with data compression for efficient use of memory space.



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EDITORIAL

W O W !!

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. Sales, library transactions, newsletter pickup, etc. are from 8:30 - 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.

Due to scheduling conflicts at USUHS, the February meeting will be on the third Saturday, Feb. 19.

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

February 19 - The Apple Paddle Plug
 (3rd Sat.) An Introduction to
 Hardware - Tom Riley

March 26 - Word Processors -
 Panel Discussion

April 30 (5th Sat.)

**Open House at the Office, Sunday,
 January 23, 1 - 5 PM. Everyone is
 invited to drop by.**

APPLICATIONS DEMONSTRATION SCHEDULE

All Demos are from 9:00 to 10:00 AM
 unless designated otherwise.

January - Pascal (9 - 10, 12 - 1)
 February - Hardware Interfacing
 March - Word Processors
 April - Statistical Packages

Volunteers are always needed, especial-
 ly for the February and March programs.
 Please contact Harry Misuriello or
 Julia Oliver at 543-7408, or see us at
 the club meeting.

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 \$18.00 per year, beginning in the
 month joined. If you would like to
 join, please call the club office or
 write to the office address. A member-
 ship application will be mailed to you.
 Subscriptions to the Washington Apple
 Pi Newsletter are not available. The
 newsletter is distributed as a benefit
 of membership.

MINUTES

GENERAL MEETING

The December general meeting of Washington Apple Pi, Ltd. was held at USUHS on December 18. Members were asked to leave the building by way of the stairs or elevators for security reasons. IRS in Hyattsville, MD wants volunteers to bring Apples for one or two Saturday afternoons and assist low income individuals in filling out their tax forms using software developed by IRS. Attention was called to a meeting of the Department of Education which will discuss computers in education. Russ Eberhart asked about interest in a home control SIG. Those persons with renewal dates of 83-01 were asked to pick up renewal forms at the meeting. Open House for our new office will probably be held on January 23. A call for volunteers to work in the office on Tuesday evenings was made. Donations of books and magazines are needed for the Reading Library. The experience of a librarian would also be welcome. Mrs. French of Northwood H.S. has asked for speakers to give 20-minute presentations on uses of microcomputers. Group Purchase reported. Group purchase items will now be available at the office rather than at the monthly meetings. Plans to have a club scholarship were discussed. Feedback from Apple Teas was solicited; reports were favorable. Officers and volunteers for the club were given recognition. The meeting adjourned to the Swap Fest.

SUMMARY OF JANUARY BOARD MEETING

The Executive Board of Washington Apple Pi, Ltd. met on January 12, 1983 at the WAP office. The agenda included: decision on the office managers - Gena and Bernie Urban, open house on January 23rd, office hours and use, motion to buy a photocopier, planning a computer fair, report on demonstrations at general meetings, authorization to buy a monitor for the ABBS, IAC insurance, new member disk, subscription to Apple Orchard at reduced rate, availability of disk library catalog. Ⓔ

CLASSIFIEDS

WANTED: To Borrow or Rent, for a few days, an Integer Firmware Card for an Apple II+. Need desperately for software development and college research project. Call Don Mayes, Home (301) 445-3952; Work (202) 282-0585.

FOR SALE: DB Master. List \$229. Will sell my unused DB Master for \$125. Call Raleigh De Geer Amyx, Tysons Corner area, 938-1956.

Animation Graphics, Inc., developers of graphics and animation software for the Apple, is in need of an Apple Graphics Tablet. Would like to buy, borrow, rent, or make a trade. Call Barbara Walls, (703) 471-0740.

FOR SALE: VisiCalc III for Apple ///, \$125. This software is brand new and unused. Prefer to buy Advanced VisiCalc? The cover on this manual is worth \$200 off the purchase price. Call Dave Reel, 385-9811.

FOR SALE: CHATSWORTH OMR-500 with Apple II interface (others possible). New; never used due to change in requirements. Original price \$1,050. Selling price \$500 or highest bidder. MICROMODEM II, brand new, barely used, \$250. APPLE WRITER II, brand new, never opened, \$75. SUPERKRAM/CONQUEST 0.5 - Relational data base system (ROM board, original disks and manuals), \$150. Call Barry Gordon, days (301) 955-6431, eve. (301) 235-3125.

FOR SALE: CP/M Perfect Writer, \$100. Apple Integer Board, \$25. Paymar Lower Case Adapter, \$15. Richard Gibson, 323-9495.

FOR SALE: DECWRITER II, Digital Equipment Corp., model LA36 Printer Terminal, 30 cps, 132 column print, 7 x 7 dot matrix. Like new. Cost \$600; will sell for \$200 or make an offer. Also Novation Acoustic model for LA36, 300 baud. Sell for \$70. Robert Wood, 893-9591.

FOR SALE: Apple II 48K, Applesoft ROM card, Apple /// monitor and disk drive. System is 2 years old and in good shape. Call Paul Gerald, (502) 491-0130, Louisville, KY. Ⓔ

APPLE TEAS :

A SUMMARY OF ACTIVITIES

by Paula Benson

There were thirty-six Apple Teas scheduled in December and January. Perhaps schedules were a bit busy during this time of year, but about one-third of these were actually held, and one-third are yet to be held (at press time). Lack of response was especially noted in the Georgetown, Bethesda and Rockville areas.

For the teas that were held, the number in attendance ranged from one to eight persons. Leaders were available to provide technical expertise if requested, and they proved to be very helpful. The topics discussed varied depending on the interests of the participants. Experience on the Apple ranged from novice to technically competent, which resulted in the whole gamut of questions. In general, there was a good exchange of information on a variety of programs and applications. Comments included: very useful, interesting, informative. Gathering in a home environment provided a welcome opportunity to get better acquainted informally.

Those interested in hosting or being technical leaders, please call Paula Benson at 546-0076. Those interested in attending a tea, contact the host in your locality. Ⓔ

Notices

ARRIVING TOO EARLY AT THE MONTHLY MEETING *****

It is requested that members arrive at the monthly meeting at USUHS no earlier than 8:30 AM, and volunteers no earlier than 8:15. This request is because the persons in charge of security for our meeting do not arrive before this time. Your cooperation is strongly urged.

DONATIONS FOR THE OFFICE *****

The following items are still needed for the WAP office. If you have any items you wish to donate, please call the office at 654-8060. You may make a loan at the present time and donate formally when the IRS status for tax exempt donations is obtained.

Large desk
Metal file cabinet
Tables (all sizes)
Small office refrigerator
Stackable or folding chairs
Storage cabinet
Waste baskets
Light table

NEWSLETTER PICKUP POLICY

1. Newsletters may be obtained at monthly meetings up until the start of the main meeting.
2. They may also be picked up at the WAP office on the Monday and Tuesday following the main meeting during normal office hours.
3. You may arrange for a friend or neighbor to pick up your issue at your own risk using either procedure 1 or 2 above.
4. If you have not picked up your newsletter by Tuesday it will be processed for bulk mailing. Once the mail processing has started, there can be no further pickups.
5. Current and back issues will be available for sale (at cover price) at the main meeting and at the office for as long as the supply lasts.
6. A new member joining at the main meeting or at the office will receive the current issue unless s(he) has purchased one elsewhere. In that event the membership and accompanying subscription to the newsletter will start with the following issue of the newsletter.

GROUP PURCHASE

POWER by Rich Wasserstrom
Group Purchase Phone--(703) 448-0984

Just a reminder that the Group Purchase Phone operates Monday through Thursday evenings, 7:00 PM to 9:30 PM. All of your Group Purchase questions (including prices) can be answered by the volunteers who staff the phone. Please do not call the club office with questions concerning group purchases.

New Pickup Policy

Beginning January 24, 1983, group purchase items previously picked up at monthly meetings may now be picked up at the office during regular operating hours (see President's Corner elsewhere in this issue). The new pickup policy includes disk drives, blank diskettes, flip-files, 16K cards, and other similar items which were previously available at monthly meetings. However, all items except blank diskettes must be ordered through regular group purchase channels (i.e., call the group purchase phone) before you appear at the club office. You will be notified by phone when your purchase is available for pickup. Larger items, such as monitors and printers, will still be shipped directly to members and will not be available at the office.

Effective with this new policy, group purchase activities at monthly meetings will no longer be available. That is, no orders, pickups, or purchases will occur at monthly meetings.

I believe these changes will result in a more efficient and orderly group purchase program since they expand pickup hours (80 hours/month vs. 2 hours/month) and do away with those nasty lines at monthly meetings (!).

Let me know what you think.

READING LIBRARY

The Reading Library is growing. Because of generous donations of magazines and other materials, we have nearly 90% of some titles. However, there is still need for books, manuals, and magazines pertinent to Apple and microcomputers in general. We need two things:

1. Donations of magazines, books and manuals.
2. Suggestions of books to buy and magazines to subscribe to.

SIGs especially are encouraged to suggest materials which they consider should be available in the Reading Library for their members. For any responses please call the club office or Jess Wagstaff, 937-4215.

EDSIG NEWS

by Peter Combes

EDSIG Calendar

Tuesday, February 1st at 7.30 p.m.

Program Demonstrations

Meteor Math - Rosalind Stern
Sherman - Brian McLoughlin

Bring along programs you have used and can talk about to this meeting.

Tuesday, March 1st at 7.30 p.m.

Languages for Education - Brian McLoughlin

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, December 14th

"Kidbits"

Mary Brown and Karen Berlin are founder members of EDSIG. When they joined us over a year ago, they were already working on what was then called "Teddy" - a set of programs for early school language arts. A great deal of hard work has gone under the bridge since then, and at this meeting they were able to demonstrate the production form of "Kidbits."

Basically, "Kidbits" is a drill and practice program. It can be modified by the teacher to give a wide variety of question and answer situations. The program comes with 10 sample lessons, complete with instructions on how to design and enter other lessons. Kidbits uses high-resolution character sets extensively, to provide upper and lower case without hardware modification. Its most striking feature is that correct answers allow the pupil to design a clown's face - choosing, for example, the kind of eyes, nose, mouth and so on. This seems to be a powerful motivating tool, and the experience in schools is that the programs evoke continual interest, even in special education situations. A "Slide Show" shows the faces that have been designed by successful students. Pupils' answers are stored for later analysis by the teacher. This data can be printed out in various report formats. Kidbits provided a stimulating evening, with lots of discussion on the most appropriate seven displays for small children, the future role of voice synthesis and so on. Mary and Karen have formed their own company - Potomac Micro Resources - to market their programs, and the problems of doing this also evoked much interest.

Tuesday, January 4th

Susan Lucek, from the Horace Mann Learning Center, discussed the 1983 Spring conference on Educational Technology which she had coordinated for the Center. She presented two videotapes from that conference. One tape featured Karen Sheingold from the Bank Street College of Education, who discussed trends in educational uses of microcomputers. The other tape presented Linda Roberts from the Office of Technology Assessment, who spoke on factors to consider in implementation of micros into schools. The tapes are available for purchase or rental.

Forthcoming Events - Dianne Lorenz

COMPUTER COURSES and WORKSHOPS

The number of computer classes, just like the number of computer stores and computer programs, is increasing at a dramatic rate. Before you make a commitment of time and money for classes for yourself or your children, you may want to ask the following questions:

1. IS THIS CLASS HANDS-ON? Many classes offered are lecture and demonstration only - not the most desirable way to learn about computers.
2. HOW MANY PEOPLE SHARE ONE COMPUTER? Any more than two people at a computer and you won't get too much hand-on time.
3. WHAT ARE THE QUALIFICATIONS OF THE INSTRUCTOR? Ask not only about computer knowledge, but about teaching experience.
4. DO I BRING MY OWN COMPUTER? Bringing your own computer is cumbersome at best, downright difficult if you don't own one.

With the above caveats, here are the current selection of classes for learning about computers and computer languages.

COMPUTERS for CHILDREN:

1. ELF - Classes in programming in BASIC (ages 10 and up) and in LOGO (ages 6 - 12). Parent/child classes in both languages. Special classes for children with learning disabilities. Bethesda. 493-9696.
2. Hands-On Science - Computer programming on the Atari for children ages 6 and up in addition to various science offerings. Silver Spring. 649-6921.
3. The Computer Workshop - Beginning and intermediate BASIC for young people. Apple Writer II Workshop.

contd.

4. Montgomery College - 'Family Computing' - a course to familiarize you with your microcomputer.

COURSES for ADULTS:

1. ELF - Classes in "Getting Comfortable with Computers" and BASIC programming for adults offered evenings and weekends. Special classes for parents and children to learn computing together. Bethesda. 493-9696.
2. L. Morganstein Consultants - Two courses for April: Fundamentals of Microcomputers - understanding the Apple and An Introduction to BASIC programming. Two consecutive Saturdays. Computer Consumer Workshop - how to deal with dealers. Gaithersburg. 972-4263.
3. Learning Works (657-4488) and Open University (966-9606). Many speciality classes in computing in addition to programming.
4. Montgomery College - Community Services - Fundamentals of Computing, special applications software for home and business, programming. Rockville. 279-5206.
5. Trinity College - Computer in the Classroom. A three-credit graduate course for teachers with no prior computer experience beginning January 19. Call 269-2371 for more information.
6. Trinity College - Lunchtime Learning Seminars. A one-credit course beginning February 10. Hands-on experience with microcomputer and popular home and business software.

WINTER CONFERENCES and WORKSHOPS:

1. Research in Computer-Based Instruction. Feb. 7. Clayton Hall, University of Delaware. Contact Gary Feurer (302) 728-2927.
2. Microcomputers in Education. Feb. 7-9. Washington, DC. Workshops include hands-on experience in BASIC, PASCAL, and applications software.
3. ACM Annual Computer Science Conference. Orlando, Fla. Feb. 15-17. Contact Terry Frederick (301) 275-2341.
4. Tenth Annual Mid-South AEDS Conference: The Computer as a Universal Machine. Use of computers as universal machines in educational settings.
5. National Topical Conference on the Use of Microcomputers in Special Education. March 10-12. Hartford, Conn. Contact John Grossi, Conference Manager, Council for Exceptional Children. Reston, Va. 620-3660.

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PRESIDENT'S CORNER

by David Morganstein

THE OFFICE. Many people are helping to get our Office open and equipped. Bernie and Gena Urban have spent a great deal of time looking for and moving in desks, chairs and other needed items. We have a phone installed and will move our answering machine to the Office. Jesse Wagstaff, Tom DeMay and Tom Warrick have spent considerable effort to organize our Library. Call Jesse if you have any books or magazines which would be of use to our members. If you can't bear to part with them, put your name in them and loan them to WAP. Dave Harvey contributed a desk and both he and Scott Rullman have volunteered to "person" the Office on a Tuesday evening. We need two more volunteers for Tuesdays. Interested?? For the present we will have the Office open weekdays from 10:00 A.M. to 2:30 P.M. (except Tuesday); on Tuesday from 12:30 to 2:30 P.M. and in the evening from 7:00 to 9:30; and one Saturday morning a month (the 1st Saturday, 9:00 A.M. to 1:00 P.M.). After a month or two we will adjust the hours according to need for access.

Our appreciation is extended to Frederick Computer Products and to Anderson Jacobson for the loan of equipment to our Office, in exchange for newsletter ads. Frederick has loaned us an Apple II+, 2 disk drives and a monitor, and Anderson Jacobson an AJ 833 letter quality printer. It all makes a great combination.

Our Exec Board meeting will now be held at the Office (the second Wednesday of the month). Many thank you's go out to Bernie and Gena for the two and one-half years that they have put up with a monthly invasion of up to 20 people for these meetings. (P.S. Can you guess the Urban's new puppy's nickname? Nibbles Away!!!)

• • • • •

VOLUNTEERS NEEDED. Other areas where you can contribute some time include:

- 1) area school coordinators for speakers. If we are contacted by a school in your county, you could help locate or be a speaker to fill the need.
- 2) tutorials coordinator to join Steve Stern in arranging tutorials. (Thank you's to Joe Silverman for his help in the past.)
- 3) program coordinator to join Ernie Forman in arranging speakers for our monthly meeting. (Thank you's to Tom Woteki for his help over the past few years).

• • • • •

THE SWAP MEET. Many thanks to Joe Fuchs for a great job of organizing. I understand that many more would have attended (although several hundred were there) but

thought that you had to have something to swap. We'll have to rename it "Used Computer Stuff Sale". Perhaps we won't wait a whole year before the next one.

• • • • •

THE WAP MAGAZINE. Next time you visit your favorite computer or book store, see if they have our magazine on their shelves. If they don't show them a copy and see if they are interested in making it available to their customers. If so, contact Bill Hershey or the Urbans and give them the store owners name and phone number.

• • • • •

HOT LINE. Look at our Hot Line list. What's missing? Do you have a program or piece of hardware you need help with or for which you want to provide help? If so, let us know so we can expand the list if needed.

• • • • •

MEMBERSHIP RENEWALS. We were very pleased to see a high renewal rate from the notice sent in December. Of 580 members notified, all but 150 have renewed so far. (If you do not receive this issue and do not read this article, you may want to renew...hmmm) We signed up member number 2600 by the end of 1982.

• • • • •

IRS VOLUNTEERS. Last month we carried a message from an IRS worker looking for volunteers to help in a program assisting low income families. The volunteers will bring in their computer on a Saturday to help complete forms. The response at the December meeting was overwhelming; a dozen members volunteered to assist in the program. We look forward to a report on their efforts.

• • • • •

SOFTWARE OFFER. Diversified Software Research Inc. has been sending a disk they prepared to Apple clubs. The disk has an improved DOS on it which speeds up the loading of binary files. It also provides several interesting enhancements, such as a printer buffer to relieve your computer from burden during long outputs to the printer. The company wants WAP to make the disk available to its members under the following arrangement. If, after trying the disk, you want to keep it and use it, you agree to send them \$25.00. This is to be done on the honor system. When we add the disks to our order list, we will note clearly that a \$25.00 royalty must be sent to Diversified if the purchaser decides to keep the disk. WAP will charge the usual copying and distribution fee.

contd. on pg 13

SIGNEWS

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.

PIG, the Pascal Interest Group, meets on the third Thursday of each month at 7:30 PM at the Uniformed Services University of the Health Sciences, Bldg. A, Room 2054 (2nd floor), on the campus of the National Naval Medical Center at 4301 Jones Bridge Road, Bethesda, MD.

EDSIG - the education special interest group - will meet on Tuesday, February 1 at 7:30 PM in Lecture Room A, Building A, USUHS. For details of this and other meetings, see the EDSIG Page elsewhere in this issue.

LOGOSIG meets each month on the Saturday of the WAP meeting at 12:30 PM at the Bethesda Country Day School, 5616 Beech Avenue, Bethesda, MD. See the LOGOSIG column elsewhere in this issue.

ASMSIG meets immediately after the regular Washington Apple Pi meeting.

The 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.

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

The Telecomm SIG meets after the regular WAP meeting.

The Business SIG meets after the regular WAP meeting. See The Bottom Line elsewhere in this issue for details.

STOCKSIG - WAP MEMBER Marvin Hass would like to see if there is sufficient interest in forming a STOCKSIG, focusing on the applications of micros for individual investors. Anyone interested please call Marvin at home 751-4737.

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We still have some stock left over from the January Special. We will still give you the 30-48% off retail on these items until February 28th. Call to find out what bargains are available.

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Epson MX-80 covers 7.00
Epson MX-100 covers 10.00
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C. Itoh Prowriter Printer ... 465.00
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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.

General	Robert Fretwell	971-2621	Languages, contd.		
	Dave Harvey	527-2704	A,I,P,M	Bill Schultheis	538-4575
	Robert Martin	498-6074	A,I,M	Richard Untied	241-8678
APPLE SSC	Bernie Benson	546-0076	P	Robert Fretwell	971-2621
				Dottie Acton	428-3605
Apple TechNotes	Ed Schenker	977-7349	Locksmith	Leon Raesly	460-0754
	Lance Bell	523-1174			
		530-9214	LOGO		
Communications Packages and Modems-Telecom.			Apple	Ron Murray	328-3553
Anchor Sig. & BIZCOMP Modem	Jeremy Parker	229-2578	MIT Terr-Krell	Dagobert Soergel	823-2840
Apple CAT II	Ben Acton	428-3605	Operating Systems		
ASCII Express	Dave Harvey	527-2704	APPLE DOS	Richard Untied	241-8678
Data Capture	Howard Simkowitz	882-4645	CP/M	Robert Fretwell	971-2621
General	Ben Acton	428-3650	Paddles	Tom Riley (eve.)	340-9432
	Tom Nebiker (216)	867-7463	Pers. Fil. Sys.	Ben Ryan	469-6457
Hayes Smartmod.	Bernie Benson	546-0076	Printers		
VISITERM	Steve Wildstrom	933-7728	General	Walt Francis	966-5742
XTALK CP/M Com.	Bernie Benson	546-0076	Anderson Jac.	Bill Etue	620-2103
Expediter Cmplr.	Peter Rosden	229-2288		Leon Raesly	460-0754
Data Bases			IDS 460	Jeff Stetekluh	521-4882
DB Master	Dave Einhorn	593-8420	MX-80	Jeff Dillon	422-6458
	Leon Raesly	460-0754	Silentype	Bruce Field	340-7038
Data Perfect	Leon Raesly	460-0754	Stock Market	Robert Wood	893-9591
Games	Jim Eatherly	232-6046	Time-Sharing	Dave Harvery	527-2704
	Donn Hoffmann	966-2616	VisiCalc	Walt Francis	966-5742
Graphics	Bill Schultheis	538-4575		Leon Raesly	460-0754
Home Account	Leon Raesly	460-0754	Word Processors	Walt Francis	966-5742
Languages (A=Applesoft, I=Integer, P=Pascal, M=Machine)			Letter Perfect	Leon Raesly	460-0754
A	Peter Combes	871-1455	Screen Wrtr.II	Peter Combes	871-1455
A,I	Jeff Dillon	422-6458	Supertext II	Peter Rosden	229-2288
A	Mark Pankin	370-9219	WordStar	Leon Raesly	460-0754
				David Inouye	422-8926

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SPRING COURSES

1. AN INTRODUCTION TO THE APPLE: MICROCOMPUTER FUNDAMENTALS
 April 9 and 16, 9 am. to 12:15 pm.

*Including: Binary, Hex and Ascii systems
 Bits, Bytes, nibbles, rams and roms
 The Memory Map and the Monitor
 Basic Programming
 The Disk Operating System - memory usage, the
 Catalog, VTOC and DOS*

AND

2. APPLESOFT BASIC PROGRAMMING

April 9 and 16, 1:15 to 4:30 pm.

*Including: The BASIC Language, variables and program control
 Input and Print
 Limitations and Restrictions
 Reading and Writing Files, EXEC'ing
 Graphics, Music and Miscellaneous
 Changing Program Control*

The courses will be held on two consecutive Saturdays, April 9 and April 16 at the Washingtonian Motel on Shady Grove Road in South Gaithersburg. There will be a limit of 20 participants at each course. Both courses will be taught by David Morganstein.

If you wish to attend one or both courses, please fill out the form below. Enclose check or money order made out to L. Morganstein Consultants for the appropriate fee. You will receive confirmation of registration and a list of suggested articles to read within two weeks. Mail form to:

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I will/will not bring and be responsible for an Apple, Monitor and Disk Drive. If I do not bring a machine, I understand that I will look on with someone who does.

pls. ck. _____ Intro. to the Apple _____ Applesoft Basic

Each course - with computer- WAP member \$45. Nonmember \$60.
 without computer " " \$60. " \$80.

LOGOSIG NEWS TURTLE TRACKS



by Nancy C. Strange

LOGOSIG meets today (January 22) at 12:30 at the Bethesda Country Day School, 5616 Beech Avenue, Bethesda, MD.

Our meeting today will include a Report from Logoland, Ron Murray of LOGOSIG, who has just returned from a trip to Apple Logo's New York Center and the Centre Mondial pour la Micro-Informatique in Paris, France. The French Research Center is where Seymour Papert had been working as the chief scientist. (Note: It was reported in Computerworld, Dec 20, 1982, page 6, that Dr. Papert has resigned the center. Papert is reported in the Boston Globe as saying that the original charter of the center was to help develop computing in Third World Nations, but instead the center was being used as a marketing vehicle for French computer equipment.)

DEBUGGING TOOLS FOR APPLE LOGO

Starting this month I will include LOGO procedures in this column. Anyone with procedures they would like to share should contact me at 691-1619.

The following two tools (utilities), TRACE and STEP, are enhancements to Apple Logo for debugging provided by Logo Computer Systems, who continue to provide us with excellent support. Prior to this it was possible to catch errors, but not as easily as the traditional tracing programs.

Both of these procedures written by Brian Silverman, use the classical LOGO procedure "SPI" as an example procedure for debugging. The SPI procedure is:

```
TO SPI :SIDE :ANGLE :CHANGE
FORWARD :SIDE
RIGHT :ANGLE
SPI (:SIDE + :CHANGE) :ANGLE :CHANGE
END
```

To execute the procedure the user issues the command TO SPI and passes the values for the side, angle, and change.

```
?SPI 5 90 5
```

It is suggested that these two debugging procedures be used in conjunction with a printer.

TRACE

PURPOSE: Debugging tool used with procedures to redefine the procedure to include new instructions which cause the procedure name and values for each argument to be displayed without pauses as it runs.

```
?POTS (Print out of procedure titles)
TO UNTRACE :STUFF
TO TRACE.MAP :THING :FUNCT
TO CLEAR.TRACE :FUNCT :TEXT
```

```
TO UFUNP :NAME
TO TRACE.PRINT :$FUNCT :$ARGS
TO SET.TRACE :FUNCT :TEXT
TO TYPE.WITH.BRACKETS :THING
TO ARGLIST :ARGS
TO TRACE :STUFF
```

```
TO TRACE.MAP :THING :FUNCT
IF EMPTY :THING [STOP]
IF WORDP :THING [IF UFUNP :THING (LIST
:FUNCT WORD "" :THING TEXT :THING)
[PRINT SE :THING [ISN'T A USER
FUNCTION]] STOP]
TRACE.MAP FIRST :THING :FUNCT
TRACE.MAP BF :THING :FUNCT
END
```

```
TO CLEAR.TRACE :FUNCT :TEXT
IF FIRST FIRST BF :TEXT = "TRACE.PRINT
[DEFINE :FUNCT FPUT FIRST :TEXT BF
BF :TEXT]
END
```

```
TO UFUNP :NAME
OUTPUT AND DEFINEDP :NAME NOT
PRIMITIVEP :NAME
END
```

```
TO TRACE.PRINT :$FUNCT :$ARGS
TYPE "-> TYPE :$FUNCTION TYPE "
ARGLIST :$ARGS
END
```

```
TO SET.TRACE :FUNCT :TEXT
IF FIRST FIRST BF :TEXT = "TRACE.PRINT
[STOP]
DEFINE :FUNCT FPUT FIRST :TEXT FPUT
(LIST "TRACE.PRINT WORD "" :FUNCT
FIRST :TEXT) BF :TEXT
END
```

```
TO TYPE.WITH.BRACKETS :THING
IF LISTP :THING [TYPE "[ TYPE :THING
TYPE "]] [TYPE :THING]
END
```

```
TO ARGLIST :ARGS
IF EMPTY :ARGS [PR " STOP]
TYPE FIRST :ARGS TYPE "="
TYPE.WITH.BRACKETS THING FIRST
:ARGS
TYPE "
ARGLIST BF :ARGS
END
```

```
TO UNTRACE :STUFF
TRACE.MAP :STUFF "CLEAR.TRACE
END
```

```
TO TRACE :STUFF
TRACE.MAP :STUFF "SET.TRACE
END
```

To turn TRACE on the user should enter:

```
?TRACE "procname
(such as ?TRACE "SPI)
```

then execute the procedure as usual:

```
SPI 5 90 5
```

contd.

The turtle-graphic display of the spiral design occurs with "-> variable1=value1 variable2=value2", etc at the bottom.

To turn TRACE off issue the command:

```
UNTRACE "SPI
```

```
STEP  
-----
```

PURPOSE: A debugging tool used to redefine a procedure to include instructions which cause the procedure to execute a line at a time with the variable and value displayed.

?POTS

```
TO UNSTEP :PROC  
TO IGNORE :INPUT  
TO STEPPER  
TO SHOWLINES :INSTRUCTIONS  
TO SHOWARGS :ARGLIST  
TO STEP :PROC  
TO .SPI :SIDE :ANGLE :CHANGE
```

```
TO SHOWLINES :INSTRUCTIONS  
IF EMPTY :INSTRUCTIONS [STOP]  
MAKE "NEWDEF LPUT (LIST "TYPE FIRST  
:INSTRUCTIONS) :NEWDEF  
MAKE "NEWDEF LPUT [STEPPER] :NEWDEF  
MAKE "NEWDEF LPUT FIRST :INSTRUCTIONS  
:NEWDEF  
SHOWLINES BF :INSTRUCTIONS  
END
```

```
TO SHOWARGS :ARGLIST  
IF EMPTY :ARGLIST [STOP]  
MAKE "NEWDEF LPUT (LIST "PRINT  
"SENTENCE (LIST (FIRST :ARGLIST)  
"IS) (WORD " : FIRST :ARGLIST))  
:NEWDEF  
SHOWARGS BF :ARGLIST  
END
```

```
TO STEP :PROC  
IF EMPTY :PROC [STOP]  
IF LISTP :PROC [STEP FIRST :PROC STEP  
BF  
:PROC STOP]  
IF PRIMITIVE :PROC [PR SE [CAN'T STEP  
PRIMITIVE] :PROC STOP]  
IF EMPTY TEXT :PROC [PR SE [NO  
PROCEDURE NAMED] :PROC STOP]  
COPYDEF WORD ". :PROC :PROC  
MAKE "OLDDEF TEXT :PROC  
MAKE "NEWDEF (LIST FIRST :OLDDEF)  
MAKE "NEWDEF LPUT (LIST "PRINT (LIST  
"ENTERING :PROC)) :NEWDEF  
SHOWARGS FIRST :OLDEF  
SHOWLINES BF :OLDEF  
DEFINE :PROC :NEWDEF  
END
```

```
TO .SPI :SIDE :ANGLE :CHANGE  
PRINT [ENTERING SPI]  
PRINT SENTENCE [SIDE IS] :SIDE  
PRINT SENTENCE [ANGLE IS] :ANGLE  
PRINT SENTENCE [CHANGE IS] :CHANGE  
TYPE [FORWARD :SIDE]  
STEPPER  
FORWARD :SIDE  
TYPE [RIGHT :ANGLE]  
STEPPER  
RIGHT :ANGLE  
TYPE [SPI ( :SIDE + :CHANGE ) :ANGLE  
:CHANGE]  
STEPPER  
SPI (:SIDE + :CHANGE) :ANGLE :CHANGE
```

END

```
TO UNSTEP :PROC  
IF EMPTY :PROC [STOP]  
IF LISTP :PROC [UNSTEP FIRST :PROC  
UNSTEP BF :PROC STOP]  
IF EMPTY TEXT WORD ". :PROC [PR SE  
:PROC [NOT STEPPED.] STOP]  
COPYDEF :PROC WORD ". :PROC  
ERASE WORD ". :PROC  
END
```

```
TO IGNORE :INPUT  
END
```

```
TO STEPPER  
TYPE "?  
IGNORE READLIST  
END
```

To turn STEP on issue the command:

```
?STEP "procname  
(such as STEP "SPI)
```

and then execute SPI:

```
?SPI 5 90 5
```

Each line of the procedure will be displayed with any variable, as the turtle-graphics displays, and waits for the user to press the 'return' key for the next line.

To turn STEP off issue the command:

```
?UNSTEP "procname
```

```
LOGO BUYS  
-----
```

For information regarding special purchases of LOGO, contact me, 691-1619. &

Pres. Corner contd. from pg 8

• • • • •

APPLE TEAS. The feedback given at the December meeting was mixed. Some teas were cancelled due to a lack of participants; others were highly successful. Check the list in this issue for teas to be held in February and March. Please let us know how these are going or if you would like to host one.

• • • • •

A NEW YEAR'S MESSAGE. A closing quote from a letter sent by Bernie and Paula Benson, "We have struggled this year with the sometimes overwhelming political, bureaucratic, and commercial motivations of so many Washington activities. Our involvement in Apple Pi helps keep things in perspective." A most Happy New Year to all WAP families!!! &

THE APPLE //e

by Tom Warrick

Two groups of people will be interested in Apple Computer's new Apple //e: people who do not have an Apple][, and people who do. For those who do not have an Apple][, your wait was worthwhile: Apple has improved on the original and retained the features that made the Apple][so popular. For those who already have Apple]['s, your fears can be quieted: The Apple][is by no means obsolete.

This conclusion is based on a review of portions of the Apple Computer, Inc. documentation of the Apple //e -- sometimes referred to prior to its release as the "Super-][" -- and on a review of the February 1983 issue of Apple Orchard, published by the International Apple Core. The Apple Orchard devotes 15 1/2 pages, with eleven photographs, to the //e. The revolutionary "Lisa" computer, which like the //e was also "rolled out" on January 19, will be covered in the March 1983 issue of Apple Orchard, and is also featured in a current or upcoming issue of Byte magazine. (Permission for use of the above stated material for this article has been obtained from Apple Computer, Inc. and IAC.)

This article will concentrate on the differences between the //e and the][(reference to the][without qualification will refer to both the][and the][+). It will assume that the reader is reasonably familiar with the Apple][or is interested in purchasing an Apple but is attempting to decide whether to purchase a //e at list price or an Apple][at what will likely be a lower price. Apple has come out with a publication, "A Guide to the New Features of the Apple //e Computer," manual number A2L2011, which covers much of the same ground as does this article.

THE CASE

The //e is the same color and size as the][. The keyboard is not detached but is slightly larger to accommodate more keys (see below) and the RESET key is offset from the other keys to prevent accidental resets. The rear of the //e is significantly different: in lieu of the deep cuts in the back of the]['s case, the //e has twelve holes with caps on those holes not in use. The user strings cables out of the holes or mounts sockets in them, allowing cords to be plugged in to a fixed socket that will not slip loose. A new type of game I/O connector with 9 pins (a 5 over 4 trapezoid) is located next to the cassette I/O sockets, but the standard 16-hole socket still exists -- on the motherboard, not outside. The top of the case snaps open and closed as on the][, but the lid can also be screwed shut to deter children from disturbing peripheral cards.

THE KEYBOARD

The keyboard of the //e is the most obvious

change from the][. All 128 ASCII characters, including lower case letters, may be entered. The layout is much more like an IBM Selectric typewriter, which will please word processors. The ESCAPE key has been moved up one row to the left of the "1" key. The "@" is located on the "2" key, the "^" is on the "6", the "&" is on the "7", the "*" is on the "8", and the parentheses are on the "9" and "0" respectively. Where the "/*" key is on the][is now the "-" and the "_" key. The "-/=" key is now a "=/+ " key, and a DELETE key (ASCII code \$7F) is located where the RESET key is on the][. The RESET key itself is located further to the right, and must be pressed in conjunction with the CONTROL key to reset the machine. The user's ability to decide whether RESET is activated by the RESET key alone or by ctrl-RESET present on the later]['s is not available on the //e.

A TAB key is located on the //e where the ESCAPE key is on the][. There is no repeat key because all keys repeat automatically after being held for one second. In its place is a "/*" key. Where the RETURN key is on a][are two keys on the //e: a "/*" key and a backslash/vertical bar key.

The CONTROL key is larger. As users of typewriters will appreciate, the keys to the right of the "L" are "/*" and the single and double quotation marks. The RETURN key is to the right of these keys, one row below its location on the][. Except for the removal of the two special characters on the "M" and the "N", the bottom row of alphabetic characters is the same on both the][and the //e.

The bottom row of keys has the most significant changes from the][. The first key on the left, below the SHIFT key is an intelligent "CAPS LOCK" key. This key capitalizes all letters but NOT the non-alphabetic characters, thus allowing numbers to be typed while in Caps Lock mode -- a feature found generally on only the more sophisticated word processors. Next is an alternate single quote (ASCII \$60) and the tilde "~". To its right is the power lamp, which is green rather than white. On either side of the space bar are two characters new on the //e. They are named for their shape, which are, for want of a better name, Open Apple and Closed Apple. They are actually Paddle Push Button 0 and Paddle Push Button 1 in disguise -- a pleasant feature Raster Blaster and A2-PB1 players will appreciate.

The final four keys are directional arrows. The left and right arrows function the same in the //e as in the][. The up and down arrows are new. They are not macros for ESC-C or ESC-D. The down arrow is a line-feed (ctrl-J) and the up arrow is a reverse index (ctrl-K). The up arrow will obviously have to await new software before

contd.

achieving maximum utility.

Most notably absent on the //e is a numeric keypad. The //e does, however, have a connector on the motherboard that can be used for, among other things, a numeric keypad. Availability of this keypad is not known at this time.

An "International" keyboard (with associated screen display chips) for non-English languages will eventually be available.

THE MOTHERBOARD

As far as can be determined from the photographs in Apple Orchard, the //e has 30 chips on its motherboard. The chips are so sparsely scattered on the motherboard compared to the][that you could almost drive a bus through them. The microprocessor is a 6502A, the same type used in the Apple ///. The Apple Orchard article does not, alas, reveal the clock rate of the //e, but the //e can read standard DOS 3.3 disks intended for the][, suggesting either that the clock rates are the same or that conversion circuitry is used.

The 64K bytes of built-in random access memory are located in eight chips. Apple-soft is on only two chips. Many of the other chips found on the][have been combined on the //e into a smaller number of more versatile custom-designed chips, which will reduce heat output significantly and should improve reliability.

One of the Apple Orchard articles contains a tantalizing cross-reference to an article "Interrupts and the //e" that does not appear in the February issue. If the //e supports user-controlled interrupts, it would be a significant advancement over the][.

Peripheral card slots 1-7 still exist unmodified. Slot 0 does not exist, but since the //e comes with 64K of memory, a 16K card in slot 0 is unnecessary.

The //e also has a new expansion slot, larger and more sophisticated than the other seven peripheral slots. A card in this slot pre-empts slot 3. This new expansion slot will handle the new, inexpensive 80-column card (see below), which is the first peripheral card designed specifically for the //e. Unfortunately, the article in the Apple Orchard describing this expansion slot is a deplorable example of excessive, distracting cuteness, and is of virtually no use to the serious reader. (And what is worse is that, even for its cuteness, the article is too complex for the non-technical reader.)

The new 80-column board will almost certainly be an invaluable addition to every //e system. Indeed, without the 80-column board, many of the //e's advancements over the][are not available. In addition to providing 80 columns of display, the new board also -- it appears from the Apple Orchard articles -- has an additional 64K of memory. As with the "extra" memory on the Apple ///, this second 64K is "bank-switched," and its use is complex. With release of the //e, Apple is also releas-

ing a new version of Apple Writer for the //e that can take advantage of this extra memory, but it will take time before programming techniques are developed that will open up this extra memory for BASIC and Pascal programs.

Another hardware enhancement is the addition of many new "soft switches." Users of the][are familiar with the PEEK or POKE locations used to switch from Page 1 to Page 2, or high resolution to low resolution graphics. Most of the new switches are used by the 80-column board or for memory management. In addition, some soft switches can be read in order to sense whether certain capabilities have been selected. One such example is a PEEK to \$C01D to determine whether the //e is displaying high-resolution graphics.

One important improvement over the Apple][is the inclusion of a second character set in addition to the standard one used on the][. This new character set, selected by accessing a newly-defined soft switch, has inverse lower case in lieu of flashing upper case characters.

Another improvement is that a soft switch can be read to tell a program when the Vertical Blanking signal is active. This will allow vastly improved flicker-free high-resolution graphics programs.

THE SYSTEM MONITOR

The System Monitor, the part of the Apple's firmware that controls the most basic functions such as screen display, reading the keyboard, moving memory, and disassembling machine language code, has been drastically revised WITHOUT -- or so Apple claims -- changing any of the well-documented entry points that users and programmers have come to rely upon. This remarkable feat has been accomplished by placing additional routines on a ROM that shares via bank-switching the \$C100-\$C7FF address space used by peripheral cards.

The most significant change in the System Monitor is the screen display routines, some of which require the 80-column card for maximum advantage. The screen display capabilities have not so much been changed as they have been enhanced. The new 80-column board, which should be much less expensive than 80-column boards for the][, has many features not found on 80-column boards for the][. The screen editing features of the][are still present, but with many additions. Under "normal" conditions, the cursor is a little flashing checkerboard.

The //e also has an "Active" editing mode, where the cursor is a solid inverse block. When ESCAPE has been pressed to edit material on the screen, the cursor becomes a flashing "+" sign, as on the Apple Writer word processors. In this "edit" mode, the four directional arrows perform the cursor moves previously done with the I-J-K-M diamond. Some monitor commands previously done with the ESCAPE key and another key, such as ESC-"@" to clear the screen, may now be done with one keystroke. A more complete description of these edit features

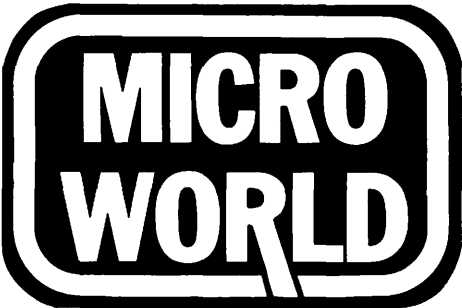
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appears in the February issue of Apple Orchard.

An additional mode is the "Restricted-case" mode, which will be especially useful for BASIC programmers. In Restricted-case mode, alphabetic keys are always uppercase until a quotation mark is entered. The shift key then operates as one would expect on a typewriter until a second quotation mark is entered, whereupon all alphabetic characters are uppercase again. This will prove invaluable to BASIC programmers when entering PRINT statements, while at the same time preventing a programmer from inadvertently entering lower-case letters in a command word.

Another enhancement in the //e's System Monitor is a built-in self-testing routine.

DOCUMENTATION

The documentation for the //e appears from what has been made available to be superior to that of the][, although it still expects the novice to master technical terms explained only in a glossary. Its typeface is sans-serif with generous amounts of boldface and italic type, and -- most significantly -- pictures showing how to perform such tasks as setting up the computer and installing peripheral cards.

APPLE][COMPATIBILITY

One of the most important marketing features of the //e will be its ability to use most of the hardware and software now on the market for the Apple][. The word "most" in the previous sentence will cause some trepidation, as well it should. According to Joe Budge and Penny Gallant of Apple Computer, writing in the February issue of Apple Orchard, Apple Computer had an outside organization test products for the][on the //e. These tests showed that 78.4 percent of all of the hundreds of items of hardware and software tested worked correctly as is, straight out of the box. This test was very rigid: if the product's manual said where the RESET key was, the product "failed." If lower-case letters caused the program to perform incorrectly or fail, the product "failed."

After allowing for some common sense on the part of the user -- not always a valid assumption, since common sense is often not so common -- the tests conducted for Apple showed that only 8.8 percent of the products were truly incompatible.

The most frequent cause of hardware incompatibility was the reduced size of the holes in the back of the //e. Cables or clamps designed for the]['s openings may not fit the //e's rectangular holes. Adapter cables will, in most cases solve the problem. Look for many hardware companies to offer relatively inexpensive fixes for this problem.

The second most frequent cause of hardware incompatibility was the requirement that a chip or chips be removed from the motherboard. This problem may not be fatal; hardware such as the Mountain Computer CPS card probably cannot take advantage of its

"phantom slot" feature, but should work in all other respects. And the three types of cards most commonly requiring chip replacements -- lower case chips, some 16K memory cards, and 80-column cards -- are unnecessary or redundant on the //e.

Software incompatibility stems largely from the //e's keyboard and its lower case capability. In many cases, using the CAPS LOCK key on the //e will solve the problem completely. Some programs, such as Screen-Writer II, assume an all-capitals keyboard and use the one-wire shift key modification to handle lower case. Most word processors, however, have a Caps Lock mode that will be fooled by the //e hardware into performing properly. This solution will be familiar to users of products such as Videx's Enhancer II.

The most insidious problem of software incompatibility, and one with no readily apparent solution, is the fact that programs that relied on the System Monitor may fail because of the changes made in the Monitor to support new features. According to the documentation, Apple has retained all of the entry points documented in the Apple][Reference Manual at pages 61-64, although the listings of the Apple]['s System Monitors beginning on page 136 are now incorrect. One key fact not stated in the materials available at this time is whether the documentation includes an annotated disassembly of the //e Monitor.

A conscious decision was made by Apple not to provide complete documentation for the Apple /// monitor in order to prevent people from taking advantage of the internal routines. In this way, future changes to those routines could be made without requiring the torturous rewriting that must have occurred with the development of the //e's Monitor. But since the genie of the Apple]['s monitor is out of the bottle, the decision to release the documentation on the //e's Monitor should not have much of an additional effect. Undoubtedly, publications such as Apple Orchard, Washington Apple Pi, and Call-A.P.P.L.E. will fill the gap should Apple Computer be reticent about providing this information.

In sum, upward compatibility, i.e., using Apple][products on an Apple //e, is not a very significant problem. Downward compatibility, on the other hand, will be a significant problem. While this will be less true in the area of text processing, downward compatibility will be a very significant problem in the area of graphics, because many of the //e's new graphics capabilities will not be available for the foreseeable future on the][. This should not be a significant problem for some time, however. It will take several years for the very large number of Apple]['s on the market to be replaced with //e's or other machines. Look for manufacturers and software houses to continue to concentrate over the next few years on the Apple][market, while keeping an eye on //e compatibility.

RETROFITTING THE APPLE][

If you already own an Apple][, you can

contd.

obtain right now many of the benefits offered by the //e. You can buy keyboard devices ranging from entirely separate, programmable detachable keyboards from Executive Peripheral Systems (list price at press time \$399.95) to less expensive systems such as the Videx Enhancer II or the Lazer Micro-Systems Keyboard+Plus. You can buy lower case chips from any one of dozens of manufacturers for \$25-\$65. You can buy 80-column cards like the Videx Videoterm (advertised in the January 1983 issue of Washington Apple Pi for as low as \$249.95) or the Sup'R'Term. If you are adept at soldering, you can obtain a copy of the Apple Tech Notes that describe how to make all of your]['s keys repeat automatically, or if you are cautious you can buy the Repeaterrrr for \$24.95. Dealers will be able to tell you about other manufacturers of similar products, and undoubtedly enterprising vendors will devise ways to make other //e hardware and software work on Apple]['s.

In short, owners of Apple]['s have not lost much by purchasing when they did rather than waiting for the //e. The Apple //e is, to be sure, a powerful machine with more capabilities than its honorable ancestor. But the "experience" of the Apple][in the marketplace -- and the very fact that it has been so popular in the past -- means that the Apple][will be a useful, productive and enjoyable machine well into the last third of this decade. Beyond that, because of the almost regular advances in microcomputer technology, only the brave and the foolish would dare to predict. (See //e keyboard, pg 64)

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A LITTLE BASIC HISTORY

by Geoff Pennington

I've always liked a historical perspective; you don't know where you are today unless you know where you've been. So I'd like to present WAP with some history on the most popular microcomputer language, BASIC.

BASIC was originally developed at Dartmouth College, a small private university. The great majority of its students major in the Social Sciences and the Humanities. It has few graduate students and lacks the resources for expensive computing equipment. So how did Dartmouth come to develop a major piece of software?

Starting in 1956 Dartmouth had access to the New England Regional Computer Center at MIT. The IBM 704 being used had no operating system or high level languages (FORTRAN had been introduced only two years earlier, and COBOL did not yet exist). Because of the distance between Dartmouth and MIT, turnaround time was about two weeks.

Thomas Kurtz and John Kemeny were the faculty members who were involved in Dartmouth's use of computers from the beginning. They had no hope of teaching their students and colleagues to use assembly language but felt that students must become familiar with computers. They began experiments in designing higher level languages, modeled at first on assembly language, and later on FORTRAN.

Programming in FORTRAN was easier than in assembly language, but still not what an English major did for fun in the late 1950s. The efforts at devising a simple language continued when Dartmouth got its own computer (an LPG-30) in 1959. It was small even by standards of the day: only 4K words (30 bit words, not 8 bit bytes) of memory on a drum (chips not invented yet) rotating 30 times a second. It had only 16 instructions (compared to 56 in the Apple II).

So that was Dartmouth's computer in June 1959. During the summer several students experimented with it and one of them, lacking any previous experience, designed and wrote a simple compiler which he called DART. Several other languages followed; ALGOL 30 and SCALP (both based on ALGOL) and DOPE (Dartmouth Oversimplified Programming Experiment). Development of BASIC was begun in 1963 for a GE-225 computer purchased from General Electric in 1964. Between 1963 and 1967 Dartmouth developed software for General Electric, and in exchange was able to buy hardware at a discount.

In developing BASIC, Kurtz and Kemeny wanted an easily used interactive language on an easily used time-sharing system. To achieve this end it was necessary to design not just a language, but a new operating system as well. The language was eventually taught as an adjunct to math courses

already being taken by most students. No special courses in computers were offered.

BASIC was never intended for any environment but Dartmouth. It evolved in an unplanned sort of way, going through six versions between 1963 and 1971. Much of the actual designing and coding was done by students. Each new version built on and corrected errors in its predecessor. The 1971 version has remained largely unchanged.

At Dartmouth, BASIC is and always has been a compiled language. It was established as an interpreted language on mini- and microcomputers for other reasons little connected with the language itself, such as the greater compactness of code offered by an interpreter. That was an important consideration in 1975, when BASIC was first implemented on a microcomputer and memory was expensive.

To me, the striking thing about BASIC is that it was so much the product of college kids who had never seen a computer before. They were directed by Kurtz and Kemeny, of course, but it shows what can be accomplished with some concerted effort.

I'd like to contrast BASIC with that other popular microcomputer language, Pascal. Pascal was also developed as a tool for teaching programming, but it was introduced in 1970, six years later than the first version of BASIC. During those six years, high level languages in general had become much more accepted. (It is quite interesting to read how, in the late 1950s, FORTRAN was still resisted. Seems everyone knew that the best way to program was not in FORTRAN, not in assembly language, but in octal!) In particular, the structured programming concepts in ALGOL had had more time to sink in.

In 1964 the goal at Dartmouth was a simple language that any student could quickly learn. Nicholas Wirth's goal in developing Pascal was a sophisticated language for teaching good programming techniques and for developing complex programs. If you look at the two languages today the difference in viewpoint is apparent. In many ways Pascal is the superior language, but BASIC continues to serve well the purpose for which it was designed.

Anyone interested in learning more about the early days of computing languages might like to read HISTORY OF PROGRAMMING LANGUAGES, copyright 1981 by Academic Press, Inc. In addition to BASIC the book has sections on FORTRAN, ALGOL, LISP, COBOL, APT, JOVIAL, GPSS, SIMULA, JOSS, PL/I, SNOBOL, and APL. &



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APPLE TEAS

The 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 them. Each host will limit the size according to their wishes and will let you know if there is room left for the tea of interest. Hopefully, there will be ample numbers of

sessions to meet the interest. If not, we will seek additional volunteers.

Session leaders may be needed if the host does not feel knowledgeable about the Apple. If you would like to help in organizing these sessions or would like to volunteer your home or help to be a session leader, contact David Morganstein or Paula Benson.

Apple Tea Schedule:

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Robert Wood	McLean	893-9591	Feb 10/8-10	(stock market)	Y
Donna Campbell	Rockville	424-5069	Feb 10/8-10		N
Robert Boyle	Carlisle Pa.	717-245-0030		Mar 3	
B&D Acton	Gaithersburg	428-3605	Jan 23/1-3	Feb 13/1-3	N
Judy Fite	Fairfax	691-1082	Jan 29/3-5		Y
David Margulies	Bethesda	530-9190	Jan 26/8-10		N
Bill Etue	Reston	620-2103	Feb 5/10-12		N
Mansur Froozan	Bethesda	229-3224	Feb 9/7:30	Mar 9/7:30	Y
Rollande Robert	Annandale	256-4121	Feb 18/8:00		N
Dave Harvey	Arlington	527-2704	Feb 19/8:00	Mar 19/8:00	N
Ginny Spevak	Chevy Chase	362-3887		Mar 9/8:00	N
Doug Richard	Fairfax	323-1027	Feb 15/8:00	(games)	N
Robert Martin	Laurel	498-6074	Feb 19/2:00	Mar 19/2:00	
J&B Massey	Bowie	249-6178	Feb 15/7:00?	Mar 14/7:00?	N
K. C. Gupta	Silver Spring	572-5130	Feb 10/7:00	Mar 10/7:00	Y
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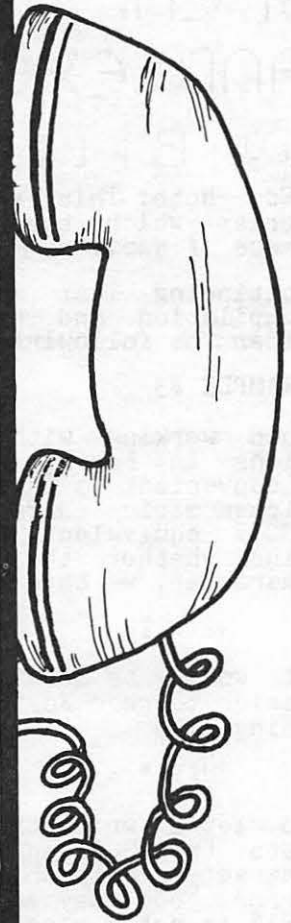
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SPEAKING OF FORTH: COMPILATION AND EXECUTION-11

by Bill Wurzel

(Ed. Note: This is the third article of a series which began in the December 1982 issue of Wap.)

Continuing last month's discussion of compilation and execution in Forth, consider the following:

EXAMPLE #3

When working with text-oriented applications in Forth, we frequently find it inconvenient always to have to refer to alphanumeric characters by using their ASCII equivalent. For example, to determine whether the TOS contains the '*' character, we have to code

```
42 = IF
```

It would be more convenient and make for easier-to-read Forth if we could code something like

```
CHAR * = IF
```

so let's write the Forth word CHAR which puts the ASCII equivalent of the following character onto the stack, generating a new error code (say #21) if the text following CHAR is not a single character.

```
: CHAR BL WORD HERE COUNT 1 = 0= 21
  ?ERROR C@ ; IMMEDIATE
```

BL -> pushes the ASCII equivalent of a blank onto the stack.

WORD -> takes whatever character is TOS (in this case a blank) and reads the next text characters from the input buffer until this TOS character is found (but ignoring all leading occurrences of the TOS character). The number of characters it finds is stored in the first free byte of RAM (i.e. the first byte after the end of the dictionary) and the characters themselves are moved to the immediate right of this length byte. We'll call this representation of character count followed by characters themselves "Forth string format."

HERE -> pushes the address of the first byte after the end of the Forth dictionary onto the stack.

COUNT -> assumes that the TOS (in this case HERE) points to a Forth string, places the address of the leftmost string character second on the stack (NOS) and places the character count on the top of the stack (TOS).

1 = 0= -> pushes a true flag (any nonzero number) onto the stack if the TOS was not equal to 1 and a false flag (the number zero) if it was equal to 1.

?ERROR -> halts compilation and issues error message TOS if the flag at NOS is true. The sequence 1 = 0= 21 ?ERROR issues

error message #21 if the string character count is not equal to 1. After this sequence is executed, only the address of the character itself (placed there by COUNT) is left on the stack.

C@ -> gets the character pointed to by TOS and pushes it on the stack. This is what we set out to do in the first place!

IMMEDIATE -> When we use CHAR in a colon definition we need something to happen as soon as it is encountered in the definition. Otherwise it would just be compiled as CHAR and the interpreter would go blithely on interpreting the next symbol '*' as multiply instead of an ASCII character!

Remembering that the word EMIT outputs the character on top of the stack, we can test our new word by entering:

```
CHAR * EMIT
```

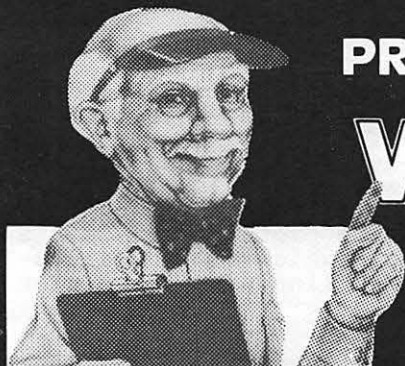
So far so good. But when we try to use our word in a colon definition:

```
: TEST CHAR * EMIT ;
```

we get error #20 (DEFINITION NOT FINISHED). Sure enough, we have the same problem we had in Example #2 last month - CHAR is putting the * onto the stack too early - we want the * put on the stack when TEST executes, not when CHAR executes! As it is, the immediate action of CHAR stacking the ASCII equivalent of * just violates the compiler security check (see Example #2 last month). But we have to be careful when we monkey around with CHAR to make it work in a colon definition that we don't ruin it for direct execution. Remember, it worked fine in the direct execution of CHAR * EMIT above.

Since what we have so far works fine when the interpreter is executing a direct line of Forth, let's keep what we have. At the end of the execution of the immediate word CHAR we have an ASCII character on the stack. Now, if CHAR appears in a colon definition - i.e. if we are compiling when CHAR is encountered, then we have to do two things: 1) somehow put the ASCII character which is on the top of the stack into the definition of the word being compiled and 2) let this word know that when it is executed, it should place this ASCII character back on top of the stack. Well (as by now we have come to expect) there already exist two Forth words to do exactly these things. The word (with the unfortunate name of CLIT, (pronounced "sea-lit") when encountered in a dictionary definition tells the Forth inner interpreter to take the byte which immediately follows in the dictionary definition and place it on the stack. This accomplishes goal 2) above.

contd. on pg 27



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FURTHER TIME ANALYSIS OF GRAPHICS ALGORITHMS

by Charles K. Mesztenyi

In [1], time requirements for basic graphics algorithms (positioning) has been shown. In this article, the time needed for line drawings and for clearing the high resolution page is presented.

1. Line drawing.

Let P1 and P2 be the points to be connected with a line segment with coordinates (x1,y1) and (x2,y2), respectively, on the high resolution page. Define the horizontal (dx) and vertical (dy) distances by

$$dx = \text{ABS}(x1-x2) \quad \text{and} \quad dy = \text{ABS}(y1-y2)$$

also
 $dmax = \text{Max}(dx,dy) \quad \text{and} \quad dmin = \text{Min}(dx,dy).$

1.a Applesoft Line Drawing.

The Applesoft line drawing (HPlot X1,Y1 TO X2,Y2) requires an initial positioning of the high resolution cursor to x1,y1 (entry at \$F411) followed by the line drawing to x2,y2 (entry at \$F53A). Time requirements for both routines very strongly depend on the actual data values, thus only a weighted average is given below. The following formula can be derived for the combination of these two routines:

$$T_a = 90 (dmax+dmin) + 386 \text{ cycles} \\ (\text{microsec.})$$

as weighted average time. Note that the minimum time is very close to the above average time, see in [1]. The above time does not include the interpretation of the Basic statement, thus applies only to direct calls from machine language.

1.b Fast Line Drawing.

In [2], a fast line drawing routine has been presented using table look-up for positioning with the restriction that $x1, x2 < 256$. One may easily derive its time needed to execute by counting the instruction cycles:

$$T_f = 69 dmax + 5 dmin + 143 \\ +/- (2 dmin + 10) \text{ cycles}$$

The following table compares T_a and T_f for some values of $dmax$ and $dmin$:

dmax	dmin	Ta	Tf	Ta/Tf
25	0	2636	1868	1.41
25	25	4886	1993	2.45
50	0	4886	3593	1.36
50	50	9386	3843	2.44
100	0	9386	7043	1.33
100	100	18386	7543	2.44

Remark: The above comparison is only for timing purposes, and should not reflect how well those routines has been written. Applesoft allows x-coordinates up to 279

and implements color codes, thus it is obviously slower. This extension and not using table look-up is reflected in the factor 90 in T_a vis-a-vis 69 in T_f . There is also a difference between the two routines in respect to plotting the points for the line segments which can be illustrated for a diagonal line with * showing point positions plotted:

```

Applesoft draw          Fast draw
***                    **
***                    **
***                    **
***                    **
....                   ....
    
```

I.e., any internal dot on the line segment has 2 neighboring dots. Applesoft defines neighbors of a point as only the positions above, below, left or right, while the Fast line drawing also includes the diagonally adjacent positions. This difference is reflected in the T_a formula by the equal dependence of $dmin$ as of $dmax$.

2. Clearing the High resolution pages.

The memory area for a high resolution page (\$2000-3FFF for page 1, \$4000-5FFF for page 2) contains 8192 bytes, while only $192 \times 40 = 7680$ bytes of those are included in the display. The missing 512 bytes are actually free to be used for any purpose. They are located at the addresses

$$\$xx78-xx7F \quad \text{and} \quad \$xxF8-xxFF$$

where $xx = \$20, 21, \dots 3F$ for page 1, and $\$40, 41, \dots 5F$ for page 2.

2.a Applesoft HGR and HGR2.

The Applesoft clear routine (entry at \$F3F4 after page and background color defined) clears the above mentioned available locations. Also, it takes a relatively long time to execute the routine because it allows a background color (only from machine language), namely:

$$T_a = 270720 \text{ cycles (microseconds)}$$

which is more than a quarter of a second.

2.b Fast Clear routine.

The assembly language program shown below clears a high resolution page without erasing the extra 512 bytes, and its timing is much better:

$$T_f = 74622 \text{ cycles (microseconds)}$$

contd.

```
*****
* FAST CLEAR OF HIGH-RES. PAGE *
* ON ENTRY PAGE SHOULD CONTAIN *
*   $#20 FOR PAGE 1 *
*   $#40 " " 2 *
* BASL,BASH ARE CONSECUTIVE ZERO *
* PAGE LOCATIONS *
* BEFORE ASSEMBLY, DEFINE "ZZ" ZE-*
* RO PAGE LOCATIONS AND ORG ADDR.*
*****
```

```

ORG      $AAAA
PAGE    EQU    $ZZ
BASL    EQU    $ZZ
BASH    EQU    $ZZ
CLEAR   LDA    PAGE
        STA    BASH
        LDA    #$00
        STA    BASL
        LDX    #$20
L32     LDY    #$78      ;LOOP FOR 32 PAGES
L1      DEY    ;CLEAR
        STA    (BASL),Y ; $XX00 TO $XX77
        BNE    L1
        LDY    #$F7
L2      STA    (BASL),Y ;CLEAR
        DEY    ; $XX80 TO $XXF7
        BMI    L2
        INC    BASH      ;GET NEXT PAGE
        DEX
        BNE    L32
        RTS

```

References:

1. C.K.Mesztenyi: Analysis of Graphics Algorithms. WAP July 1982, pp. 40-44.
2. D.Morganstein and C. Mesztenyi: Connect the Dots. WAP Dec. 1982, p. 32-35.
3. C.K.Mesztenyi: Notes on Hi-Res Graphics Routines in Applesoft. CALL A.P.P.L.E. Number 1, pp. 92-93.

Forth contd. from pg 24

The Forth word C, (pronounced "sea-comma") stores the byte on top of the stack into the dictionary in the next available dictionary address. This accomplishes goal 1) above. Finally, to determine whether CHAR occurs within a colon definition (making all the above garbage necessary), we have only to look at the variable STATE which will be a 1 if the interpreter is compiling and a 0 if it is executing. So at last we can write the following word:

```
: CHAR BL WORD HERE COUNT 1 = 0= 21
  ?ERROR C@ STATE @ IF CLIT C, THEN ;
  IMMEDIATE
```

With a well-earned sigh of relief we again define TEST:

```
: TEST CHAR * EMIT ;
```

As usually happens in computer programming, just when we think we've finally got it right, something disastrous happens. In this case we crashed Forth (at least my Forth crashed!) After some reflection (and a good night's sleep) we see that CLIT is compiling too soon. As things stand, CLIT is being compiled into the colon definition of CHAR, but we want it compiled into the colon definition of the word in which CHAR appears (in this case TEST). We need a

Forth word 'A' which when used within the colon definition of a Forth word 'B' (in this case CHAR) will delay compilation of some other Forth word 'C' (in this case CLIT) until 'B' (CHAR) itself appears within a colon definition. And darned if such a word doesn't already exist in Forth! 'COMPILE' does exactly this! Finally I think we have a CHAR that works!

```
: CHAR BL WORD HERE COUNT 1 = 0= 21
  ?ERROR C@ STATE @ IF COMPILE CLIT C,
  THEN ; IMMEDIATE
```

So we see that the distinction between execution and compilation which seemed so easy and straightforward at the beginning of last month's column can become extremely confusing. But it is responsible for much of the power and flexibility of Forth and well worth the time of a Forth aficionado (aficionada).

JOB MART

Experienced Applesoft Tutor Desired. To teach my 12-year old son who has been programming for 2 years in Basic. He needs assistance in advanced Basic, Assembly/Machine Language and/or advanced graphics. Excellent student. Potomac/Bethesda area. Mutually convenient times can be arranged. If interested please call Barry R. Perliss at 299-6181 (eve.) or 322-5000 (days).

Microcomputer enthusiast needed to backup and operate multiuser CP/M based system. The position is part time 4:30 - 8:30 PM Mon - Fri, downtown Washington, DC. We would prefer CP/M experience. Call Bernie Benson (202) 252-1072.

Programming task. Translate a fast Fourier transform program from FORTRAN IV to Applesoft. The Fourier routine is 135 lines of FORTRAN code. I am told that this is a simple task for a FORTRAN/Applesoft programmer. Fee negotiable. Robert Wood, 893-9591.

Apple II programmer wanted. PPE is looking for a first rate Apple II programmer interested in the development of home application software. You will be programming from "Product Specs" and joining the founders team of a new and aggressive company. Arrangement would include an equity position without capital investment. Please call Dan Hill 525-4898, evenings.

30FTVIEWS

by David Morganstein

The General Manager, Version 2.0 (authors Kevin Cooper & Paul Malachowski, Brillig Systems, Inc., Marketed By Sierra On-Line, Inc., 36575 Mudge Ranch Road, Coarsegold, CA, 93614, 209-683-6858). Data base managing is one of the more practical uses for an Apple. There are many software packages to choose from and little guidance for making that choice.

The second version of GM has added several extensions to what was already a useful answer to maintaining data bases on your Apple. As one of their first efforts, Brillig Systems authored an extension to Apple Writer which expanded its use in several powerful ways (including form letter merging of name/address files with a letter). After demonstrating their skills with that product, Brillig added this machine language data base package.

Some of the most interesting features of GM include: multi-volume (i.e. multi-disk) data bases, hierarchical files, programmability (i.e. Applesoft "&" routines for your own Basic programs to access the GM created, standard DOS 3.3 text files), date/time stamping from clock card, hard disk compatibility, and text screen dump to printer while Browsing data records.

GM refers to blank forms and screens to describe the data base and how it appears to you. Screens refer to the layout of data items in a single form as they appear on the screen while you are Browsing or Updating the file. Some of the not very restrictive limitations of the program are: 16 screens per data base (for RAM card user, 10 for non-RAM card systems), 819 bytes of data per screen, 31 index keys per data base (16 per screen), and 100 bytes total combined index field widths. The maximum individual field length is 39 bytes (this may be a bit restrictive).

Some of the enhancements over earlier versions include: going directly from date entry mode to browse/update, text screen dump, global update/delete (a utility), sorting on up to 16 keys of any field type and improved reports which permit user defined format parameters. When switching to the new version, old data structures and report formats must be modified slightly (using software provided in Version 2); however, the data bases are completely compatible. The usual On-Line policy provides low cost or free updating of older versions. I believe this to be true for GM, as well.

The manual follows the ScreenWriter II format of beginning with a Mini-Manager which lets the users get their feet wet before beginning the tough stuff. This section is followed by more detailed examples and extensions. A discussion of data base creation follows. Several useful utility programs are provided on the disk

and a section of the manual discusses their use. A section for those interested in interfacing their own Applesoft programs describes the "&" routines included for this purpose. The 187 page manual is fairly complete; a reference card is included (and needed!!) since virtually all of the numerous commands are Control Characters.

In summary, I found GM to be much faster and much more powerful than several popular packages at comparable prices (\$229.95).

Germany 1985. (by Roger Keating. Strategic Simulations Inc., 465 Fairchild Dr., Mountain View, CA 94043). Those familiar with Operation Apocalypse and Southern Command have seen Roger's handiwork before. An IAC director from the Pacific, Roger currently lives in Australia where he continues to produce amazing war game simulations for the Apple. Roger visited with the WAP last May when he demonstrated pieces of this latest simulation.

Germany 1985 deals with a possible future land war in Europe. The battlefield is displayed in two modes: the first, a strategic view of the entire area in multi-colored hi-res and the second, the usual hexagonal patchwork showing close-ups of the individual combat units. The overall dimensions of the battlefield is a 28 by 39 hex grid, which can be viewed in several pieces.

With a single keystroke you can switch between strategic and tactical displays and scroll, virtually instantaneously, around the tactical maps. The battlefield is divided into 12 such 8 by 10 hex maps any one of which can be selected or scrolled to for display.

There are two scenarios each involving a different map. The first is titled Advance to Contact and the second, Invasion Scenario. The objective in both cases is to occupy towns, villages and airfields.

Roger's visual effects are phenomenal. They include: artillery fire, air strikes, and terrain effects on movement and combat. Air strikes are called on hexes to be hit on the next turn. Each side has five types of units which appear in different hi-res shapes. The NATO forces have tanks, recon units, armored battalions, engineering battalions, and armoured infantry. The Russians have artillery, mechanized infantry, katusha, infantry and tanks. As in Southern Command, you may stack units (have more than one occupy the same hex) and obtain improved defensive power. Units are in one of several modes (transport, normal, fire, attack, defense, river, sup-port, or reorganization). However, you can change between some modes in mid-move. Each unit has a movement allowance. A unit can move in transport greater distances along road

contd.

networks, then stop and change to fire mode (if it has artillery) and fire on enemy units.

You can play against the computer or with a second player. When playing against the computer, you can take either side, NATO or Russian. The selection of units to move can be done automatically or manually. Automatic movement includes giving an order such as fire at the best enemy target or move toward the enemy and attack or move to capture a nearby village. The level of automatic movement is far more sophisticated than in previous games and may make the game more interesting for the less serious player. Alternative moves include giving a unit a delayed movement order to wait until an enemy enters a certain hex (during the enemy's turn) at which time the unit becomes active, performing a movement and action of your choice.

What impresses me most about the game is the speed of movement and graphic scrolling. You effectively view a multi-screen hi-res display which can be rapidly maneuvered to allow you to examine the battlefield at any time. When playing against the computer, you wait less than a minute for it to move (although you may agonize for much longer over your own decisions...). The speed of the computer's turn makes the game far more interesting to the solitaire player.

The accompanying manual is 9 pages long and describes many factors which you will need to know. I suggest you read it through once and then begin playing, referring to the manual as needed. If you are new to Roger Keating's work, you may need a little more preliminary reading. The game also comes with two heavy stock cards, one containing full color maps for each scenario and the other summarizing the entire command option sequences (I keep the latter near at hand.)

Any war gamer will find Germany 1985 an entertaining and excellent program. You will no doubt need to save the game in mid-play, one of SSI's handy features.

Zendar (by Terry Eagan. Sub Logic, 713 Edgebrook Dr., Champaign, IL. 61820. 217-359-8482). Have you owned a personal computer long enough to know of the game Hammurabi? In the game you are given charge of a mythical country and must maintain it by wise allocation of your resources (grain). Too much grain to buy land and your people starve; too much to the people and overpopulation brings on starvation. Zendar is a multivariate version involving several countries, not all of which are under your control. You begin by allocating 250 "assistant/assets" to five categories: administrators, military personnel, scientists, engineers and, of course, gold. These categories can be sub-allocated to improve the health of the economy as measured by: energy, raw materials, production, manpower, transportation, and agriculture.

The game begins with you in control of one of eight countries and the "enemy" in control of seven. During your turn you can

assign assistance, attempt to trade with neighbors, attempt to annex neighbors and (what would a game be without it) declare war. As your turn unfolds, the results of each action on the status of all eight countries is shown on the screen. Surrounding the map of the continent appears one of four displays which you can select. Since there are many options, a help command is included which quickly refreshes the novice player's memory. As you may perceive, this is not a game to be played in a few minutes (fortunately, a save-game feature will let you go to bed in the wee hours with the knowledge that you can continue when time permits).

TIDBITS FROM NEWSIG by Bernie Benson

Happy new year! Many of you will remember 1982 as the year you bought your first computer. Some may be more confused about RAMs, ROMs, Bytes, Bauds, and Pixels than ever, while others wait for the rumored Super //e. Some, as Time Magazine, perhaps got a bit overly enthusiastic and chose the personal computer as the Man/Machine of the year. In a year of generally bad economic conditions, the microcomputer industry did quite well.

1982 was a very good year for the Apple Computer owner and the Washington Apple Pi Club. We saw the introduction of several new hardware and software products for the Apple and the development of some needed competition in the realm of the disk drive, dot matrix printer, and modem. The number of SIGs in the WAP almost doubled, growing from 7 to 13; club membership broke the 2500 mark. The Pi Journal now has several regular columnists and a few irregular ones (yours truly). The disk library grew from 70 to 100 volumes.

It is very easy to get caught up in the fast moving consumer market of the micro-computer hardware/software and forget about the (as Doonsebury put it) "liveware". Some of the most rewarding and creative moments I have had with the Apple are when I was programming it. Some of the most frustrating moments involved trying to learn to use a new product. It is important, I think, to keep the computer in perspective. I see it as a tool that, when used creatively, can help us learn about teaching, learning, communicating, thinking, and problem solving in every area of life. I encourage you to take the time to do some programming on your APPLE this year. Anyone can learn a little BASIC and you may be surprised how much you can do in a short time. You will certainly learn more about and become more comfortable with the computer by writing your own programs than you will from running someone else's.

My only predictions are that this year's products will be better than last year's. The Super //e may come out. And never say never when you're talking about computers.

Q & A

by Bruce F. Field

Q. Is there a cheap fix for a weak power supply? Mine gets flaky with 5-6 cards, especially Z-80 and 80 column cards. One idea I had was to install switches to turn off power to cards not in use. Is this possible, and how? Any other suggestions would be appreciated! I'm getting tired of pulling out cards that aren't in use.

A. I'm afraid there are no cheap fixes. Actually there is probably nothing wrong with your power supply; it was just never intended to run 5 or 6 cards. If you look at the specification you are probably overloading it with just an 80 column card and the disk controller card. So, it's unlikely that replacing your supply will help unless you replace it with one of the other aftermarket versions with more capacity (not cheap). Also, it is not possible to turn off cards and leave them plugged into the Apple. One or two things will happen, both bad. The unpowered cards will certainly load the Apple bus causing erratic or no operation and some chips on the cards may be destroyed. The only other solution I know of is to buy an expansion chassis (such as the one made by Mountain Computer), but be aware that not all cards will work in this. Most likely your Z-80 and 80 column cards will not.

Q. The Commodore 64 is supposed to use a 6510 microprocessor. Is this really an upgrade of the Apple's 6502? Is that why it is supposed to be able to run Apple programs?

A. I'm going to do the best I can to answer this question from a position of ignorance. The 6510 is another microprocessor in the 6500 family of chips. It is software compatible with the 6502. That is, it executes the same machine language instructions. Thus most machine language programs written for the Apple that do not use specific features of the Apple hardware will probably run on the Commodore 64. That's about as far as it goes. I really don't know anything about the graphics or Basic language on the Commodore, but I doubt that it is exactly compatible with the Apple. You can probably re-write an Applesoft program to run on the Commodore, in the same way you could re-write it to run on an IBM PC.

Q. I cataloged my disk the other day and found two programs with the same name! How can this happen?

A. It can only happen when you use the RENAME command. When you rename a file, DOS doesn't check to see if that name already exists in the catalog, so you

can end up with two identical names. There is a simple solution. When DOS does a disk operation using the catalog (LOAD, SAVE, DELETE, etc.) it looks for the first occurrence of the name in the catalog. Thus, if you know that the second occurrence of the name is the one you want simply DELETE the name and the first one will disappear. If you aren't sure, or want both, RENAME can be used to change the name of only the first file to something else, and then you're back to two unique names.

This month's column is a little short because I haven't gotten many questions. (I understand it's the holiday season and all that humbug, but I better see some improvement in your performance next month.) However I have received a few tips from Eli Argon that are worth passing along.

All right, those of you who have used Boolean relational and logical operators in your Applesoft programs raise your hands... Hmmm, just as I thought, not too many hands.

There are 9 relational and logical operators in Applesoft: =, <>, <, >, <=, >=, NOT, AND, OR. Most people use these when comparing variables or strings in IF statements. However they are much more powerful and can be used in other ways. Relational and logical expressions have a value of 1 if true and 0 if false. For example, suppose we have the following Applesoft line:

```
A=(B=C)
```

Looks funny doesn't it? But, if B equals C then A is set equal to 1. If B does not equal C then A is set to 0. To extend this, let's suppose that we have a variable (A) we want to toggle between 25 and -2; that is we want a code sequence that sets A=25 if it is -2 and sets A=-2 if it is 25. One way to do it is with IF statements.

```
180 IF A=-2 THEN A=25:GOTO 200
190 IF A=25 THEN A=-2
200 next line
```

With logical operators we can do it like this:

```
A=25*(A=-2)-2*(A=25)
```

If A=-2 then the first expression evaluates true (1), the second false (0) and A is left equal to 25. Another way to do this which is almost equivalent is:

```
A=25-27*(A=25)
```

In this case A is set to 25 whenever A is not equal to 25 and is set to -2 whenever A is equal to 25. We could continue this for days with variations but you get the idea.

contd.

The preceding sets us up for the following. Many languages have a DO-UNTIL loop structure.

DO

(executable instructions)

(condition)

UNTIL

This works by executing the instructions in the DO-UNTIL loop as long as the condition evaluates "false". When the condition goes "true" the program exits the loop. Most people would say that Applesoft doesn't have a DO-UNTIL loop. NOT SO according to Eli! Consider this:

```
FOR I = 0 TO 1
```

(executable instructions)

I=(condition)

```
NEXT
```

Use one or more of the relational or logical operators from above to set I=0 or 1. The loop will continue indefinitely as long as the condition evaluates false (0).

Another command that can be used in a slightly unorthodox manner is the ON-GOTO or ON-GOSUB command. How many times have you wanted to put multiple IF statements on the same line, such as:

```
IF A=0 THEN 200: IF A=25 THEN 340
```

The problem is that in Applesoft the second IF statement never gets executed. If the condition of an IF statement evaluates false the program continues at the next LINE, not at the next command. To do multiple IF's, they must be on separate lines.

Who knows what happens when you have an ON-GOTO statement and the variable is out of the range. For example:

```
100 A=0
110 ON A GOTO 200,300,400
120 REM THE PROGRAM COMES HERE
```

But unlike the IF statement the ON-GOTO (and ON-GOSUB) go to the next command even if it's on the same line. Now, we can go back to our original example, this time with ON-GOTO.

```
ON (A=0) GOTO 200:ON (A=25) GOTO 340
```

When using these operators for simple expressions the parentheses are not generally necessary, but I usually include them to make it easier to read the code. After all A=(B=C) is bad enough but A=B=C??? &

N³

by WAP\$06 44

This is a report for N³,s: Nerds, Neanderthals, and Numbskulls. To see if you qualify, take the following test. Can you identify the author by converting \$06 44 to decimal without referring to WAP Vol. 118? If not, read on. The Morgansteins, Fields, Warricks et al GOTO another article.

This report concerns a N³ and a 16K RAM card purchased through WAP. It all started while waiting in line on Saturday to purchase some blank disks. Someone said, "They are selling 16K RAM cards at a ridiculously low price." I flipped - I had to have one. R. C. Platt's article in the October 1982 issue of WAP had finally explained that booting the System Master would automatically load INTBASIC if only I had a 16K card. Great for moving from Applesoft to Integer to play WAP games.

Purchase complete. Having done no research, little did I realize that I had to violate the integrity of my APPLE to install the darn thing. The installation required me to pull a 4116 RAM chip. What the heck is a 4116 RAM chip? The instructions were reasonably clear. With the help of my wife's intuition, and the diagrams provided, I located the chip. Removing the chip must be like pulling an old vacuum tube out of a radio. (I am an old N). Not true. The black "glob" on the motherboard actually is both a socket and a chip plugged into the top. This was not apparent to the casual glance of a N³ with a couple of beers under his belt. This fact was discovered only after using my total electronic skill, and a lot of force. This resulted in two things: 1) removal of the chip and 2) bent pins on the chip. The next half hour was spent with my wife's small sewing machine screw driver, very, very, very carefully manually straightening the pins. Finally it fit! Following the instructions, final installation was rapidly completed - insert RAM chip on the RAM card, connect RAM card via the cable to the Motherboard. (These pins were straight, but use caution in the alignment before insertion.) It goes without saying that all power to the APPLE is off from the start through plugging the card into slot 0.

In summary, from one N³ to another I offer the following:

1. It really is easy. Don't be afraid to get a 16K card that requires pulling a chip.
2. Go to Radio Shack, and look at a chip, if as I you have never seen one "naked".
3. Consider the purchase of a chip puller and pin straightener from the same store (\$6.95). It will make the job easier, and will prove useful in the future.
4. The 16K RAM card has uses far beyond playing games, but that's another N report.
5. Try it - you will like it. ENJOY. &

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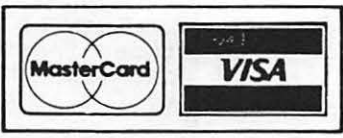
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THE SCREENWRITER HOTLINE

by Peter Combes

Running a Hot Line is fun. You don't have to start off by being an expert - lots of problems can be sorted out once two people have a chance to look at them together. Sometimes the enquirer only needs to state the problem out loud in order to see the solution. However, once a problem has been dealt with, the solution is ready for the next caller; there is certainly no need for us to labor at problems someone has already solved. This was, of course, the idea behind Apple Pi in the first place, and sometimes running a Hot Line is like being at the center of a telephone SIG. This article summarizes some of the things we have learned together during nine months of Hot Line operation.

Superscribe and its reincarnation, ScreenWriter][, have a lot of users in Apple Pi, and callers on the Hot Line average two or three a week. Superscribe was the word processor that surprised everybody by providing upper and lower case on the Apple without hardware modification. For anybody who has struggled through proofreading with the old Apple Writer - all in capitals, with upper case indicated by inverse letters - this is a transformation. Now that lower case adaptors for the Apple are so cheap - I have seen \$21 quoted - this feature is less important than it used to be. For example, Supertext and Apple Writer][will both accept lower case adaptors and use them to make very adequate screen displays.

If you have a good monitor, ScreenWriter has a further party trick - it can display in 70 columns, again without hardware. Hardware in this case is an expensive alternative - 80 column boards cost some \$300.

Opinions vary as to the readability of ScreenWriter's 70 column display. Many find it unusable except for layout work; others, with good monitors, seem to be able to work with it all day without difficulty. The typing input on the 70 column screen is painfully slow, except at the bottom of the screen, so many users type only on the 40 column display, viewing the result in 70 columns when needed.

Text Files

ScreenWriter][makes standard text files. These files are easy to move from disk to disk, using FID. They can be transferred via modems, using programs such as ASCII Express, and can be used with a variety of automatic checking programs. If you have a program, such as a database program, that makes text files, then ScreenWriter][can work on them, and/or merge them into other text files. One of the programs quoted in this article was loaded into the Apple, "captured" into a text file by means of the CAPTURE program suggested in the DOS Manual, and then merged into this text. The new Apple Writer][also makes standard

text files, but several of ScreenWriter]['s other competitors do not.

Redefining Keys

The third major advantage of ScreenWriter][is its flexibility. Keys can be redefined, the screen display can be modified, all the default parameters changed and kept ready for "next time". You can have a try at converting ScreenWriter][into your ideal word processor! One Apple Pi member recently made a heroic attempt at converting Screenwriter][into a "children's word processor" by redefining the commands until the COMMAND line was never used at all. Redefining keys is easy, and well explained in the manual. It can be done on a temporary or permanent basis. For example, in writing this article, it was obvious that I was going to use the word ScreenWriter][a lot, and it was going to be tedious to write it out each time. I redefined <CTRL> S to be "ScreenWriter][", and now need only one key stroke each time it appears. This is in temporary memory, and will be cancelled when I leave EDITOR. I have used a more permanent arrangement for redefining the keys for cursor movement. Cursor movement is a problem for every designer of word processors for the Apple - there just aren't enough keys on the keyboard. In "Insert" mode, ScreenWriter][uses the right and left arrow keys for moving the cursor left and right, but has the <CTRL> J and even <ESC> <CTRL> J for moving the cursor down and up. With the amount of cursor moves that I do, I find these arrangements intolerably clumsy, so I redefine "<" as <ESC> <CTRL> J and ">" as <CTRL> J. This gives me the equivalent of four cursor keys. Since I use this all the time, I have it recorded as a "macro", which I have called "cursor", on the master disk. This can be called up by typing "cursor" when in Command mode, or can be loaded automatically when booting.

Technical Note

To have a macro, say "cursor", loaded automatically when booting, do the following:

(From BASIC)

1. LOAD APP2
2. Type 7810 PRINT D\$"BLOAD CURSOR"
<RETURN>
8810 PRINT D\$"BLOAD CURSOR" <RETURN>

(On-Line suggest 9919 also, but I have not found this necessary)

3. SAVE APP2
4. PR#6 <RETURN>
5. Select Customize option, and run it.

The macro "cursor" is now automatically loaded on booting.

Now that I have "<" automatically replaced
contd.

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by "up cursor", how do I type "<"? Just type <CTRL> X, and the original key function is restored (for one stroke only).

<CTRL> X is also useful for "embedding" control characters into the text. Suppose you want the printer to backspace. Type <CTRL> X <CTRL> H, and <CTRL> H will be embedded in the text file, and will be sent to the printer at printing time. Not all printers will respond to this - my Anadex printer is quite immune to <CTRL> H characters, but my Anderson Jacobson printer, and the Qume used for typing this magazine, will dutifully backspace when they receive this character. This enables me to type in Spanish. Señor is typed as Sen<CTRL>X<CTRL> >H~(this is Shift N)or, and Bogotá is typed as Bogot<CTRL>X<CTRL>H'. A little clumsy, perhaps, but you can always define an appropriate macro if you do it a lot. A disadvantage is that this messes up full justification if that is being used. Some users with Epson printers have reported unreliable results with <CTRL> characters in the text itself, but use the "replacement" embedded command ".re" in the text for satisfactory results. Incidentally, it is not necessary to go through any of this for underscore and boldface printing, as Screenwriter][will do it all automatically. However, "expanded" printing does mess up the justification.

Changing the Screen Display

Printing French and Spanish is easy, and printing in other languages is possible. You can modify the character set that ScreenWriter][uses to display the text on the screen. Some brave Apple Pi members have gone into the machine code to do this. More ordinary mortals can use the character sets from the Apple Tool Kit disk.

Technical Note

To have the ScreenWriter][display in Russian, go through the following:

1. Use FID (from the DOS 3.3 Master Disk) to delete TUTORIAL from the ScreenWriter][disk.
2. Copy "CYRILLIC.SET" from the DOS Tool Kit disk to the ScreenWriter][disk.
3. Run UPSIDE DOWN (on the ScreenWriter][disk).
4. When asked for "Input Table Name", type in "CYRILLIC.SET".
5. When asked for "Output Table Name", type in "RUSSIAN".
6. LOAD APP2.
7. Type 7820 PRINT D\$"BLOAD RUSSIAN, A\$D00"

(On-Line give the address as \$C00, but this does not work in this situation. The confusion seems to arise from the fact that the character table does start at \$C00, but with control characters. Printing characters start at \$D00.)

8. Type 8820 PRINT D\$"BLOAD RUSSIAN,

A\$D00".
9820 PRINT D\$"BLOAD RUSSIAN,
A\$D00".

9. SAVE APP2.
 10. PR#6 <RETURN>.
 11. Choose Option 7 - customize - and run it.
- ScreenWriter][will now print on the screen in Cyrillic characters.

Printing the New Characters

Once all this tedious work is done, it is fun to see ScreenWriter][operating in the new characters. However, this does not affect what is sent to the printer. The printer goes on getting the same old ASCII codes, and will print out the same old characters, regardless of what ScreenWriter][may be putting on the screen. There are various ways of dealing with this.

1. If you have a super new dot-matrix that will print in various character sets in response to <CTRL> codes, send these codes to the printer (see above). I must confess that I have heard about such printers but never met one.
2. Print the new language version on the screen, then use a screen dump program to print out what is on the screen.
3. Buy the new program "Combined Graphics Writer". This will print out using a Tool Kit character set.

These last two alternatives require what is known as a "formatted text file". To make this, the ScreenWriter][sends to disk the same codes that it would send to the printer - the right number of spaces in the right places for justification, and a carriage return each time it starts a new page line. (In a normal text file, there is only a carriage return at the end of each paragraph.)

Technical Note

To make a formatted file, called "FORMATTED":

1. Boot ScreenWriter][, and select RUNOFF.
2. Select option 1. Select the textfile you want.
3. Select option 4. If you are using a screen dump option, set left margin at 0, right margin at 38, top at 1, bottom at 23.
4. Select option 5. For "Slot number or driver address" type \$9EBD (not \$FDED).
5. Select option 2.
6. Type <CTRL> D OPEN FORMATTED <RETURN> (on a 2-disk system, type ",D2" after FORMATTED).
7. Type <CTRL> D WRITE FORMATTED <RETURN>.

contd.

8. Type B <RETURN>.

The file will now be saved into a new file called "FORMATTED".

9. Type <CTRL> D CLOSE FORMATTED <RETURN>.

You now have a new file called "FORMATTED". You can use this with Combined Graphics Writer to print in a Tool Kit character set.

Alternatively, here is a simple-minded program to print in Russian, using an Anadex printer:

```

1000 REM PROGRAM TO ACCESS FORMATTED
1010 REM TEXT FILE TO HIRES SCREEN
1020 REM AND OUTPUT TO ANADEx
1030 REM PRINTER
1040 REM MAIN PROGRAM BY PETER COMBES
1050 REM DECEMBER 12 1982
1060 REM PORTIONS FROM DOS TOOLKIT
1070 REM AND SCREENDUMP BY HOWIE
1080 REM MITCHELL
1090 REM *****
1100 REM LOAD HRCG (DOS TOOLKIT)
1110 DIM SCAN$(128)
1120 REM PROGRAM TO LOAD HRCG
1140 ADRS = 0
1150 PRINT CHR$(4);"BLOAD RBOOT"
1160 CALL 520: REM EXECUTE RBOOT
1170 ADRS = USR(0);"HRCG"
1180 REM BRING IN HRCG, ADRS=STARTING ADDRESS

1190 A = 1
1200 IF ADRS < = 0 THEN ADRS = ADRS
      + 65536: REM MAKE ADRS POSITIVE
1210 CS = ADRS - 768: HIMEM: CS
1220 CH = INT (CS / 256): CL = CS - 256
      * CH
1230 POKE ADRS + 7,CL: POKE ADRS + 8,CH
1240 CN$ = "CYRILLIC.SET"
1250 REM INPUT CN$
1260 PRINT CHR$(4);"BLOAD ";CN$;"
      ,A": CS: REM LOAD IN SET
1270 CALL ADRS: REM INITIALIZE HRCG
1280 POKE 216,0: REM ONERR OFF
1290 GOTO 1330
1300 PRINT "UNABLE TO LOAD"
1310 POKE 216,0: REM ON ERR OFF
1320 END
1330 PRINT CHR$(4)"NOMONI"
1335 POKE 216,0
1340 DIM L$(24)
1350 OP$ = CHR$(4) + "OPEN"
1360 RE$ = CHR$(4) + "READ"
1370 PRINT "WHAT TEXT FILE DO YOU WISH
      TO PRINT?"
1380 INPUT T$
1390 P = 100: REM ARBITRARY MAX NO
      PAGES
1400 PRINT OP$ + T$: PRINT RE$ + T$
1410 HOME
1420 FOR PP = 1 TO P
1430 GOSUB 1530: REM READ PAGE
1440 GOSUB 1790: REM DUMP
1450 NEXT PP
1460 END
1470 GOTO 2180: REM END
1480 FOR L = 1 TO 23
1490 GOSUB 1530: REM READ LINE
1500 NEXT L
1510 GOSUB 1650: REM PRINT STRINGS
1520 RETURN
1530 REM READ LINE
1540 ONERR GOTO 1700
1550 L$ = ""

```

```

1560 FOR J = 1 TO 40
1570 GET Q$
1580 IF ASC (Q$) = 13 THEN J = 40:
      GOTO 1600
1590 L$ = L$ + Q$
1600 NEXT
1610 L$(L) = L$
1620 RETURN
1630 PRINT :J = 40: GOTO 1600
1640 PRINT RE$ + T$
1650 REM PRINT STRINGS
1660 PRINT CHR$(16); CHR$(6): REM
      HOME
1670 PRINT CHR$(1);"1";
1680 FOR L = 1 TO 23: PRINT L$(L): NEXT
1690 RETURN
1700 REM ERROR (OUT OF DATA)
1710 POKE 216,0
1720 L$(L) = L$
1730 FOR Z = L + 1 TO 24
1740 L$(Z) = ""
1750 NEXT Z
1760 GOSUB 1650: REM PRINT STRINGS
      IN HIRES
1770 GOSUB 1790: REM SCREEN DUMP
1780 GOTO 2180: REM END
1790 REM HIRES SCREEN DUMP TO ANADEx
1800 REM BY HOWIE MITCHELL
1810 REM SEE WASHINGTON APPLE PI
1820 REM NEWSLETTER DECEMBER 1980
1830 LOMEM: 4 * 16 ^ 3
1840 REM
1850 IF MAG > 0 THEN PRINT
      "(MAGNIFICATION FROM PREVIOUS RUN =
      ";MAG;"X)": PRINT : GOTO 6110
1860 MAG = 1
1870 FOR A = 0 TO 1: FOR B = 0 TO 1:
      FOR C = 0 TO 1: FOR D = 0 TO 1:
      FOR E = 0 TO 1: FOR F = 0 TO 1:
      FOR G = 0 TO 1
1880 SCAN$(COUNT) = CHR$(G + 64) +
      CHR$(F + 64) + CHR$(E + 64) +
      CHR$(D + 64) + CHR$(C + 64) +
      CHR$(B + 64) + CHR$(A + 64)
1890 REM *****
      HERE, WE ARE BUILDING UP ***"REVERSE
      BINARY" STRINGS ** FOR THE PRINTER.
      "@ "=0, ** AND "A"=1, EXAMPLE:
      ** SCAN$(19)="AA@eA@e"
      *****
1900 COUNT = COUNT + 1
1910 NEXT F
1920 NEXT E
1930 NEXT D
1940 NEXT C
1950 NEXT B
1960 NEXT A
1970 PRINT CHR$(7)
1980 PR# 1
1990 PRINT : REM THIS IS VERY IMPORTANT
      TO DO AFTER PR#1; THE ANADEx WON'T
      GET INTO THE GRAPHICAL MOOD WITHOUT
      IT!
2000 PRINT CHR$(27);"7080";
      : REM SET PRINT WIDTH TO 8 INCHES
2010 PRINT CHR$(28);: REM ENTER
      GRAPHICS MODE
2020 FOR LEVEL = 8192 TO 8192 + 80
      STEP 40
2030 FOR SUB = 0 TO 7 * 128 STEP 128
2040 FOR SSUB = 0 TO 7 * 1024
      STEP 1024
2050 PRINT ";015";: REM INDENT 15
      DOT POSITIONS
2060 FOR INC = 0 + K TO 39: REM
2070 MEM = PEEK (LEVEL + SUB + SSUB
      + INC):MEM = MEM - 128 * (MEM > 127)
2080 PRINT SCAN$(MEM);
2090 NEXT INC: PRINT "1": REM DROP
      DOWN 1 DOT POSITION

```

contd.

```

2100 REM
2110 NEXT SSUB
2120 NEXT SUB
2130 NEXT LEVEL
2140 REM
2150 PRINT CHR$(29); CHR$(7): REM
      EXIT GRAPHICS AND RING BELL
2160 PR# 0
2170 RETURN
2180 END

```

It takes forever, and needs some debugging to print more than one page, but it does demonstrate the possibility. If you already have a screen dump program, use this program up to line 1770, and then use the screen dump.

Features That Were There All the Time

Although the manual for ScreenWriter][is much better than its predecessor for Superscribe, it is still a formidable document. My six months on the Hot Line for ScreenWriter][/Superscribe has given me plenty of practice with the following - they are in the manual, but easy to miss.

1. Changing case. Did you leave <ESC> <ESC> on, and type a whole section in upper case? Or do you want to change a section into capitals for emphasis? Move the cursor over the required section, using <CTRL> L.
2. Fast printing. Do you want a rough printout of something that you are typing, without going through all the RUNOFF procedures? Type L,1,1,1 when in Command mode. This can be very useful if you have a colleague who volunteers to proofread while you are getting on with the typing.
3. Look at a file, while in RUNOFF? This is the opposite. You want to see what is in a file, but you are in RUNOFF and can't be bothered to go back to the EDITOR. From the OUTPUT page type T <RETURN> and then B <RETURN>, and the file will be printed onto the screen. However, if the right margin is greater than 70, some of it will be off the screen.
4. Want a word count? Type # in Command mode of EDITOR. Very useful for authors.
5. Want to line up columns? There are three ways, but you must switch off the justification for printing, either by a RUNOFF command or an embedded command.
 - a. Use the 70 column display and the space bar.
 - b. Use <CTRL> T in Insert mode. You can change the supplied tabs by typing T and the new numbers in Command mode.
 - c. Use the column stops. These are explained on page 87 of the manual. They are powerful, but need practice to get them right. Notice that they line up the preceding word.
6. Want more space on your text file disks? Run FIX SECTOR COUNT on them, but promise not to use these disks for booting! (FIX SECTOR COUNT allows DOS to be overwritten).

7. Tired of typing long file names? When you are asked for Output File by EDITOR, type "C" <RETURN>. Up will come a numbered catalog, and a repeated request for the file name. Just type the file number, and <RETURN>. This will also work for the Input File, and on the Text File page of RUNOFF.

Two points are not in the manual:

1. Having trouble sending text files by Data Capture? Data Capture does not like long strings. Solve the problem by sending formatted files (see the section of this article on languages).
2. Having trouble sending files by ASCII Express? Screenwriter][can make files longer than ASCII Express can handle. Split the file into manageable sections - say 30 sectors long.

Memory and Screenwriter][- or Biting Off More Than You Can Chew

Unlike many other Apple word processors, Screenwriter][can make very large text files - up to 64K. This is good news for an author, but it is done in a rather dangerous way. When it has run out of space in the computer, ScreenWriter][will use the disk being used for the output file as "virtual memory". Unfortunately, it appears to scramble the disk while it is doing this. Follow all the instructions exactly, and, above all, never change disks "when the program is not looking" and you may never have any trouble, but be careless (who isn't careless under pressure?) and you may find that not only your original file is badly damaged or destroyed, but other files are also affected. Professionally, this sort of risk is intolerable. How can it be avoided?

For a two disk system, On-Line suggests keeping the Input files on one disk and keeping a disk just for virtual memory on the other. The input files are thus kept intact until the final save. This works well, but at the end of working on a file you must remember to specify the original file on the original drive. If, under pressure, you simply type "s", ScreenWriter][will solemnly save the result onto the "virtual memory" disk where it will get wiped when you work on the next file. A new "default" mode that would save to the original disk is urgently needed.

The biggest change between Superscribe and ScreenWriter][was the use of extra memory cards. Screenwriter][will still work without extra memory, but, as in Superscribe, you wipe EDITOR from memory when you load RUNOFF for printing. Going backwards and forwards between EDITOR and RUNOFF is time consuming, wears the master disk, but is inevitable when you spot mistakes during the printout. If you have a 16K card, Screenwriter][can load both EDITOR and RUNOFF into memory, so that you can quickly switch between one and the other. RUNOFF will remember which files you were printing, but it does not transfer this information to EDITOR. Neither does RUNOFF remember what file you were working on in EDITOR (though it does remember what

contd.

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it printed last). In other words, RUNOFF will not print out of editing memory, as will, say Appewriter], or, for that matter the "L" command in EDITOR. All this slows things down a bit, but is still a great advance over having to load EDITOR and RUNOFF from disk each time they are needed.

On-Line's List of Bugs

Sam Swersky obtained the following interesting list of ScreenWriter bugs from On-Line:

For each of these pokes, boot ScreenWriter, and exit to Basic from the main menu. After having entered these pokes, type PR#6 to reenter ScreenWriter and then go through Customize again.

.SP (Setting the Paragraph Token)

If you are having problems with the .SP embedded command:

```
LOAD APP2
9411 POKE 25656,151
9412 POKE 25659,98
SAVE APP2
```

Initialization

If you are encountering difficulties properly initializing your printer in Customize:

```
LOAD CUSTOMIZEA
3330
SAVE CUSTOMIZEA
```

List

If you are encountering problems in trying to change the margin on the list command by changing default parameters in Customize:

```
LOAD CUSTOMIZEA
LIST 3820-3840
3820 PRINT "8510 POKE 8190,";NL
3840 PRINT "8520 POKE 8191,";LM
SAVE CUSTOMIZEA
```

Go through Customize again, changing the left margin to the new parameter.

Spooling

If you are encountering problems with spooling:

```
LOAD APP2
6998 POKE 36933,30
SAVE APP2
```

Make sure you have answered "yes" to spooling on your Printer Hardware Specifications Page, and that you have "Saved Default Parameters" (#7 on the Runoff Menu). Once these steps have been completed, and given that your interface is capable of spooling, and is properly initialized, ScreenWriter's spooling function should now work properly.

.TP & .FG (Footnote Commands)

If you are encountering difficulties

with the .TP or .FG embedded commands:

```
LOAD APP2
9401 POKE 28394,24
SAVE APP2
```

This is an interesting list. It contains several problems we have never encountered, but it omits the memory location errors for formatted files and character set redefinition. Meanwhile, the Great ScreenWriter Mystery remains.

The Great Screenwriter Mystery

From Command Mode in Editor, type '

A flag "F" will appear. But what does this indicate? If it is mentioned in the manual, I cannot find it. The "Help" list of commands starts to explain about a "Foreign Character Flag", but stops in the middle of a sentence. Anybody solved this one? If you have, give a ring to the Hotline. &

BUGS AND OTHER PARASITES

This "bug or other parasite" was submitted by Dale Meyn.

The following problem with RENUMBER (whether from System Master disk or APA) has caused me considerable trouble. Programs which have been edited by a PLE or possibly have been specially formatted for LISTing contain extra spaces after Applesoft keywords (notably GOSUB, GOTO and THEN). These extra spaces prevent RENUMBER from recognizing line numbers following these commands, so they are not renumbered correctly (or at all, in fact). A Monitor listing of the program shows an extra \$20 after each keyword token, and it is this \$20 which fools RENUMBER.

The fix is simple but a little tedious: Capture the program as a text file (page 76 of the DOS manual), then 'EXEC' the text file. This will delete any extraneous bytes and convert the program to standard Applesoft format, enabling RENUMBER to work correctly. &

The following is submitted by Stephen Bach.

I have found Andy O'Brien's SORT DIRECTORY routine in November 1981 WAP very useful. There is a condition for its proper operation, however, which is not stated in the article. The routine assumes that HIMEM is at \$9600. When it is not, strange things happen. Ideally the program would work regardless of what HIMEM is, so I think about changing it. But not having the time now to enter the source code into my assembler, I write to announce the problem in hopes that someone else will do it.

I continue to enjoy each issue of WAP and appreciate all the work you all put into it month after month. &

INSTALLING THE MICROSOFT SOFTCARD PREMIUM SYSTEM

by Beth Barnett

I installed the Microsoft Softcard Premium System without any problems by carefully following the directions included in the package and with each component. When the job was completed, CP/M did not run. To make a long story short, I solved two problems which are common but not well documented.

Some of the chips on the Apple II+ motherboard may have to be changed in order to get CP/M to run. This problem is present in "newer" Apple's. (Mine was purchased in October, 1981. It is from the C revision period, as noted at the end of the number above the "copyright APPLE 1979" on the left side of the motherboard.) This problem and solution is so prevalent in the marketplace that it was confirmed by a Microsoft technician. Be aware that the problem may not be identified by an Apple technician because the chips in question are not tested by the Apple diagnostic disk.

The chips are identified by coordinates on the Apple II+ motherboard. The letters represent rows from front to back and are printed on the left side of the board. The numbers count from left to right across the board. As a frame of reference, the first row of RAM chips is row C, columns number 3 through 10. The coordinates of the chips to be replaced are: B1, B11, C11, H3, H4, H5. Unfortunately, the B row of chips is under the keyboard and can only be accessed

by removing the screwed-on cover of the Apple. The type of chip is identified by the number printed on the motherboard and on the chips. Some prefixes, such as "SN" are not important. The chip dealer can help you get the right chips. Chips can be purchased from certain electronics parts stores, including Arlington Electronics in Arlington and Capitol Radio in Rockville. The tongs that came with the Softcard System can be used to remove the chips.

If you are lucky, this hardware correction will get you the CP/M "A>" prompt on your Apple II+ screen. Such was not my fortune. My next problem was that CP/M would not load when my printer interface card (a Pkaso interface card to run an Epson MX-100) was in slot 1. Since CP/M software looks for the printer in slot 1, this problem was going to seriously limit my word processing capabilities! I discovered the solution to this problem through a stroke of luck. With my printer card in slot 1 and the printer on, I booted CP/m and it worked. It only works when the printer is turned on and is on-line.

I am writing this account in WordStar on my Apple II+. I must add that many of the people on the WAP hotline were most helpful in the process of solving these problems. I hope that publishing the solutions will keep other computer-users from having to wait to get CP/M up and running. ☺

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ONERR GOTO

by J.T. DeMAY, Jr.

While debugging a program does it seem that those error messages are making fun of you? Actually they can be very helpful. There are several forms of error messages. Each language prints them differently:

```
?SYNTAX ERROR      APPLESOFT
*** SYNTAX ERROR    INTEGER
SYNTAX ERROR        DOS
```

By observing the form of the error message printed, we can determine which language was active when the error occurred. These error messages are your Apple's way of telling you that it cannot do what you, the programmer, asked it to do. I think of my Apple as a magic, but rather dumb friend. It does everything I ask it to do, although as I often discover, this is not always what I wanted. Someday, there will be a machine that actually does what you want, but until then ...

Let's explore ways to effectively use errors. As some of you know, the Apple stores a number in memory location 222 which indicates the most recent error encountered when trying to execute a Basic program instruction. We can determine this value by using a statement such as `ER = PEEK (222)`. So now that we know how to determine this value, what can we do with it? We can set a flag telling the Applesoft interpreter what to do when an error is encountered. The command to set this error flag is `ONERR GOTO #####`, where ##### is the line number of an error handling routine. The default for this is to stop execution of the program and print an appropriate error message such as `?SYNTAX ERROR` accompanied by that ever annoying BEEP. The flag must be set before an error is detected, so it is a good idea to insert the `ONERR GOTO...` statement at the beginning of your program.

An error handling routine can be simple or complex, depending on the program involved and the possible errors. Writing an effective error handling subroutine can be quite a challenge. I try to anticipate the kinds of errors a novice user might make, then plan the error handling routine. It should make the appropriate corrections and inform the user of the error without causing the program to crash. Beware! Error handling routines written incompletely, can mask an error and actually give an incorrect indication when an error condition not handled properly occurs. To avoid this, I always use the following lines to start my error handling routines:

```
60000 ER = PEEK (222)
60010 LN = PEEK (218)
      + PEEK (219) * 256
```

These two lines save the error code in ER, and the line# at which the error occurred in LN. The following line is always used as the ending line of the error handling routine:

```
60200 PRINT "ERROR #";ER;
      " IN LINE#";LN;" TYPE
      GOTO ##### TO RECOVER"
      :END
```

This line serves to inform the programmer of an error not explicitly corrected by the error handler. The `GOTO #####` is usually the entry point to the main menu. Sometimes it is possible to continue operation of a program even after program execution was stopped because of an error. But depending on where the error occurred, the variables may not be useful. When a program ends because of an error, or because all of the instructions have been executed, the variables have been left intact (almost always). Only the commands: `MAXFILES`, `FP`, `INT`, `CLEAR`, `NEW`, and `RUN` will erase the variables.

The lines between 60010 and 60200 can be used to check for specific errors and branch accordingly. Using the Applesoft Reference Manual, page 136, and the DOS Reference Manual, pages 114 and 115, we can determine which error number is associated with which error.

Suppose that we don't want anyone to be able to stop the program with a Control-C from the keyboard. We could use:

```
60020 IF ER = 255 THEN
      RESUME
```

This would cause program execution to RESUME at the line# in which the error occurred. Another common use of ONERR is to check for a particular file on a disk before writing to or reading from it. First an OPEN is attempted, if the file is on the disk the READ or WRITE operation is started. If the file is not on the disk, or the name of the file was misspelled, then a 6 would be loaded into memory at location 222. If an ONERR GOTO instruction was active, control would be directed to the error handler. This would result in `ER = 6`. An appropriate message could be printed suggesting a possible correction: `"INSERT PROPER DISK INTO DRIVE #1 AND PRESS RETURN TO CONTINUE"`. Program control could then be returned to READ/WRITE section in which the error occurred. This would make the program more "User Friendly", and is a much better alternative than having the program end with a BEEP and a "FILE NOT FOUND" error message.

There are many other cases where checking for specific errors could be used to supply information to the program operator. If `ER = 9` then the disk was full and could not accept more data. If `ER = 4` then the disk which DOS attempted to write to was Write Protected.

When you want the normal error handling routine to take over again, the command to negate the `ONERR GOTO...` command is `POKE 216,0`. That is, if you want to rely on the

contd. on pg 44

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HOME CONTROL: AN INTRODUCTION

by Russ Eberhart

Microcomputers have already made major contributions to technology and society, and I believe that the best is yet to come. The application of microcomputer technology to the area of home control may well be one of the most significant developments of the 1980's. This article reviews the major elements of home control technology, looks at some methods to implement home control, and examines costs involved.

As with any technology, there are a variety of ways to categorize the elements of home control. It is my perception that three main elements exist: monitoring, control and communications.

As the name implies, the monitoring element consists of monitoring various parameters throughout the home. These parameters include temperatures, flow rates, window and door status, and the date and time. As can be seen, the parameters relate to different areas; some relate to a security system, some to utilities, some to appliances. One common thread running through all areas, however, is time. Regardless of the other elements chosen for monitoring, time must be included if the system is to be a true "home control system".

The control element includes the microcomputer-based regulation of devices and processes in the home. The central heating and air conditioning system, the hot water heater, and lighting throughout the home are control candidates. Specifications for the control element will probably incorporate factors related to energy conservation, safety, and/or convenience.

The monitoring and control carried out may be somewhat meaningless unless the results are somehow made available. The communications element consists of communicating to the system user. This can be done in a variety of ways, including status panels, CRT readouts and graphic displays, voice-synthesized messages, and audible alarms. Also included in the communications element is telecommunications outside the home, to such places as neighbors or the police.

When designing and/or installing a home control system, it is probably a good idea to follow the same three steps that should be followed when choosing a home computer. First, look at the applications. What, specifically, are the applications to which the system is to be applied? What parameters are to be monitored? What items are to be controlled? What are the system constraints?

Second, evaluate the operating systems and software available to tackle the job that has been specified. Start to examine the tradeoffs between hardware and software that exist.

Third, and last, review the hardware

options for implementing the system. If you already own a personal computer, such as an APPLE II or ///, it may seem that the hardware decision has already been made, but this is not necessarily the case. It may be that instead of dedicating a relatively expensive CPU to a relatively simple home control task, it may be wiser to use another CPU. If, on the other hand, your home control task is relatively complex, and it is the primary intended use for your CPU from the outset, your decision may be different.

Recent developments in a number of areas have brought home control technology within the reach of more people. For the experimenter, new IC chips such as voice synthesizers and universal asynchronous receiver/transmitters (UART's) are making possible economical "home-brew" systems. And for the computer-wise home owner, a few pre-packaged systems are beginning to find their way to the marketplace.

The cost of a system varies widely according to a number of factors, including the number and type of applications desired, and the extent to which you are willing to build and install part or all of the system. For a very modest system that monitors a few security-related detectors, and controls a few appliances, the installed cost may be less than \$500. For a more complete system that monitors a large number of parameters, controls lighting and appliances, controls several zones of heating and air conditioning, monitors and provides automatic communications for a security system, provides message and memo capability, and provides sophisticated graphic output to several terminals, the cost may exceed \$5,000.

Home control technology has, at least to some extent, arrived. The three elements (monitoring, control and communications) will be examined in more detail in future articles, as will the packaged systems. The area of home control is exciting and dynamic. It is also, from the standpoint of security and utility control, becoming cost effective. And when you get right down to it, cost effectiveness is what will help make microcomputer home control the technology of the 1980's. &

ONERR GOTO contd. from pg 42

Apple alone to inform you of the errors and end your program with a BEEP when an error occurs.

One last word, special precautions must be taken to resume the program. If an error occurred in a FOR NEXT loop, or in a subroutine, program execution must begin at the FOR, or the GOSUB, not the RETURN or the NEXT statement. See page 82 of the Applesoft programming manual for a further discussion of these and several other oddities associated with errors. &

LETTERS TO THE EDITOR

JUMPING OUT OF FOR...NEXT LOOP

Dear Editor,

In the August edition of the Washington Apple Pi magazine, there was an article entitled "Jumping Out of a FOR NEXT Loop" by James T. DeMay Jr. This article was very informative about the potential error of jumping out of the FOR...NEXT loop prematurely. By prematurely jumping out of the FOR...NEXT loop, the computer remembers the FOR and continues looking for the NEXT until the index is satisfied.

Prematurely jumping out of a FOR...NEXT loop would be performed when the loop was being performed until a condition exists, or ceases to exist. For the cases where the loop contains a condition test with a premature exit of the loop, Mr. DeMay suggests setting the index to its terminal value, jump to the NEXT statement, perform a test to determine if the condition exists which could cause the loop exit, and if the condition does exist then jump to the desired statement in the program.

While I have never fallen into this trap, I have been using this technique in all of my recent programs and have stumbled onto a new trap. If you have a FOR...NEXT loop in which you are expecting an error, then do not use Mr. DeMay's solution. For example:

```
100 ONERR GO TO 300
110 FOR I=1 TO 1000
120 X$ = "REPORT NO " + STR$(I)
130 PRINT CHR$(4);"VERIFY ";X$
140 COUNT = COUNT + 1
150 NEXT
160 PRINT COUNT
170 END
300 POKE 222,0
310 I = 1000
320 GO TO 150
```

This example counts the number of report files on a diskette except that the program will fail at line 150 with a NEXT without FOR error. Why? It seems that an error interrupts the computer such that the "FOR" is FORgotten. For these types of loops, simply remove the setting of the index line (310) and jump back to the line after the NEXT statement (line 320 could be GO TO 160). Line 310 does not affect anything, but why have an unnecessary line in the program?

Applesoft does not require the index to be identified in the NEXT statement since all nested loops must be completed within the outer loops. By specifying the index, the computer would be forced to associate the particular NEXT with a particular FOR and thereby generate any next without FOR errors immediately. The index identification will take more memory space but much less than Mr. DeMay's solution; thus a net gain in available memory space. The question left for someone else to answer is: Does the identification of the index ALWAYS

prevent Mr. DeMay's NEXT without FOR error? I think it does, but only because I have never been caught by that trap.

John N. Ridgely

THE AUTHOR REPLIES

Mr. Ridgely is correct in suggesting a different approach to handling FOR...NEXT loops in which an error is expected. In his example, the program attempts to read a series of files named REPORT NO #, where # is incremented each time through the loop. When the program attempts to read the file named REPORT NO LAST+1, a FILE NOT FOUND error will occur. Under direction of the ONERR GOTO, control will be passed to line 300. Assuming no other type of error could occur, Mr. Ridgely's error handler would work correctly, although the POKE 222,0 serves only to clear the error code. What if an error other than that expected occurred? A SYNTAX ERROR perhaps? Or maybe a TYPE MISMATCH ERROR? Program flow would follow the same course, but with incorrect results. A better way would be to have the error handler check to see which error occurred and proceed accordingly. If the error which occurred was the one expected, signified by a 6 being stored in location 222, then jumping to the line following the next statement would be correct. In this case, satisfying the FOR statement is not required since the FOR is indeed FORgotten after an error. For a discussion of a better approach to error handling, see my article elsewhere in this issue.

Mr. Ridgely also suggests that naming the variable in a FOR...NEXT loop would prevent a NEXT WITHOUT FOR error. In fact the opposite is true. If because of a programming error, a NEXT was associated with the wrong FOR, the NEXT WITHOUT FOR error would be precipitated. On the other hand, given the same programming error and using a nameless NEXT, no NEXT WITHOUT FOR error would be encountered. Program flow would continue with unpredictable results. Because if the index variable is not specified, each time a NEXT is encountered, the NEXT is associated with the most recent FOR which is still in effect.

I suspect he is suggesting that it would be easier to debug a program if the index variables were identified. While this is true, there are other things to consider:

1. If execution time is a factor, the nameless NEXT will execute faster. Simply because each time a NEXT X is encountered, a check is made to determine if the variable X, corresponds to the variable in the most recent FOR statement.

contd.

2. The FOR...NEXT loop would still be in effect if exited without satisfying the index variable. Each active FOR...NEXT loop requires 16 bytes from the STACK. As some of you may know, the STACK is that part of memory reserved to keep track of program execution. It starts at \$01FF and grows downward. Each time a GOSUB, FOR or other branching instruction is executed, some specific data is pushed onto the STACK. This data is used to tell the processor where to RETURN or which variable to associate with a FOR...NEXT loop. When a RETURN is executed, or a FOR...NEXT loop is satisfied these return addresses are pulled from the STACK releasing the space. If there were several FOR...NEXT loops exited prematurely, or if one FOR...NEXT loop was entered and exited prematurely several times, it would be possible for the STACK to grow too large and overwrite some page zero pointers, having destructive results.

I appreciate Mr. Ridgely's letter, and am always interested in hearing other points of view. If you feel the compulsion, or would like to see more about a particular subject, write to me in care of the club office. I will endeavor to answer all your requests.

J. T. DeMay, Jr.

MICROTEK BAM 16 RAM CARD

Dear Editor,

I recently encountered a problem with the Microtek BAM 16 RAM card that other WAP members may be interested in.

Near the beginning of December I purchased the card from Frederick Computer Products to install in my Apple II+. Upon installing the card and booting the System Master I found that the computer would "hang" when trying to run an Integer Basic program. After many attempts I still could not get it to work.

I returned to Frederick Computer Products and they cheerfully replaced the card. After installing the second card the same symptoms occurred. Before returning again to Frederick I called Microtek, Inc. and spoke to one of their technicians. He stated that they were having a problem such as I described when an Apple Parallel Interface card was also in the computer. Such is my configuration. The technician was very interested in my problem and suggested alternatives to correct it.

The alternatives are: 1) return the card to Microtek for a modification; 2) have the dealer where I purchased it do the modification or 3) do the modification myself. The technician at Microtek gave me instructions over the phone on how to perform the simple modification. Since the purchase was recent I chose to return to Frederick with the card and modification information.

I took my system along to be sure that this time I left with a RAM that would work (I should have done that in the first place!). The shop technician at Frederick Computer was very interested in my problem and performed the modification at no charge. In fact the staff I talked with concerning this problem were all very helpful and interested. The modification solved the problem and my card has worked perfectly since.

For those who have purchased the Microtek BAM 16 RAM card and have had it hang, I am listing the modification below. For the new purchaser, to be sure it has not been changed by Microtek I would advise you to call them first via their WATS number 800-854-1081.

The Modification:

Part needed: One 100-300 pf ceramic capacitor. Install one lead of the capacitor at pin #40 of the card edge connector. (Pin #40 is the 11th full pin in from the right looking at the bottom of the board.) Install the second lead of the capacitor at pin #7 of chip #U18. (Pin #7 of U18 is the ground pin located at the lower right corner of the chip looking from the bottom of the board.) The purpose of this capacitor is to reduce internal noise affecting RAM operation. It is assumed that those who attempt this modification are experienced in the soldering of printed circuit boards. If not, it is highly recommended that you send it back to Microtek or have your dealer perform it.

I have attended some of the Q & A sessions at the WAP meetings and heard other members speaking of various problems with their RAM "hanging". Perhaps this will solve that problem with the Microtek card. As an additional note, Microtek stated that all future cards will have this modification included.

Closing, I must say I am quite pleased with the help from Microtek and Frederick Computer Products in solving this problem.

Donald C. Schmitt

TYPING AND EDITING MACHINE LANGUAGE

Dear Editor,

I have intended to write to WAP for some time now regarding an outstanding machine language program for typing in, and editing machine language programs from magazines such as NIBBLE and SOFTALK. A listing of the necessary documentation is contained in NIBBLE VOL. 3/NO. 2 on page 15.

The program is very long and takes considerable time to type in, but it is well worth it! I have used it a number of times since I first typed it in and have had little or no difficulty in making use of the various options which include:

contd. on pg 62

Which came first: The chicken or the computer?



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ELECTRONIC MAIL WITH THE APPLE II

by Richard A. Guida

The use of microcomputers as intelligent terminals for transmitting messages over telephone lines is neither startling nor revolutionary. Given the relative cost difference between sending a letter through the U.S. Postal Service and transmitting a message over the phone, systems for transmitting messages using microcomputers are unlikely to change the habits of many individual microcomputer users (although it would be nice if the Postal Service had some parity check bits).

However, electronic mail systems do offer an appealing alternative for some users. These include small companies with branch offices, and individuals who wish to quickly and conveniently communicate with a minimum of "bit-twiddling".

Although there are many electronic mail systems available for business microcomputers, very few operate on personal microcomputers such as the APPLE. One system which appears to offer considerable flexibility and power at reasonable cost is a program called Microcourier, marketed by Microcom, Inc., of Boston, MA. The following paragraphs describe the capabilities and features of the program.

Minimum System Requirements: An APPLE II Plus or APPLE II with Applesoft in ROM, 48K RAM, at least one disk drive (5 1/4 inch), and a Hayes Micromodem II. A second disk drive is desirable to facilitate storing messages and files. Also, a clock card is helpful to allow the time of each message transmission or reception to be automatically recorded. Finally, a printer with either a serial or parallel interface is needed for hard copy.

Program Use: The program has everything which is needed to prepare, transmit and receive messages. This includes a simple but effective editor, software for driving the Micromodem, and routines for handling disk files using DOS 3.3. The program is designed to operate under the Applesoft Monitor, so it does not require CP/M nor initialization with the DOS 3.3 system diskette. Unfortunately, this means it only permits automated communication among APPLE microcomputers, not other varieties. But then everyone into serious uses of microcomputers has an APPLE, right?

The program is menu-driven and has a number of levels. It keeps track of not only where the user is in the current menu, but also from which higher-level menu the user came. This is particularly appealing for novices.

The basic operation of the program is simple. The editor is used to prepare new text files, modify existing text files, and store files on diskette. Editor features include the ability to delete or write over individual characters, words, lines or

paragraphs, and the ability to position the cursor anywhere in the file being edited. The maximum length of a text file which the editor can accommodate is 4000 characters, a limitation which can be overcome easily if needed by using more than one file per message. Alternately, a more sophisticated editing program which creates text files compatible with DOS 3.3. may be used to prepare a file, which then can be subsequently transmitted by Microcourier.

Once a text file is prepared, it is then addressed using a "MAILBOX ID". There are 99 such ID's. The user assigns a telephone number string to each ID. The telephone number string can be up to 36 digits long. The reason for such a long string is not to permit direct-dialing to Jupiter, but because if the user wanted to connect with a PBX switchboard or other network, an access code may be needed in addition to the telephone number. This code can be appended to the telephone number string.

Files may also be addressed to more than one ID through the use of a Microcourier "Distribution List". Twenty-six such lists are permitted, using the letters A through Z, and each list may have up to 99 ID's. Thus, by addressing a file using a list, Microcourier will attempt to send that file to each ID on the list, in sequence.

After the file is addressed, it is now officially a Microcourier "message". To transmit this message to another APPLE operating under Microcourier, the user now enters "SEND MODE". In this mode, Microcourier attempts to transmit in turn each message which has been queued (up to 100 messages) since the last time SEND MODE was entered. This includes messages which could not be successfully sent during the last SEND MODE session because the destination line was busy or otherwise unavailable. Since the Hayes Micromodem II is a direct-connect modem, establishing a connection with a destination line is done automatically, without the need for user action. SEND MODE keeps track of the number of messages to be sent, the number which were satisfactorily sent, and other related data. Actual transmission can be observed by characters flashing in a corner of the screen, although since the transfer rate is 300 baud (about thirty characters per second), individual characters are difficult to distinguish. If Microcourier was unsuccessful in establishing a connection to transmit a message, it will automatically repeat the attempt in fifteen minutes (assuming the user has remained in SEND MODE).

Another option for sending a message is "SEND-RECEIVE MODE", which as the name implies permits the user to both send and receive messages, although not simultaneously. Finally, there is "RECEIVE MODE", which permits reception of messages only.

contd.



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Message transmission or reception can be interrupted from the keyboard if desired, giving the user considerable flexibility in controlling the process.

A particularly nice feature of Microcourier, if the user has a clock card installed, is the ability to address a file for transmission at a specified time. Thus, a user may queue up to 100 messages for transmission during the wee hours of the morning, leave Microcourier in SEND MODE overnight, and the system will automatically attempt to send each message at the designated time. If the attempt was unsuccessful, the system will try again every fifteen minutes. For companies with many branch offices, this practice is appealing because it allows use of the telephone service when the rates are low.

Microcourier maintains a listing of all messages which have been sent or are awaiting transmission. This listing may be viewed by the user. Messages which Microcourier receives are immediately placed in a diskette file, and the user may review these messages on the monitor or have them printed out.

Microcourier also permits the user to directly communicate with a selected destination in a variety of modes (full duplex, half duplex, etc.), including the ability to transmit designated files. This capability is similar to that available using the Micromodem II with its software communications routines.

Documentation: The user's manual is well written and easy to understand, even for someone who has minimal experience with microcomputers. The manual is organized in semi-tutorial fashion, introducing some of the more complicated features only after the user has grasped the fundamentals. It also contains a table of contents, glossary, and (thank goodness) a useful index. As a seasoned veteran of various microcomputer Documentation Wars, it took me less than two hours to read and understand most of the manual, and transmit a test message to a telephone number maintained by Microcom in Boston, MA, specifically for test purposes.

The manual does have a few annoying errors and omissions which will not surprise experienced microcomputer owners:

(1) The first time I tried to boot Microcourier, the boot terminated prematurely with the descriptive message, "Microcourier Error 4" displayed on the monitor. Figuring that the manual must have some list of error codes, I turned to the chapter called "Error Message Dictionary". Unfortunately, the dictionary only contained a listing of NON-fatal errors, with a note that fatal errors may mean a serious hardware or software problem. Not much help. I decided to take a chance that the Microcourier driver program was still in memory, so I typed "LIST". Out scrolled the program, in Applesoft. Careful review of the program revealed that the "4" cited in the error message was a disk I/O message straight out of DOS 3.3, which is an attempt to write onto a write-protected diskette. Sure

enough, the Microcourier diskette had a write-protect tab, which did not seem strange since it is unusual for an operating system to write onto its diskette. In any event, without the tab, the next boot succeeded. It appears that Microcourier does save certain information about the current user session on its diskette; it would have been nice if the manual said that.

(2) After the first successful boot attempt, the manual says that Microcourier will immediately ask you to identify what the system configuration is (e.g., number of disk drives, type of printer interface, and so on). Well, my copy did not. Instead, it permitted me to immediately begin using Microcourier commands, which I did. When I tried to send a message, however, the system became nonresponsive, and I had to re-boot. This time, I specifically executed the commands to identify system configuration, and one of the prompt questions was, "Specify time card slot". Since I was not using a time card, I responded "N", and my next attempt to transmit a message was successful. Obviously, the system had initially assumed there was a clock card present, and had entered an irrecoverable I/O loop.

Price and Warranty Terms: The price of a copy of Microcourier in the Washington area varies from \$250 to \$300. A friend in a small town in New York state (Binghamton) told me that he was able to get a copy for \$150 at his local APPLE dealer, which indicated that the normal Washington price differential is alive and well. The program warranty lasts for one year. During the first ninety days, Microcom will replace a defective diskette free of charge to any registered owner. For the remainder of the one-year period, a charge of \$35 is made for replacement, and after that, presumably a new copy of the program would have to be purchased. Microcom prohibits copying of Microcourier, and claims that COPYA on the DOS 3.3 master diskette will not work. Although I have not attempted to copy, it should be noted that Microcourier routines are written in Applesoft and appear in DOS 3.3 files on the Microcourier diskette. Whether Microcom has really added some copy-protection feature is left as an exercise for the so-disposed reader.

Conclusion: Although it is not cheap, Microcourier offers a very convenient and straightforward method for preparing and transmitting messages using the APPLE. It is "user-friendly" and well documented, and should fulfill the needs of even demanding users. And if you ever find yourself in Binghamton, NY, you can save a considerable amount of money in obtaining a copy. &

CONSUMER ADVOCATE

by Mark Pankin

Those of you who attended last April's meeting may remember being given a survey form to rate computer stores. The survey was being done by the Center for the Study of Services, a Washington consumers' group that publishes Washington Consumers' Checkbook magazine. The results, combined with those from other user groups, appear in the latest issue, Vol. 4, No. 1, which is currently on sale (\$4.95 at many newsstands, bookstores, etc.).

Because it is written for the general public, the "Personal Computers" article contains information that is familiar to most Apple owners--typical microcomputer uses, names of user groups, general descriptions of the major hardware components, and advice on how and where to shop. All but the "experts" should find something new and interesting in the above list, but the main area of interest for most WAP members is the rating of local stores. There are two groups of ratings, prices and quality of service. While service includes both sales advice and equipment repairs, the dealers that ranked highest in repairs had the best overall scores. Because there weren't enough data for several stores, only nine local Apple dealers have service ratings. Of these, three received Checkbook's top rating for service: Clinton Computers, Frederick Computers, and HLA Inc. Keep in mind that some of the dealers that weren't rated might have also been top rated if more survey forms evaluating them had been received. (Each of the stores listed had at least seven raters.)

Checkbook did not do a comprehensive price survey, but judged on the basis of selected hardware items. However, it does report that stores with low hardware prices tended to have low software prices. The Apple dealers with price index scores that are lower than Checkbook's "average" are, starting with the lowest, Frederick Computers, Computer Age, Clinton Computer, Math Box, Datalogic, and Compuserve. These price index scores should be used as a general guide only. Several other types of computers contribute to the price index, and the Apple component consists of a 48K system with one disk drive and an RF modulator, a combination that most WAP members already own. It is quite likely that particular items (e.g. monitors) sell for almost the same price at several stores. It would be wise to check several stores, including some with low price index scores, before deciding where to buy. From a consumers' point of view, it is good to see two stores, Frederick and Clinton, that have both low prices and top service ratings.

Additional details are available in the article. The same issue also has an extensive report on automobile insurance, another topic of great interest to many WAP

members. I think the magazine is well worth the subscription price of \$18 for four issues plus four "PriceFighter" newsletters. You can start a subscription with the current issue that has the article on personal computers. Subscription information is available from the Center for the Study of Services, 1518 K Street NW, Suite 406, Washington, DC 20009. The phone number is (202) 347-9612. Ⓢ

SYMPOSIUM AT DICKINSON COLLEGE

Each spring since 1964, Dickinson College of Carlisle, Pennsylvania has sponsored a Public Affairs Symposium on a topic of ethical and social significance. This year's symposium, entitled "Today's Menu... Computers and Society" will be held February 12-16, 1983 and will bring together a wide range of speakers, workshop leaders, and computer users to examine the social impact of computers in general and microcomputers in particular. The symposium will begin with a computer faire on Saturday, February 12. The keynote address on Sunday night will be delivered by author and scientist Isaac Asimov. Other speakers will include Harvard Law Professor Arthur Miller of ABC's "Good Morning America", who will discuss privacy in the computer era, and Professor John Haugeland, University of Pittsburgh, who will discuss "Artificial Intelligence and the Western Tradition". Throughout the days of February 14-16 a variety of discussions and workshops will focus on topics such as the microcomputer as a laboratory instrument, computers and medicine, and the effects of high technology on the economy. Attendance at the symposium is open to the public, and there is no admission charge, but admission will be on a first come, first served basis. Members of Washington Apple Pi would be most welcome. Full details about the symposium may be obtained from:

Dean Mary Watson Carson
Coordinator, PAS
Dickinson College
Carlisle, PA 17013

(717) 245-1555

Vendors of microcomputers and microcomputer products interested in participating in the computer faire should contact Dean Carson immediately.

Robert J. Boyle
Department of Physics Ⓢ

DEALERS' CORNER MODEMS

by Sean Belanger

The word modem is an acronym for modulate demodulate. A modem converts a digital signal from a computer or computer terminal to an analog signal that may be transmitted over the telephone line. Using telecommunications, a home computer can have access to the vast amount of information and processing capability located at computer centers throughout the world.

When selecting a modem for your computer, you need to take into consideration the following:

1. Speed

Modems may vary in speed to ever increasing levels but because of cost-benefit factors the microcomputer owner should only be concerned with 300 or 1200 baud. 1200 baud is simply four times faster than 300 baud. If you have ever transmitted a large file or waited for a long printout at 300 baud, the advantages of 1200 baud are very apparent.

2. Compatibility

At 300 baud all modems communicate using the Bell 103/113 protocol. Therefore you need not be concerned with compatibility at 300 baud. At 1200 baud there are differences. The first 1200 baud modem was the Bell 202. Still in use today this modem can only communicate in half duplex (one direction at a time). Later an independent company called Vadic developed a 1200 baud full duplex modem. This modem was superior to the Bell 202 and became the industry standard. Later after Vadic had captured the market, Bell came out with the 212A full duplex 1200 modem. The Bell 212A is not compatible with the Vadic. This left two standards in the industry, Vadic and Bell 212A, and led to the development of the triple modem by Vadic and Anderson Jacobson. The triple modem compatible with Vadic 1200, Bell 212 and Bell 103/113 is the most widely used answer modem in the time-sharing industry and is also used by Telenet and Tymnet. However, there are many computer installations that are exclusively Vadic or Bell 212A. As a buyer of a 1200 baud modem, be sure that your modem is compatible with the modems you are dialing into. The triple modem manufactured by Anderson Jacobson and Vadic assures compatibility with whomever you might communicate with now or in the future.

3. Acoustic Coupler vs. Direct Connect Modem

Acoustic couplers were designed to give you portability and the ability to use your computer with any phone that has a standard handset. The world's first acoustic coupler was developed by Anderson Jacobson in 1967. It is now the most widely used acoustic coupler in the world. The AJ A242A has an unprecedented MTBF (mean time

between failure) of four years. Also, there are now acoustic couplers handling all the 1200 baud protocols. Originally direct connect modems required Telco installation, but with the introduction of modular jacks like RJ11C, the user can do the installation in minutes. Direct connect modems are not sensitive to acoustic vibrations and give the advantage of unattended answer.

4. Reliability

The history of the product and company and the MTBF should be taken into consideration as well as the experience of other owners.

5. Price

A combination of the above factors with the best price should determine your selection.

Whatever your choice in modem, it is certainly a must for your computer, giving you access to a world of information at the touch of your dial.

(Ed. Note: Sean Belanger is a local Anderson Jacobson representative. Anderson Jacobson currently has an AJ Letter Quality Printer on loan to Washington Apple Pi.)

APPLE COMPUTER CLASSES AT CLINTON COMPUTER

A variety of hands-on Apple Computer classes are available at the Clinton Computer Learning Center, 6443 Old Alexander Ferry Road, Clinton, MD. Many classes are for beginners. Offerings include: New Apple Owners Course (also for potential owners); Apple LOGO; BASIC Programming; DBase II; Introduction to CP/M; and Visi-Calc. Classes range in price from \$80 to \$160 depending on their length, and are scheduled for weeknights or Saturdays.

Call Nancy Kelly at the Learning Center (301) 868-0002, for schedules and details. Class size is limited, so register early for upcoming classes!

WAP MEMBER PUBLISHES BOOK ON PADDLES

One of our members, Tom Riley, is publishing a book, The Homebuilt Paddle Workbook, with CREATIVE COMPUTING, part of the Ziff-Davis publishing group. The package also includes a series of six articles for the magazine. The first article, "Rebuilding Game Paddles and Joysticks", appears in the February issue on page 140. The book will be out in the early summer. Tom is speaking on the subject of paddles at our WAP February meeting.

LEARNING DISABILITIES AND MICROS

by Jay Thal

In the December 1982 issue of the newsletter Curt Robbins called for help from members who have a special interest in learning disabilities. I, for one, have such an interest and shall devote this column to alert others of an upcoming conference devoted to the problems of persons with learning disabilities.

The Association for Children with Learning Disabilities (ACLD) is having its 1983 International Conference in Washington, DC on February 16-19. The conference will be held at the Washington Hilton.

There are dozens of sessions on each of the days. However, there are a number of sessions devoted to the use of microcomputers to aid those with, and those who teach and parent, children with learning disabilities. The following is a list of the sessions:

Thursday, February 17

3:00 PM (T45T) A Comparison Study of a Microcomputer-Generated IEP and Traditionally-Developed IEP's - David L. Lillie, Ed.D., Professor, University of N.C., Chapel Hill, NC. The session will include a demonstration of the IEP program.

4:30 PM (T52T) Practical Uses of Microcomputers in Developing Understanding and Skills in Physical Education, Motor Activities, and Sports by Learning Disabled Students - Julian U. Stein, Ed.D., Professor in Physical Education, George Mason University, Fairfax, VA. Opportunities to try programs designed to develop understandings, skills, and competencies in physical education, motor/perceptual motor activities and sports. Hands-on experiences.

6:00 PM (T67T) Using Microcomputers to Develop Curriculum for LD Children and Youth, Part I. Moderator: Booney Vance, Ph.D., Chairman Dept. of Education, Univ. of Maryland, Eastern Shore, MD.

Using the Microcomputer to Develop Competency-Based Curriculum to Meet the Needs of LD Children and Youth. William V. Bore and Glen Hammerbadea, Supervisors of Spec. Ed., Worcester County Schools, MD. David Hayden, Chief, Information and Management, Maryland State Dept. of Education, Baltimore, MD.

7:30 PM (T83T) Computer Programs for Learning Disabled Students - Joanne Krone, Learning Disabilities Teacher, Maine South High School, Park Ridge, IL. Computers used as effective teaching instruments for the remediation of learning disabled students and as vocational and career options for the LD student.

Friday, February 18

9:00 AM (F6T) Use of Computers in Imple-

menting Rural Special Education Programs: An Alaskan Model - Malcolm Fleming, Special Education Director, Iditarod Area School District, McGrath, AK. Used with 30 learning disabled Athabaskan Indian children, scattered over an area equal to Ohio.

10:30 AM (F20T) Using Microcomputers to Develop Curriculum for LD Children and Youth, Part II. Moderator: Booney Vance, Ph.D., Chairman, Dept. of Education, Univ. of Maryland, Eastern Shore.

Using Assessment Information to Help Develop IEP's and Program Alternatives by Use of a Microcomputer - Susie Cassidy-Bronson, Supervisor, Spec. Ed., Cecil County, MD

Teacher Management of the IEP and Procedural Safeguards - Gerald Senf, Ph.D., Editor-in-Chief, Personal Computing, Tucson, AZ.

Developing Remedial Programs - Charles Paprella, B.S., Program Specialist, Somerset County Public Schools, MD.

1:30 PM (F36T) What Computers Can Do for Administrators and Teachers - Kirk L. Wilson, Ed.D., Learning Tools, President, Cambridge, MA.

3:00 PM (F51T) Computer-Assisted Instruction with Learning Disabled Children - Joseph K. Torgesen, Associate Professor, Psychology Department, Florida State University, Tallahassee, FL, and Kay Young, LD Specialist, Leon County Public Schools, Tallahassee, FL. A rational and conceptual framework for the use of computer-assisted instruction with learning disabled children. Examples of programs that can be used effectively in LD resource rooms.

4:30 PM (F65T) Microcomputers in The Classroom: New Ways of Managing and Instruction - Alfred J. Morin, Director, MEAN (Microcomputer Education Administration Network), Education Turnkey, Falls Church, VA. Several successful uses of microcomputers in education. Accessories for sensorily and orthopedically handicapped students may be included.

6:00 PM (F79T) Les Talks and More Action - Richard J. Hofmann, Ph.D., Professor, Dept. of Educational Psychology, Miami Univ., Oxford, OH. Les is an Apple capable of speech. He is especially well suited for young children with learning problems. Les helps children pronounce words and teaches spelling. Les' potential role and function and results in classroom work will also be shared.

Saturday, February 19

9:00 AM (S3T) Linking Microcomputer Software to Traditional Educational Materials - Jerry D. Chaffin, Ed.D., Professor of Spe-

contd. on pg 62

USING A SPEECH SYNTHESIZER TO READ THE APPLE KEYBOARD

by John Bailey

I came across an interesting little device called the Micromouth Speech-Processor Board produced by MicroMint, Inc. It sells for \$150 and has a vocabulary of 143 words. Because of this limit in vocabulary, it lends itself only to the most general uses.

The vocabulary includes: the alphabet, numbers 0-9, and special purpose words, such as "DANGER", "UP", "DOWN", "STAR", etc. To fully use the vocabulary for such things as a homemade space game or something, would take a lot of software tailoring.

Despite this lack of flexibility, the device does have one advantage: It is very easily understood by those who are not accustomed to listening to synthesized speech. Almost anyone can understand what word is being produced. That's why I chose the Micromouth for designing a talking APPLE keyboard.

The Micromouth Board slips into any of the APPLE peripheral slots. In order to get the desired word spoken, all that is needed is to POKE the appropriate memory location with the right value, which is listed in the device's operator's manual. The only problem might be that the code, let's say for the ASCII letter "A", bears little resemblance to what the synthesizer will need to say the letter "A". Therefore, in order to have this synthesizer correctly read the code coming from the keyboard, a few conversions must take place first.

I needed a device that would work in the operating system and automatically speak the characters that I might type. This implies a conversion program written in machine language. The program shown here does just that. Because, as I mentioned earlier, the Micromouth has a limited vocabulary, not all the special keyboard characters are supported. So a few compromises had to be made (i.e., instead of saying "QUESTION" for "?", I use the word "Q"). It's not perfect, but at least I understand it.

This program was an experiment in assembly language programming that I enjoyed trying. This is by no means the only way to accomplish the task. Any feedback would greatly be appreciated.

NOTE: To run the program after BLOADing - set Loc. \$AA53 and \$AA54 to starting Loc. of the program (i.e., *AA53: 00 0C).

```
*****
*---TALKING KEYBOARD PROG.-----*
*****
LST OFF
*
STORA EQU $45
OUT EQU $C17F :SLOT #2
SAVE EQU $FF4A
RESTORE EQU $FF3F
COUT1 EQU $FDF0
```

```
*
ORG $C00 ;BLOAD PROG AT $C00
*****
*-----MAIN PROGRAM-----*
*****
JSR SAVE ;SAVE ALL REGISTERS
LDA STORA ;RETRIVE ACC CONTENTENCE
SEC ;CONVERT TO ASCII
SBC #128 ;BY SUBTRACTING 128
*****
CMP #31 ;IS IT A CTRL CHAR?
BCC END ;YES, THENIGNOR IT
*****
CMP #49 ;IS IT A SPECIAL CHAR?
BCC SPEC1 ;YES, GOTO SPEC1
*****
CMP #58 ;IS IT A NUMBER?
BCC NUMBRS ;YES, GOTO NUMBRS
*****
CMP #64 ;ANY MORE SPEC CHAR?
BCC SPEC2 ;YES, GOTO SPEC2
*****
CMP #91 ;IS IT A LETTER?
BCC LETTRS ;YES, GOTO LETTRS
JMP END ;IGNORE LOWER CASE
*
*****
*-----ROUTINES-----*
*****
*
SPEC1 SEC
SBC #32 ;LESS ACC BY 32
TAX ;USE XREG AS AN INDEX
LDA DATA1,X ;READ X ELEMENT IN DATA1 LIST
STA OUT ;POKE CONVERTED CODE TO SYNTH.
JMP END ;ALL FINISHED.
*****
NUMBRS SEC
SBC #48 ;LESS ACC BY 48
STA OUT ;POKE CONV CODE
JMP END
*****
SPEC2 SEC
SBC #58 ;LESS ACC BY 58
TAX ;TRANSFER ACC TO XREG
LDA DATA2,X ;USE AS LOOKUP INDEX
STA OUT
JMP END
*****
LETTRS SEC
SBC #33
STA OUT
JMP END
*****
END JSR RESTORE ;PUT THINGS AS THEY WERE BEFORE
JMP COUT1 ;RETURN TO NORMAL
*
*****
*-----LOOKUP-----*
*-----TABLES-----*
*****
*
*****
DATA1 DFB 65 ;SILENCE
DFB 105 ;'MARK'
DFB 48 ;'Q'
DFB 123 ;'POUND'
DFB 78 ;'DOLLAR'
```

contd. on pg 55

EDSIG IN 1982

by Peter Combes

It has been the year of high resolution graphics, of LOGO, and of videodisks.

We didn't see much computer assisted instruction - we did see a lot of computer assisted learning. Instead of concentration on how to program the child using the computer, we got some attention on how to get the child to learn via the computer. Strong in this area is LOGO, which started the year as an exotic experiment by Seymour Papert at MIT for the National Science Foundation, and ended the year as a standard off-the-shelf item for the Apple (and, let it be said, even better for the Texas Instruments TI/99). LOGO enables the child to get going with high resolution "turtle graphics" with very simple commands. However the commands are structured so that recursive routines and other features of good programming come in naturally. Papert, a mathematician, claims that mathematical thinking follows equally as naturally. Our LOGO SIG sprang into being under the dynamic leadership of Nancy Strange, and its membership quickly became even larger than the parent EDSIG. At this stage, much of LOGO SIG's time is inevitably taken up by the mechanics of the operation - how to do screen dumps - how to organize the child's time on the computer - but the details are being worked out, and we look forward to their further reports.

One side effect of the LOGO project at MIT was a study of the help that word processing could be to the student. Virginia Bradley was one of our speakers who confirmed this, and word processing looks like it will be a field of interest for 1983. It is arguable that current processors are needlessly complicated for children's needs, and we look forward to seeing the "Bank Street Writer" word processor, which is said to be designed for kids.

One area in which it seems that nothing can be too complicated for kids is that of arcade games, and many teachers have envied the arcades' ability to produce apparently indefinitely long attention spans from children. We saw a couple of programs that used arcade techniques for practice and internalization, and this may be a technique we shall see more of in the future. If we are to make programs like this and not to spend all our time hacking machine code, a new authoring language is urgently needed. Perhaps Broderbond's heralded "arcade machine" will be a step in the right direction. In the very capable hands of Paul Garneau from the International Institute of Applied Technology, Pilot Plus made a very impressive showing to EDSIG, surprising many of us with its ability to do simulations in high resolution graphics. Pilot Plus also showed its ability to control videodisks, opening up a whole new world of visual stimulus.

How are micros surviving up in the classroom? Rather to our surprise, quite well.

A floppy disk seems a delicate plant for the robust atmosphere of a classroom, but in practice it seems that kids are used to handling 45 rpm audio disks, and give floppy disks the same care. Perversely, the PROM units used extensively by Texas Instruments and Atari, that looked as if they would be the solution for the classroom, take a beating.

What kind of micros would we like for the classroom? For the word processing applications we urgently need a new keyboard - it would be nice to see a subsidiary keyboard such as has been developed by the VisiCalc enthusiasts. It would be nice if the word processor could be in firmware, so that all this waiting around for the thing to boot could be avoided. Another useful utility would be screen dump - many programs are now producing good graphics under the pupil's control, and the kids want to keep printouts of them. There are some screen dumps around, but they are tricky to integrate into programs - could we dream of a "DUMP" key on the keyboard?

LOGO and the arcade games were the high spots, but it must be admitted that on the whole good educational programs are appearing very slowly, compared with the speed with which word processors and spreadsheets appear, and the plethora of new arcade games. Why the shortage? Perhaps in software, education is its own worst enemy - firstly by always going for the lowest bid, secondly by rampantly copying everything in sight so that publishers are nervous that they will not be able to recoup their outlay. Meanwhile the amateurs hold the field - some of the best kindergarten stuff we saw was written by a family. Ⓔ

Speech Syn. contd. from pg 54

```
DFB 119 ; 'PERCENT'  
DFB 60 ; 'AND'  
DFB 105 ; 'MARK'  
DFB 118 ; 'PAREN'  
DFB 118 ; 'PAREN'  
DFB 134 ; 'STAR'  
DFB 121 ; 'PLUS'  
DFB 74 ; 'COMMA'  
DFB 109 ; 'MINUS'  
DFB 122 ; 'POINT'  
DFB 35 ; 'D'  
DFB 31 ; 'ZERO'  
*****  
DATA2 DFB 105 ; 'MARK'  
DFB 129 ; 'SSS'  
DFB 101 ; 'LESSER'  
DFB 80 ; 'EQUIL'  
DFB 89 ; 'GREATER'  
DFB 48 ; 'Q'  
DFB 61 ; 'AT'  
NOP
```

Ⓔ

A MESSAGE FROM THE SYSOP

by Tom Warrick

Washington Apple Pi's Apple Bulletin Board System (ABBS), telephone number 657-4507, now has more than 550 members with passwords, and takes an average of about 1,000 calls each month. These figures are not intended to discourage callers; while the ABBS is in virtually constant use from about 7:30 p.m. until 11:00 p.m. on week-nights, during other times it is usually available. Members should contact Tom Warrick, the SYSOP (System Operator), for a password.

Several new features added in recent months include:

1. You may send messages that can be read by all to specific individuals, but the messages may be deleted when read by the intended recipient. (Some other bulletin board systems call this an "unlocked" private message.)
2. For files available for downloading, you will see the time required to download them.
3. You may request summaries or listings of messages placed on the system since your last call, without having to remember when you last made a call. (This feature works only if you called since October 1982.)
4. You may inquire as to the name of the sender of a message without interrupting a message listing.

In recent weeks, members have been polled informally for opinions on matters relating to computers. These polls must be taken for what they are: unscientific non-random samples of people who felt motivated to respond. This is a sampling of those opinion polls:

WHAT BRAND OF DISKS DO YOU USE? WHAT BRAND DO YOU AVOID?

Use	Avoid	Brand
29	0	Verbatim
17	4	Elephant
7	0	Control Data Corp.
7	0	Maxwell
7	6	Memorex
6	2	3-M
5		All are the same
4	1	The cheapest
4	5	Dysan
3	0	BASF
3	1	Generic/No-Names
2	2	Wabash
1	0	Nashua
0	1	O DS
0	1	UBX
0	1	Quill
0	2	Disks with Hub Rings

WHAT BRAND OF MODEM DO YOU OWN?

D.C. Hayes Micromodem	29	59.2%
Novation Apple Cat	6	12.2%
D.C. Hayes Smartmodem	4	8.2%
Signalman Mark I	3	6.1%
U.S. Robotics USR-310	2	4.1%
Bizcomp 1080	2	4.1%
Codex 5032	1	2.0%
Novation Acoustic	1	2.0%
Printing Terminal	1	2.0%

HOW MUCH RAM DO YOU HAVE?

<48K	0	0.0%
48K	12	35.3%
64K	21	61.8%
Apple ///	1	2.6%

WHAT 16K CARD DO YOU OWN?

Apple Language Card	6
Microsoft 16K Card	6
Prometheus Mem-1	2
Microtek BAM-16	2
MPC-16 16K Card	1
ALS Ramcard	1
64K Applicard	1
Indigo RAM Card	1

WHERE DO YOU HAVE REPAIRS DONE?

What repairs?	5	1/2
Do it myself	5	
Frederick Computer	4	1/2
Computerland	4	1/2
Computer Crafters	3	1/2
Computers Plus	3	
Comm Center	3	
Clinton Computers	2	1/2
Computer Store	2	
Computer Workshop Service; Logical Choice; Computers, Etc.; any dealer; a friend	1	each
Math Box		1/2

Three people mentioned who they avoided when their Apples needed repair. The places named were Computerland, Computers Plus, and dealers generally.

(Where respondents listed two places, each was counted as 1/2 vote.)

THE BOTTOM LINE

by Leon H. Raesly



This month I will continue the article about the combined use of a data base and a word processor. The example that I have been using is combined billing, past due notice, and aging of accounts receivable, sales volume for last month, year to date, by customer, and by region (or type of customer), and all from a single entry into a data base, using a word processor to produce the billing and reminder notices automatically from the data base.

The data base was set up in last month's issue with the following 17 fields. They are:

- 0-Key field
- 1-Record number field
- 2-Aging field
- 3-Date code field
- 4-Date of invoice field
- 5-Amount of invoice field
- 6-Date of payment field
- 7-Amount of payment field
- 8-Balance due field (a zero is, of course, no balance due)
- 9-"Z" field
- 10-Customer ID Code field
- 11-Company name field
- 12-Company address field
- 13-Company city field
- 14-Company state field
- 15-Company zip field
- 16-Company telephone number field.

They are then used in the following way. For a directory of all customers, a report is set up to print all the needed data. Then with global update, an X is placed in the Key field for only those records with a "Z" in the "Z" field. With Data Perfect such an update for 63 customers within a data base totaling 1123 records takes approximately 2 1/2 seconds! Then the report is printed. Save it first, of course, and you never have to generate the report format again. At the completion of the report, use global update to remove the alphabetical character from the Key field.

For the aged report, again set up the report with the assistance of the report generator module of the program. Then sort this to disk based on the Aging field. We use descending order, as this places the oldest at the top of the list, and these are the one's where we are most vulnerable. If you then set the "level breaks" (where the program "breaks", and prints a subtotal) on the same Aging field, you receive a fully aged report, with subtotal!

To run your past-due notices, you will need to use the Word Processor program. Again a number of WP's will suffice for this purpose, but the one we have found most versatile for this application is Letter Perfect. Here you will boot the WP, load a previously saved letterhead (we no longer purchase letterhead for our everyday cor-

respondence, we have a previously formatted sample letterhead on each of our data disks for the Word Processors that we use, and just load it into memory, and then type the letter!). You then need to write your reminder letter. We then use the bottom half of the form to reproduce an accurate copy of the invoice, using the]\$ (inverse right bracket and a dollar sign) that allows Letter Perfect to access the data base. We then can print the contents of any field within the body of the letter. Thus, we can use one form letter, and customize it for each customer by accessing the name and address fields in the data base. This feature also allows us, within the main body of the letter, to list the date of the invoice, quantity, amount, etc. This way, although ALL the necessary data from the invoice is printed in the letter, neither our customer, or our own people can get confused and believe that it might be the original. We have also found it more effective to send a letter, than just a duplicate invoice. It gets more response.

To run them, again use the global update feature of Data Perfect to place an " X " in the Key field for those customers with a " 1 " in the aging field. Then using the Data Base Merge feature of Letter Perfect, run all those past due notices for one month. Then repeat the process for those two, three, or more months old. Of course, the standard letter that we write for these older "Past Due's" is stronger. Once this system has been set up, it takes about an hour at the end of each month to run fifty past due letters, with detailed invoice information included!

The principle for running a list of customers by area, purchasing power, credit rating, etc. is also simple. Since this data has been included in the Customer I.D., you use the report generating function to set up the relevant report, and select on the basis of the codes you have established. Voila, a regional report, or whatever you choose!

The last portion to be covered is the entry of a new record, and the generation of an invoice from this new record. We enter the new orders once a day, and print all invoices at this one time. All you need to do is to enter all the relevant data in each field as it is asked for by Data Perfect. Place an " X " in the Key field, and " 1 " in the Aging field (thus, at the end of the month, all those new orders that are a month old are ready to be run as past due notices). When all the new orders are entered, boot the WP program, and lay out your invoice, using the appropriate DB access codes. (If you have previously laid out an invoice - and SAVED it, of course you would only need to Load this preformatted invoice). Then, again using the Data Base Merge feature, print all invoices for the day. This procedure usually takes

contd. on pg 58

LIBRARIANS' POTPOURRI

by Dave Weikert and Gordon Stubbs

This column will appear from time to time as subject matter and time permit. The content will be a mixture of information and commentary gleaned from the operations of the Washington Apple Pi, Ltd. library copy staff.

I. DISK RETURNS

A question often asked by new members is: "What do I do if a club disk doesn't boot or generates I/O ERRORS?" The answer is the club has a return policy for disks that do not work. Before you bring a disk in for replacement, please check to ensure that your system is working properly and that you are following proper procedures. If the disk just spins when you turn the power on and does not boot or produce an I/O ERROR, then it is probably a DOS 3.2 disk (all Volume 1 through 40 disks and all but recent sales of the lower numbered Eamon series disks are DOS 3.2 unless you have MUFFINED them to DOS 3.3). Check by booting the BASICS disk or running BOOT 13 from your SYSTEM MASTER or Volume 101 - UTILITIES B. If the disk produces an I/O ERROR after power turn on, try booting your SYSTEM MASTER. If the SYSTEM MASTER boots without an I/O ERROR, catalog the disk that doesn't boot and try running some of the programs on the disk. If you don't get an I/O ERROR from this, then the disk is probably all right but may have a bad DOS track. If the disk is at fault, bring it back and it will be replaced. The conditions of replacement are:

1. The disk must have the original label.
2. The replacement disk will be the same volume number as the returned disk.
3. The disk should not be physically damaged through misuse (the staff copiers do not copy with peanut butter sandwiches and paper clips nearby).

II. NEW COPY PROGRAM IN USE

Currently, about half of the disk volumes sold by Washington Apple Pi are copied commercially and half are copied by library staff members. The commercial copier is ALF Incorporated of Denver Colorado.

The library staff copiers have used a variety of copy programs in the past. Since each copier may copy from 50 to 100 disks each month and all the copies must be made within a one to two week period, the time it takes to copy a disk is important. (See my article - Trials and Tribulations of the First Time Library Disk Copier - in the May 1982 Pi.) The time taken to copy a disk (DOS 3.2) using past copy programs used by the staff ranged from about 30 to over 200 seconds and a summary test to ensure that the disk properly cataloged would add at least 15 or more seconds. The summary test was certainly not comprehen-

sive and every once in a while, disks with copy errors could go undetected. None of the previously used copy programs have really been satisfactory since they were not designed for production copying.

The Washington Apple Pi is now using a copy program (also by ALF) that is quite satisfactory. The name of the program is ALF PENULTICOPY and we really like it. The program takes about 40 seconds to copy a 13 sector disk. However, this includes a full verification that all bits on the target disk match the image of the source disk in memory. The program also provides the capability to copy either 13 or 16 sector disks, to run up to 9 slave drives in sequence, to select between copy with verify or verify only and a number of utilities to test drive speed, delete DOS to make more memory space to receive the source disk track and sector image, etc. There is also an ominous "DESTROY POWER SUPPLY?" prompt that appears when setting the default settings for the copy program when first run. A yes response to this command will allow one slave disk drive to overlap the next drive and run simultaneously at the end and beginning points in the copy operation. ALF notes that this could overload a power supply if the computer had a lot of drives connected or had all of the slots full. We have tried the copy program with up to six drives in this default configuration without damage but all other interface cards were removed at the time. Now if we could only find a volunteer copier with 9 disk drives.....

Bottom Line contd. from pg 57

us about fifteen minutes to enter and print twenty-five records and invoices. After the printing, use the global update to remove the letter " X " from the Key field.

We have found that these procedures substantially reduce the number of files we maintain, and greatly increase the speed of our invoicing, as well as the speed of our past-due notices. This then produces more payments, and less uncollectable sales.

WAP BUSINESS SIG REPORT

No meeting was held in December because of the Swap meeting. In January, John New has arranged for presentation of two tax preparing programs. I look forward to seeing you there. Thanks for listening.

APPLE TECH NOTES

by Ed Schenker

Lance Bell, my counterpart in Virginia, has asked that I mention his willingness to answer Apple Tech Note inquiries via the ABBS. His WAP number is 1199 and he will answer questions directed to his number.

Since there is a scheduled presentation on Pascal at the same time you receive this installment of Tech Notes, I have decided to devote the column to Pascal.

THE PASCAL ANIMATION TOOLS PACKAGE won't work on the Apple /// in emulation mode because it is written in Pascal and there is no Language Card in the Apple ///.

The most common problem when saving character sets occurs when the user is saving to the default volume. The default volume is the PASCAL ANIMATION MASTER DISKETTE which is write protected. Be sure to specify another diskette.

The second most common problem is having trouble loading a character set from disk. Usually this is caused by trying to execute the previously defined character set instead of editing it.

SYSTEM CONFIGURATION

A 48K Apple II or Apple II+ with at least one disk drive and a 16K memory expansion board like the Apple Language Card is required to run the Apple Pascal System. Other Apple interface cards may be added for additional system functions such as printer, external terminal, modem, or various peripheral devices. Slot assignments are listed on page 277 of the Pascal Operating System Manual.

The Apple Pascal System comes configured to work with Apple interface cards. To use other types of interface cards, it may be necessary to modify the system or add additional driver routines. Pascal version 1.1 has provision for attaching additional peripheral drivers through the use of the ATTACH utility. This utility program, along with extensive documentation is being supplied by the International Apple Core to all member user groups (this will be housed in the library at the Apple Pi office where copies can be made. Any and all such modifications are at the user's own risk.

EXTRA LINEFEEDS ON PRINTERS

The double spacing effect on some printers when used with Pascal can be remedied by e(X)cuting APPLE 3:LINEFEED. This program can be transferred to the diskette you boot as SYSTEM.STARTUP and it will execute automatically when the system is booted. The text of this routine is also on the volume APPLE 3: for inclusion in your own programs.

DEBUGGER

The 'debug' feature in Pascal is not being supported by UCSD or Softech, Inc. and has not been implemented in Apple Pascal version 1.1.

IMMEDIATE MODE EXECUTION

Apple Pascal does not have an immediate mode where program instructions can be executed individually, since it is a compiled language. The command line is used for accessing specific system functions such as the Compiler, Editor, Filer, Assembler, or Linker.

Apple Tech Notes contain much more information on Pascal. I've only scratched the surface here. If your curiosity is aroused, please let me know and I will include more about Pascal in upcoming columns. ☺

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IAC CORNER

by Bernie Urban

The name of the game as I see it is communications. I as Chairman of the IAC firmly believe that IAC can and must maintain an open dialogue with its member clubs and especially with those who represent the clubs. We, as Directors and Officers, do not by any means retain exclusive possession of wisdom and knowledge as to what is "good" for our members. I believe in encouraging the frequent and free exchange of ideas and constructive criticism, by as many means as we can muster, that are both convenient to our members and within IAC budgetary constraints. Following is an example of one simple method which David Morganstein has chosen - a letter to Peter Weiglin, Editor of the IAC Apple Orchard. Let's have more of this from the rest of you.

As a result of a discussion and a poll taken at the October meeting, a letter was drafted and sent in early November, 1982 to the Editor of the IAC's Apple Orchard magazine. That letter and his reply follow.

Peter Weiglin, Editor
I.A.C. Apple Orchard
910A George St.
Santa Clara, CA. 95050

November 1, 1982

Dear Peter,

I am writing you this "Letter to the Editor" to convey several impressions and suggestions about the Orchard. I send these suggestions in response to your requests for feedback because I believe they would serve the IAC member clubs and perhaps result in greater interest from club members in the Orchard.

At a recent meeting of over 300 Washington Apple Pi members, I asked several questions about their familiarity with the Orchard. Less than 50 of the members present regularly read the Orchard either through subscription or newstand purchase. About a dozen indicated they would drop their subscription at the next renewal. Some 40 of the members had purchased one copy and decided not to obtain it regularly. About 35 used to read it regularly but no longer do.

I realize that impressions and suggestions are very subjective and my views may not reflect those of others. I have discussed these thoughts with at least two other club presidents and know that I am not entirely alone in these notions.

1. Inclusion of Articles from Club Magazines.

As you may recall from our conversation in May at the annual meeting, I believe that there are many worthy articles to be found

in local club newsletters. I applauded Jim Simpson's efforts to initiate "the Compiler" as a means of dispersing this wealth of ideas; however, it would seem that such articles would make excellent copy in the Orchard. I again encourage you to examine club magazines and select articles for inclusion in the Orchard. In addition to adding to the Orchard contents, this would help bring the IAC and the clubs together by connecting the IAC magazine with IAC member clubs.

2. Identification of Club Membership

I believe that member clubs would view the Orchard as more than "just another Apple publication" if contributors were identified as to their club membership. In the Sept./Oct. issue, for example, I found not one author or columnist identified as to the club to which they belong.

3. Reviews vs. New Product Announcements.

I wish to commend you for the increasing number of product reviews found in the Orchard. I believe that IAC club members are well served by unbiased descriptions of the positive and negative features of Apple products. I look forward to more such reviews in the future.

On the other hand, each issue of the Orchard devotes from 10 to 20 pages to new product announcements sent in by manufacturers. Personally, I find such announcements of little value. There are ample magazines around which inform consumers of new products. Does the IAC obtain advertising revenues from these pages? If not, I would urge you to de-emphasize such material.

4. Club News Column

What is your reaction to an IAC club news column which contained items of interest regarding member clubs? The column could contain a description of new projects undertaken and old problems solved. One club president contacted me for help in incorporating because he read in our WAP magazine that we had accomplished this feat. No doubt many clubs are doing things which others would like to learn about.

5. IAC Sponsor.

My last topic is more of a question. Could you tell me what an IAC sponsoring member is? Each month the names of two dozen businesses are shown and identified as sponsors. The accompanying text indicates that they have contributed application notes concerning their products. I am not familiar with these notes. How can member clubs learn about and gain access to them for distribution to our members?

I hope that the above suggestions are of

contd.

interest. It may be that you have considered some of these already. I would very much like to hear your thoughts regarding these comments and would like to share your responses with the WAP membership. If you could take a few minutes to send me your reactions in the next few weeks, I would ask the WAP editor, Bernie Urban, if he would include this letter and your reactions in his IAC corner in the WAP magazine.

Sincerely,
David Morganstein, President
Washington Apple Pi

Mr. David Morganstein, President
Washington Apple Pi
13329 Woodruff Court
Germantown, MD 20874

January 3, 1983

Dear Dave:

Thank you for your thoughtful and comprehensive letter of November 1; it was most welcome. Now that the latest issue of Apple Orchard has gone off to the printer, I have the time to give the letter the time and attention it deserves.

In general, the relatively few "complaints" about Apple Orchard which we receive can be divided into three categories:

- (1) "It's too technical; I'm not that advanced with the Apple."
- (2) "It's not advanced enough for me; it's designed for the masses rather than for those who started the Apple era."
- (3) "It wastes space on Club listings and IAC stuff which doesn't interest me."

The second category, unfortunately, includes many people who are active in the leading IAC member Clubs, which may explain part of your meeting survey results. As President of a large Club myself (the San Francisco Apple Core), I can, and have, replicated your findings.

You're quite correct in judging these results to be subjective; all of the opinions are based on the member or subscriber's own needs and level of achievement. Apple Orchard can't be all things to all people, even if the budget did allow for that many pages. We aim at the "medium Apple user", and try to balance the level of Type (1) and Type (2) complaints above.

Our primary goal is to encourage users, gently, to try new things; to explore, learn about, and use their computers. But we must be sensitive to the changing market. Apple Computer's own figures show that the "hobbyist" segment of the overall market is declining, and they are acting on that information. To the extent that the IAC represents a "hobbyist" market, it therefore becomes less deserving of widespread assistance from Apple Computer or any other institution, commercial or otherwise. Your quasi-commercial plans for Washington Apple Pi show that you're reaching beyond the "hobbyists" toward the mass "user" market. If Apple Orchard is per-

ceived as a "cult" publication, Apple Orchard and the IAC will suffer.

Apple Orchard exists as the IAC's primary funding mechanism, so we must pursue the larger market. A majority of that market will never join a user group; that's the way some people are. Many who do join remain members for a year or two at the most, dropping away or burning out as they learn the machine and feel that they have no more to gain from membership.

But that should not preclude identification of an author's membership in a Club, and we do it by arrangement with individual authors. We even reproduce Club insignias, where we have them, and we're building that file. Some people want their Club identified, some don't mind, and some want no Club identification, because the Club isn't the biggest thing in their lives, or because they belong to more than one Club. Apple Orchard has no policy to downplay Club involvement; it's up to the author. Thanks to your reminder, we have, and will continue to, note Club affiliations.

Articles from local Club newsletters have been and are published in Apple Orchard; we get most of the newsletters (some still come to the old Daly City address, would you believe?), and sift regularly. One apparent trend is reprinting of good material from one newsletter in others, which is, mute testimony to the fact that the hardest job in any Club is that of Newsletter Editor, not President. (Sorry to say that, but I've held 'em both.) Everybody wants a better newsletter, but contributions come with lower frequency than desired.

From the beginning, Apple Orchard was conceived not as "competition" for Club newsletters, but as a way of helping the Club Editors, by offering a payment "carrot" to potential contributors (not the editors) if an article were picked up. This has been successful, as for example with Terry Tufts of NIAUG, Jim Hopper of Apple-Dayton, Mike Kramer of HAAUG, Gene Wilson of the SFAC, and Bernie Urban of your Club. Quite often, an article from a newsletter has appeared or will appear in Apple Orchard in a revised, expanded form based on the author's desire to take advantage of our greater space, which leads to the question, "When is a reprint not a reprint?" It's not a direct reprint, but is an article triggered by our call about a possible reprint. Our author payment schedule treats newsletter articles on a par with "original" contributions, which encourages submittal to Club newsletters. Further, calls to writers and editors have resulted in leads to other articles. We will continue to sift and to encourage.

"Forbidden Fruit", Apple Orchard's New Products section, was conceived to provide the most comprehensive, most thorough listing of new products for the Apple in any magazine, and Mark Crosby does a thorough job, going beyond press release rewriting. We do not receive advertising revenue from it, nor are we in any way tying advertising to editorial consideration as a quid pro quo. New Products columns are among the

contd.

most popular features in any magazine; I believe that to de-emphasize it because "others do it" would only reduce our overall value as a magazine.

"Club News" has not been prominent in Apple Orchard for three reasons: (1) Apple Orchard is not intended as the international newsletter of the IAC; we have concentrated on people using the computer rather than Club and IAC activities. (2) Who would be the reporters? Most local Club newsletter editors spend enough time and effort getting material for their own publications, let alone having time left over to provide reports for a magazine. The likely result is that most of the space would be devoted to less than a dozen active Clubs, including yours and mine. (3) Club news, even IAC information, is considered the largest single waste of space by many of our readers, who seem to be saying, "We want meat, not politics." (See Complaint #3, above.)

But there should be a publication for IAC and Club materials and the sharing of mutually useful information. In fact, a new publication, to be called the "IAC Express", was proposed as such a vehicle at the October 1982 IAC Board meeting; the Board did not approve it. What was approved was a compilation of newsletter articles, to be assembled by a volunteer. One issue was prepared, and we have heard no more. Check with IAC Board Chairman Bernie Urban, a member of your Club, for the full story; I never got all the details. There's no question that the "Bulletin", which Bernie put together until he ran out of time, is missed.

As to what a Sponsoring Member is, I'll defer to an IAC Officer or Director for reply; the question does not relate to Apple Orchard. It would be presumptuous of me to answer, particularly when you are in regular and frequent contact with an IAC Director who can give you a better answer.

Dave, all of the points you brought up are valid questions; I hope that this letter answers most of them. Apple Orchard will continue to reflect our collective perceptions of the need for information, and the changing composition of the Apple user audience.

Thank you for your interest.

Sincerely,
Peter C. Weiglin

Let. to Ed. contd. from pg 46

a) Typing a memory address only once (the starting address for the program to be typed in),

b) The capability to type in 8 bytes per screen line without having to hit the space bar between bytes or the RETURN key at the end of a line, and,

c) correcting, inserting, and deleting individual bytes.

The program automatically spaces between bytes, advances to the next line and prints the next memory address for each line. As a result, you never have to look at the screen once you have entered the starting address, except to check for a possible typing error. This feature allows an accurate typist to keep her/his eyes on the material being typed, thereby making it less likely to lose one's place.

Since the program is copyrighted by Micro-Spark, Inc., I cannot send a disk with the listing to WAP. So, anyone who is interested in having the program will have to type it in her/himself. However, as I said above, it is WELL worth the effort. I can't recommend the program more highly. I think a word of thanks to the author, Doug Sprinkle, is also in order for writing such a fine program. I hope interested WAP members will find the program as useful and as much fun to use as I have.

Happy computing,

Eugene St. Pierre

(Ed. Note: For those interested, the copy of NIBBLE referred to is in our new reading library at the WAP office.)

LD and Micros contd. from pg 53

cial Education, University of Kansas, Lawrence, KS and Barbara J. Thompson, Ph.D., Asst. Prof. of Education, Baker University, Baldwin City, Ks. Strategies for linking microcomputer materials in special education classroom settings. Drill and practice for basic skills in mathematics and language arts. Demonstration, hands on experiences, and handouts.

10:30 AM (S20T) Teachers Program Computers for Kids: Touch, Try, Tangle! - Gilbert B. Schiffman, Ph.D., O.D., Professor of Education, Johns Hopkins University, Baltimore, MD. Hands-on workshop will demonstrate how teachers of the learning disabled have designed software for highly specific needs.

1:30 PM (S47T) What Should Be The Computer Future in LD? - Facilitators: Jerry Senf, Ph.D., Editor of the Journal of Learning Disabilities; Julian Stein, Ed.D., Prof. in Physical Education, George Mason University, Fairfax, VA; and Gil Schiffman, Ph.D., O.D., Prof., Johns Hopkins University, Baltimore, MD.

Those interested in attending the sessions may pre-register by contacting the ACLD 1983 International Conference, 4156 Library Rd., Pittsburgh, PA 15234. Registration can be done at the conference, but some sessions may be filled. Registration fees for the entire conference are \$60, and \$28 for individual days. For further information contact the District of Columbia ACLD at (202) 244-5177; the Virginia ACLD at (703) 243-2614; or the Montgomery County ACLD at (301) 649-4927 or 384-8450.

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Washington Apple Pi's library disks are available for purchase. Use this form for disks that you want mailed to you. If you want to pick them up at a meeting, do not pre-order. Pay for them and pick them up "on the spot" between 8:30 and 10:00 AM at the meeting.

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- DOS 3.3
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 - () *Volume 185 Castle of Doom
 - () *Volume 186 Death Star
 - () EDSIG1 (Elem. Math)

- DOS 3.3
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 - () *Volume 188 Caves of Treas. Island
 - () *Volume 189 Furioso
 - () *Volume 190 The Magic Kingdom
 - () *Volume 191 The Tomb of Molinar
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 - () *Volume 193 The Abductor's Quarters
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 - () Volume 113 Business B
 - () Volume 114A Adventure - INIT} **
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 - () Volume 117 Picture Packer
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 - () Volume 306 PIG6:
 - () Volume 307 PIG7:
 - () Volume 308 PIG8:
 - () Volume 309 PIG9:
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 - () CPMSIG04

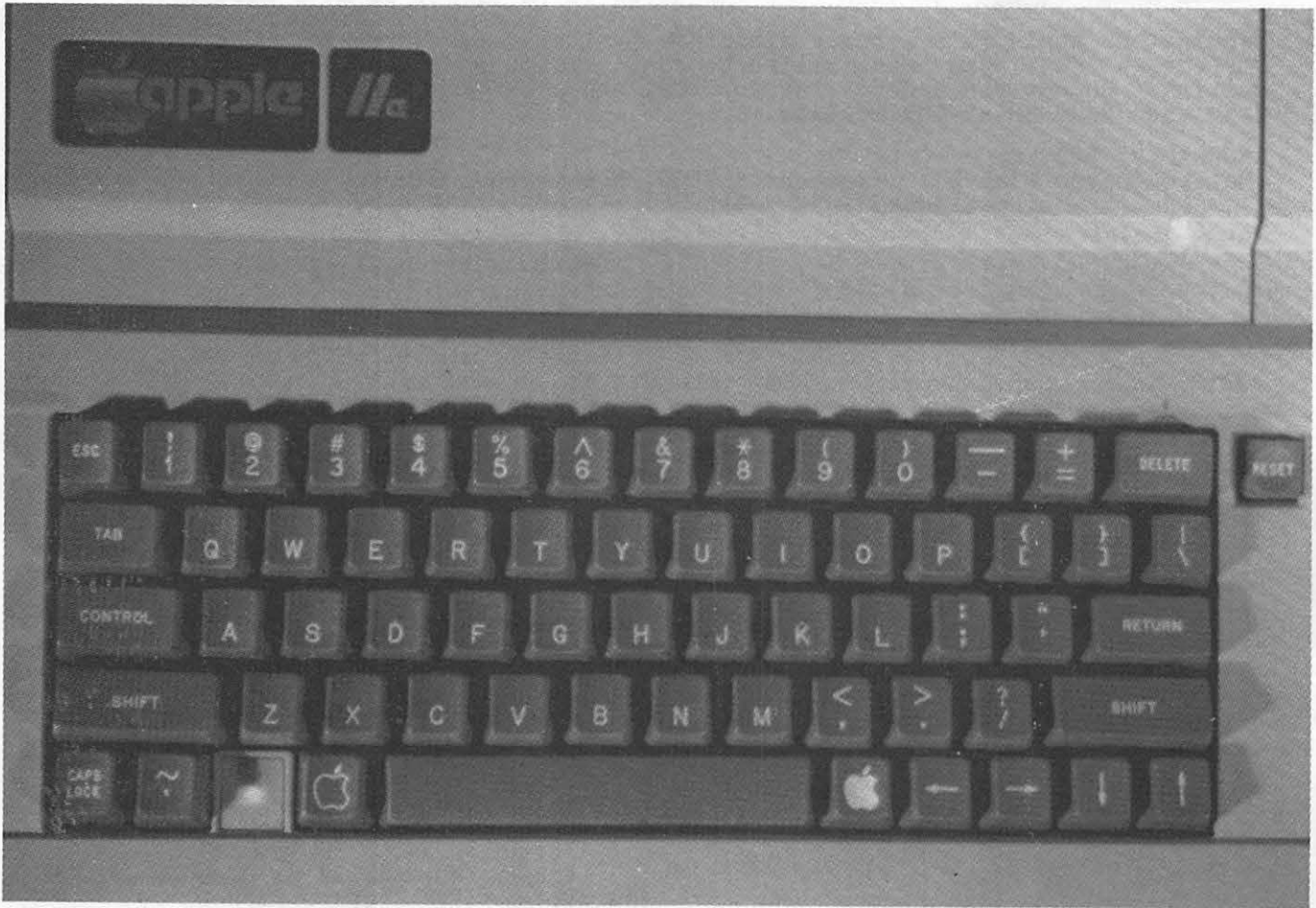
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