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Washington Apple Pi



Volume 5

January 1983

Number 1

Highlights

TAKING YOUR APPLE TO EUROPE
BLAISE AWAY! FIBS DON'T LIE
FORTH: COMPILATION AND
EXECUTION

THE CP/M SIG LIBRARY DISKS

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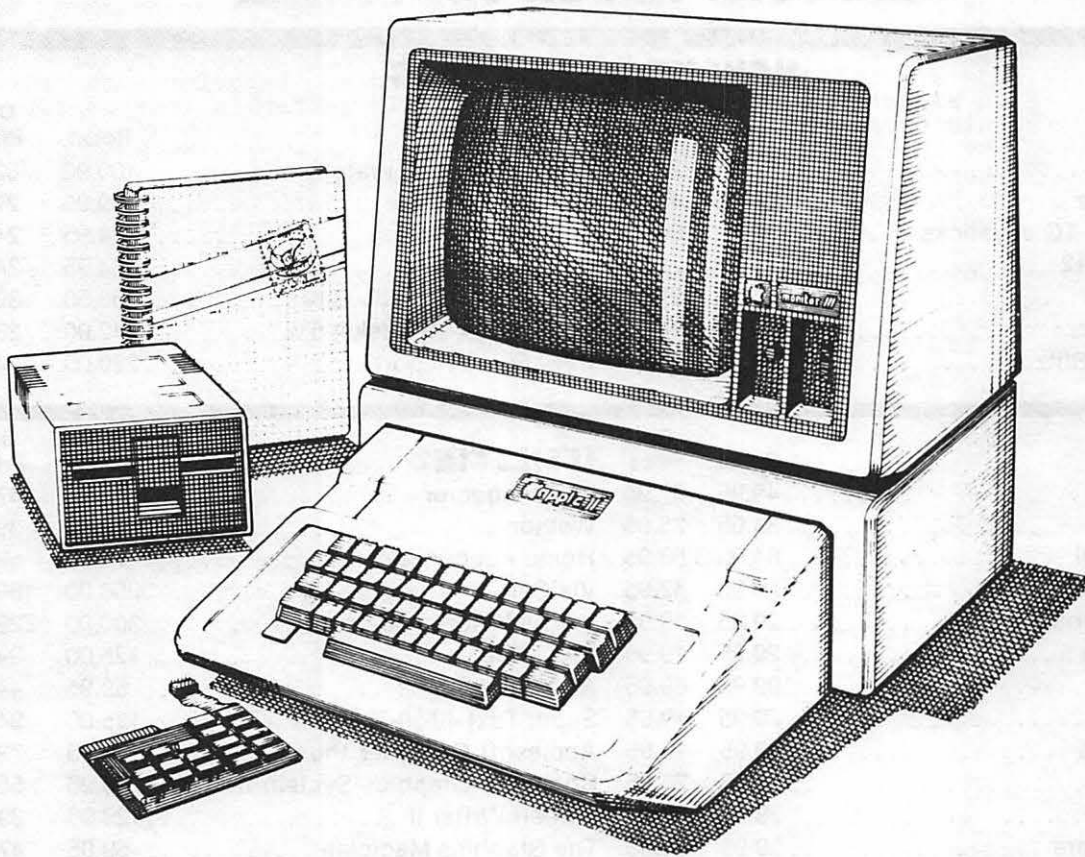
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If an organization exists for the purpose of providing useful services to its members, it has in my opinion a responsibility to provide bad news as well as good. It is for this reason I have published Peter Rosden's Letter to the Editor and the letter to Peter from Digital Acoustics, Inc. of Santa Ana, California. Behavior such as evidenced in their letter is inexcusable.

But now on a note more in keeping with the season. For all you CP/M fanciers we have a fine description by Dave Neumann of four disks newly available in our library, and he announces the availability of a remote CP/M Bulletin Board System. Also we have the second in a series of Forth articles by Bill Wurzel. Dr. Wo tells us FIBS in his Blaise Away column. Nancy Strange makes tracks with her LOGO column and reminds folks of the availability of two disks full of utilities, demos, games and projects. Leon Raesly commits everything to memory (data bases, that is). Tom DeMay provides that memory 32K at a clip. Paul Ternlund makes it easy for all you skiers to take your Apples to your favorite European ski resort, and Bruce Field as usual questions everything. And lots more.... Happy Holidays.

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.

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

January 22 - Pascal - Dr. Wo
 February 19 - Hardware Interfacing
 (3rd Sat.) Tom Riley
 March 26 - Word Processors -
 Panel Discussion

Plans are shaping up for an open house at our new office on Sunday, January 23 from 1 - 5 PM. Everyone is invited to drop by. Call the club phone or ABBS for any change in plans.

Wonderful Holiday Season

MINUTES

NOVEMBER GENERAL MEETING

The November general meeting of WAP, Ltd. was held at USUHS on November 27. It was announced that a rental contract has been signed for the WAP office, located at 8227 Woodmont Avenue in Bethesda. Donations of furniture etc. are being accepted. The Apple Teas are getting underway in December. Volunteers were requested to provide some technical leadership. A volunteer was obtained to provide WAP representation at a computer show in Reston, VA on Thursday December 2. By acclamation it was determined that the demonstrations in the cafeteria from 9 to 10 AM are worthwhile. The January tutorial on Advanced Pascal was announced. The ad for Quentin Drives on page 11 of the Newsletter was corrected to read \$245. Group purchase reported. The December WAP meeting was announced as a Swap Fest and volunteers agreed to help with registration. The presentation was made by David Morganstein and Charles Mesztenyi on Graphics.

SUMMARY OF DECEMBER EXECUTIVE BOARD MEETING

The December meeting of the Executive Board of WAP, Ltd. was held on December 8 at the home of the Urbans, with nineteen people in attendance. The items discussed included: establishment of the hardcopy library, equipment and use of the WAP office, policies concerning SIGs (specifically CPMSIG concerns), 501 C3 IRS status, booth allowed at ACM June conference, report on Reston Fair, insurance through IAC, refusal to allow WAP Newsletter advertisers to indicate delivery of sales items to the WAP meetings, discussion with local dealer on WAP purpose and policies. Ⓢ

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 phone and leave your name and address, or write to the P.O. Box above. A membership 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. Ⓢ

DISCUSSION ON COMPUTERS IN EDUCATION

On January 13, 1983, the acting Director of the Department of Educational Technology for the Department of Education will be discussing "Computers in Education". This discussion will be at 7:00 PM at the Institute for District Affairs, located between 7th and 9th Streets on Massachusetts Avenue, NW. It is sponsored by the DC Association of Educational Data Systems and the admission is free. For more information call Mr. Sidwell at 727-3537 (day). Ⓢ

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, January 4 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:

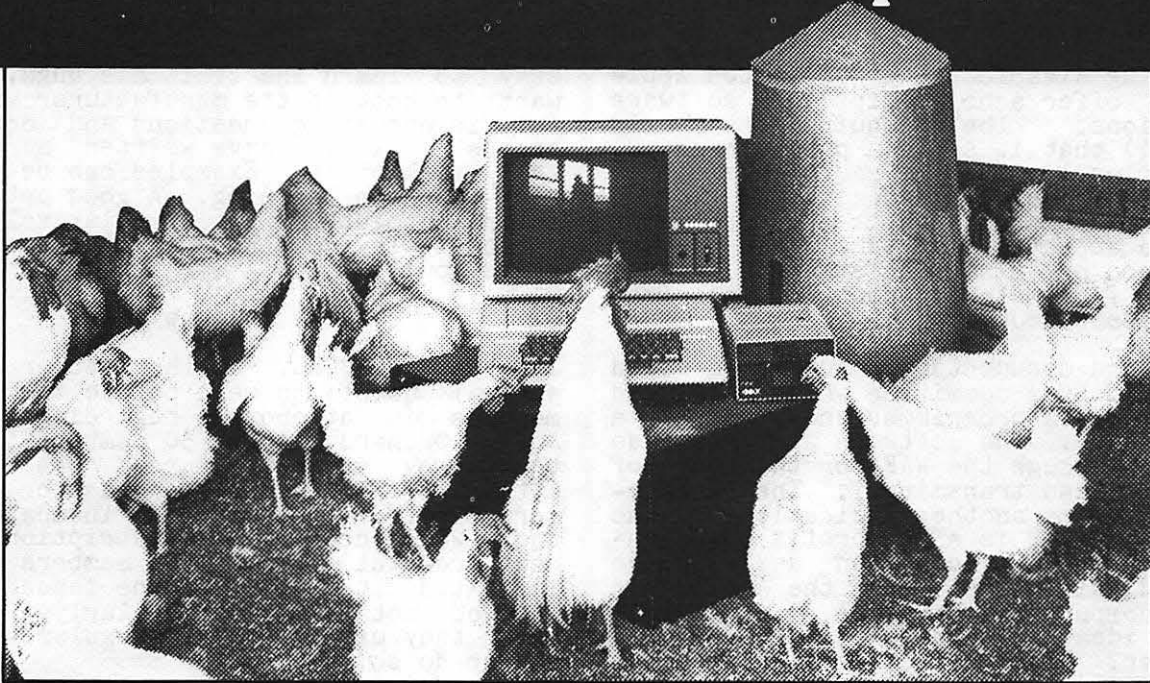
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| Bob Chesley | 560-0120 |
| Paul Hoffman | 831-7433 |
| Sarah Lavilla | 926-6355 |
| Boris Levine | 229-5730 |
| Steve Sondag | 281-5392 |

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. Ⓢ

* * OPEN HOUSE AT THE OFFICE * *
Sunday, January 23, 1-5 PM

Which came first: The chicken or the computer?



HLA Computers Success Story #2

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PRESIDENT'S CORNER

by David Morganstein

SCHOLARSHIPS. At a recent board meeting, the topic of scholarships for young developers of software for the public domain was discussed. To stimulate educational software for use in our public schools or for use by the handicapped or the learning disabled, the Washington Apple Pi would offer scholarships for software contributions. The requirements would include 1) that it serve a public need, 2) be user friendly (e.g. be easy for a novice to use) and 3) be well documented as to how the program works and how it could be modified. The amount of the scholarships would depend upon our financial strength and our ability to find matching contributions from the business community.

Software and documentation submitted would be reviewed by a committee which included an educator, a programmer and possibly a potential user. The software would be made available through the WAP for the cost of reproduction and transmittal. The scholarships would be another indication to the IRS that the WAP is a non-profit organization dedicated to education and service associated with the use of the Apple and related computers. What are your thoughts on this idea? Do you have a program you would offer? Would you serve as a judge on the awards committee? If yes to any of the above, please contact me.

• • • • •

APPLE TEAS. By now, the first wave of teas have been held and we are assessing the needs they met. We have more scheduled for January, but almost none for February. Paula Benson, our able secretary has offered to help in the coordination of the teas. If you would like to hold one or two, contact Paula or me. If you would like to attend as a "knowledgable" Apple user, let us know as well. Check the list in this issue for the dates and locations of a tea near you.

• • • • •

MEMBERSHIP DIRECTORY. El Geib, who has been a regular hand in getting the newsletter mailed out, has offered to help get a membership directory together. This one may have over 1500 names in it! When you became a member, you were asked if you wanted your name to be included. If you did not check in the affirmative, you will not be included. Many thanks to El for assisting the WAP members in this way.

• • • • •

NEED FOR ARTICLES. If every member wrote just one article a year, we could double the size of each issue. Many people are apprehensive about contributing. I want to dispel that concern. We need articles of many types, including the reactions and discoveries of new owners. You do not have

to be an experienced hand to review a product you purchased. Assemble your reactions and share them with the membership; you may be helping many others. Members want to know what a program does and what it doesn't do. They want to know if it is easy to learn and if it has bugs. They want to know if the manufacturer was helpful in answering questions and correcting errors. If you have written a program, tell us about it. Examples can be instructive to those learning. A good article can be put together in a relatively short period. Try your hand at it? Your Editor wants you!!!

• • • • •

IAC ORCHARD POLL. At the October meeting, several questions were put to the 300 plus members in attendance regarding the IAC Apple Orchard. About 50 members indicated that they currently read the Orchard, either by individual purchase or by subscription. About a dozen indicated that they would drop their subscription at the next renewal. Some 40 members present indicated they had seen one issue but had decided not to get it regularly. About 35 said they used to get it regularly but no longer do so.

I have sent a letter to the Orchard Editor conveying this information, in the hopes that it would be useful to him. I included a number of suggestions which I thought would be of benefit, one of which was the suggestion of a Club News Column. I hope to share his thoughts about my suggestions with you in the next issue.

• • • • •

ABBS SOFTWARE. In August, the WAP sent a copy of the ABBS software to the IAC for distribution to member clubs. While the software has not yet been sent out by the IAC office, the WAP extends an offer to make this software available to any Apple club. We have already sent copies to a club in France and one in South Africa. If you belong to another club which would find this software helpful, send a blank disk in a self-addressed stamped mailer to our P.O. Box and the WAP will mail you a copy. The disk contains a file of documentation in both Apple Writer and standard text file form.

• • • • •

UPCOMING PROGRAMS. The topic for the January meeting is the UCSD Pascal system and will be presented by Tom Woteki. The February meeting will feature Tom Riley speaking on hardware interfacing. March will feature a panel discussion on Word Processors.

• • • • •

contd.

THE CREATIVE SPIRIT. While participating in a recent conference on microcomputers, I was asked if the intent of club public domain software libraries was to avoid the high cost of commercial software. My reply was a vehement "no". Clubs such as ours exist because we can purchase useful machines like the Apple; these machines are useful for many of us only because of the creative talents of software authors. I recently examined an instruction manual for a graphics package about to be marketed by one of our members. The software was impressive and the manual an excellent complement.

One of the things which I find exciting about the personal computer is the possibilities it opens for developing your own product. Many people find little enjoyment in employment with a large anonymous organization. The challenge of starting a business is not for all of us but it is an adventure for some. My hat is off to those capable of developing and successfully marketing a useful product for the Apple!

• • • • •

CAI PROGRAM NEEDED. If anyone has developed software for teaching a 10-month old to come down the steps, backwards (that is, feet first not head first), please contact me. I am in desperate need... hires or lores graphics acceptable. ☞

* VOLUNTEERS NEEDED TO HELP AT THE OFFICE *
 * * * * *
 * Current plans call for keeping the WAP *
 * office open one evening a week. Tuesday *
 * evening has been chosen (this can be *
 * changed if another evening proves to be *
 * more useful for the majority of mem- *
 * bers). It will be helpful to the *
 * "office manager" and to the guest mem- *
 * bers to have extra people there to lend *
 * a hand in whatever tasks need to be *
 * done. If you would like to volunteer *
 * your services for one Tuesday evening a *
 * month on a regular basis, please con- *
 * tact David Morganstein or leave a message on *
 * the club phone. ☞

CLASSIFIEDS

FOR SALE: Micro-Sci A70 double density disk drive with controller. \$500. Call Mike Hugo (eve.) 703-241-7869, (day) 202-225-3481.

FOR SALE: APPLE II+, 64K, 3 disk drives, Epson MX-80, NEC green monitor, Lower Case+, Keyboard+, TKC Keypad, VisiCalc, DB Master, Utility Pak 1, Supertext, Pascal, TASC compiler, Master Diagnostics. \$3100. Dick Bowers, 703-777-5065.

FOR SALE: Olympia ESW102 daisy wheel printer, 17 cps, bidirectional and can select proportional spacing. Three print wheels and manual included. Used less than three months. Must sell. Call Bill Statsky, 363-7159, with best offer. ☞

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| NEC 1260 Green Monitor | \$ 120 |
| NEC 8023 Printer | \$ 460 |
| Prowriter 8510 A Printer <i>+.5% tax = \$462</i> | \$ 440 <i>320/1320</i> |
| Okidata Micro 82 A Printer | \$ 430 |
| Okidata Micro 83 A Printer | \$ 665 |
| IDS Microprism Printer | \$ 600 |
| D.C. Hayes Micromodem II | \$ 260 |
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| Visipak (includes Visicalc, Visifile & Visitrend/Plot) ... | \$ 490 |
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| Executive Briefing System | \$ 150 |
| PFS | \$ 100 |
| DB Master <i>7-term \$50</i> | \$ 175 |
| <i>Home accountant \$60</i> SAGE II 8MHZ 68000 Computer, 128 K RAM, 320 K Disk, | |
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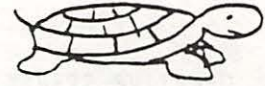
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LOGOSIG NEWS

TURTLE TRACKS



by Nancy C. Strange

Calendar

DATE: 18 DEC 1982
TIME: 12:30 P.M.
PLACE: USUHS, Building A, Lecture Room A *
TOPIC: Videotape on LOGO

This special Christmas meeting will return to USUHS facilities in order to use the videotape equipment. The videotape of Dan Watt's presentation of LOGO was made by the Department of Education and is available to us thanks to one of our members Susan Lueck.

Dan Watt has been active in LOGO for some time. He is regularly a seminar leader, writes for Popular Computing and has just recently developed a new curriculum using LOGO.

WE WELCOME ALL!

LOGOSIG is growing

In the five months since LOGOSIG was created there has been dramatic growth, with over 57 adult members and a number of children. LOGO's recent arrival to microcomputers appears to be quite a success. It is exciting to be a part of discovery, but with it comes some growing pains, LOGOSIG's re-location to a facility with 4 computers has helped to create a workshop environment, but how can the 47 people (such as at the November meeting) each get hands-on experience. Obviously we need more computers and chairs (remember BYOC - Bring your own chair - if you can to the January meeting). The great interest in LOGO is seen each month by the steady flow of new users, but meeting the needs of such a diverse group of interest levels and areas presents a challenge.

At the November meeting we took the first step by structuring LOGOSIG. Tasks appointed were:

- LOGO Reference Contacts:
APPLE LOGO - Ron Murray
MIT (Terrapin & Krell) -
Dagobert Soergel
Other - unassigned
- LOGO Membership Database:
Oscar Kramer
- LOGO Info Exchange (paper library):
David Moses, Ken Bonwit, &
Fred Feer
- LOGO Proc Exchange (disks & doc)
ELF Team & Nancy Strange
- New User Instruction:
Rotating Assignment
- New User Packet Development:
Unassigned

- LOGO Theory:
Brian McLoughlin
- New Product Evaluation:
Ron Murray, Nancy Strange
Barbara Beam, and Albert
- Newsletter:
Nancy Strange
- Secretary:
Rotating Assignment (to take
informal notes of meeting).
- LOGO Connections:
Interface with other LOGO
groups - David Moses,
K. C. Gupta
- LOGO Special Purchases:
Nancy Strange

If you would like to become involved, need more information, or have any articles or magazines (like the August issue of Byte) to contribute, please contact me at 691-1619.

APPLE LOGO Support

LOGO COMPUTER SYSTEMS, Inc. has provided two disks full of utilities, demonstrations, games, and projects for APPLE LOGO. Among the utilities are: a simplistic word processor, trace, remark, primitive making system with assembler, sort, properties erase, plotting tools, and lo-res utilities. If you would like copies, bring your initialized disks to the January meeting or contact me. Documentation for these disks are available at the cost of duplication.

HAPPY HOLIDAYS

* LOGOSIG will meet at its normal location in January. See the map in the December issue for directions to Bethesda Country Day School, 5616 Beech Avenue, Bethesda, MD.

BUGS AND OTHER PARASITES

In Paul Sand's article, "A Pascal vs. Basic Puzzle", in the November 1982 WAP Newsletter, in line 70 of the Applesoft program the left parenthesis before the variable C was omitted. Line 70 should read:

```
70 X = A - (B / (C + (D * ((E - (E / F  
* F)) * D))))
```

The following is errata to the December 1982 article, "Connect the Dots" by David Morganstein and Charles K. Mesztenyi.

Section five should read Hires in Super Speed. All references to "Super Hires" should read "Hires". The machine language routine does not draw in 560 dot resolution, but standard 280 dot.

EDSIG NEWS

by Peter Combes and Dianne Lorenz

EDSIG Calendar

Tuesday, JANUARY 4TH at 7.30 p.m.

(This date was wrongly given in the Decem-
issue.)

Videocassettes from the Howard Mann Learn-
ing Center will be presented by Susan Lueck.

Topics will include "School District Exper-
iences in Implementing Technology".

Tuesday, February 1st at 7.30 p.m.

Members' Programs

Bring along programs you have used and can
talk about to this meeting. It all depends
on you!

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 Cen-
ter, 4301 Jones Bridge Road, Bethesda, MD.

EDSIG Questionnaire

At the back of this issue is a special
questionnaire so that you can express your
views on the future of EDSIG. Please take
the time to fill it out.

Meeting Reports

The November meeting is reported in the
December issue. This edition of the maga-
zine went to press before the meeting on
Tuesday, December 14th. A report on that
meeting will appear in the next issue.

Forthcoming Events - Dianne Lorenz

WINTER COMPUTER CLASSES

ELF - Classes in "Getting Comfortable with
Computers" and BASIC for adults...classes
for parents and children together in BASIC
and LOGO, and classes for children in
beginning and advanced BASIC and LOGO.
Call 493-9696.

Hands-On Science - Introduction to com-
puters and computing for children 4 years
old and up, beginning December 6 and con-
tinuing for 8 weeks. Several locations in
the Silver Spring area. Call 649-6921.


Learning Works (657-4488) and Open Univers-
ity (966-9606) offer BASIC programming for
adults and special classes in computer
applications.


Adult education - Montgomery County -
Beginning and Advanced levels of BASIC
programming for adults. Evening classes at
several area high schools. Call 942-8304.

The Computer Workshop - Classes and special
workshops at all levels. Call Jane Mason,
468-0455.

WINTER WORKSHOPS and CONFERENCES

Microcomputers in Education Workshop - TERC
workshop covering the use of micros in
various educational applications, graphics,
and programming languages. Call (617)
547-3890 for workshops in our area.


NCCE Conference - Oregon State University -
A three day conference 'Linking Computers
with Learning'. Call (503) 376-6111.
February 17 - 19. 



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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 |
| | | | P | Dottie Acton | 428-3605 |
| Apple TechNotes | Ed Schenker | 977-7349 | Locksmith | Leon Raesly | 460-0754 |
| | Lance Bell | 523-1174 | LOGO | | |
| Communications Packages and Modems-Telecom. | | | Apple | Ron Murray | 328-3553 |
| Anchor Sig. & | | | MIT Terr-Krell | Dagobert Soergel | 823-2840 |
| BIZCOMP Modem | Jeremy Parker | 229-2578 | Operating Systems | | |
| Apple CAT II | Ben Acton | 428-3605 | APPLE DOS | Richard Untied | 241-8678 |
| ASCII Express | Dave Harvey | 527-2704 | CP/M | Robert Fretwell | 971-2621 |
| Data Capture | Howard Simkowitz | 882-4645 | Paddles | Tom Riley (eve.) | 340-9432 |
| General | Ben Acton | 428-3650 | Pers. Fil. Sys. | Ben Ryan | 469-6457 |
| | Tom Nebiker (216) | 867-7463 | Printers | | |
| Hayes Smartmod. | Bernie Benson | 546-0076 | General | Walt Francis | 966-5742 |
| VISITERM | Steve Wildstrom | 933-7728 | Anderson Jac. | Bill Etue | 620-2103 |
| XTALK CP/M Com. | Bernie Benson | 546-0076 | | Leon Raesly | 460-0754 |
| Expediter Cmplr. | Peter Rosden | 229-2288 | IDS 460 | Jeff Stetekluh | 521-4882 |
| Data Bases | | | MX-80 | Jeff Dillon | 422-6458 |
| DB Master | Dave Einhorn | 593-8420 | Silentype | Bruce Field | 340-7038 |
| | Leon Raesly | 460-0754 | Time-Sharing | Chuck Reinbrecht | 299-6810 |
| Data Perfect | Leon Raesly | 460-0754 | | Dave Harvey | 527-2704 |
| Games | Jim Eatherly | 232-6046 | VisiCalc | Walt Francis | 966-5742 |
| | Donn Hoffmann | 966-2616 | | Leon Raesly | 460-0754 |
| Graphics | Bill Schultheis | 538-4575 | Word Processors | Walt Francis | 966-5742 |
| Home Account | Leon Raesly | 460-0754 | Letter Perfect | Leon Raesly | 460-0754 |
| Languages (A=Applesoft, I=Integer, | | | Screen Wrtr. II | Peter Combes | 871-1455 |
| P=Pascal, M=Machine) | | | Supertext II | Peter Rosden | 229-2288 |
| A | Peter Combes | 871-1455 | | Leon Raesly | 460-0754 |
| A,I | Jeff Dillon | 422-6458 | WordStar | David Inouye | 422-8926 |
| A | Mark Pankin | 370-9219 | | | |

IAC CORNER by Bernie Urban

Thought you might like to know who had received the first two grants of Apple IIs and other hardware and software from Apple Computer, Inc., as part of the Community Affairs Program. IAC provides free subscriptions to the Apple Orchard to each of these agencies and encourages member user groups to do likewise. Also, the new insurance program is now available to members of member clubs. This No Deductible policy offers coverage for theft, power surge, earthquake, flood, business interruptions, and coverage while in transit. See your IAC liaison for application forms.

Grants #1

Mr. Charles A. Cooper
American Arbitration Association
445 Bush St.
San Francisco, CA 94108

Ms. Jane J. Voget
Center for Collaborative Problem Solving
2822 Van Ness Ave.
San Francisco, CA 94109

Mr. Geoffrey H. Ball
Forum on Community and the Environment
360 Bryant St.
Palo Alto, CA 94301

Mr. Bill Leland
Peninsula Conservation Foundation/
Harbinger Communications
50 Rustic Lane
Santa Cruz, CA 95060

Grants #2

Ms. Judy Flynn
Citizens Committee for New York City
3 West 29th St.
New York, NY 10016

Ms. Lys McLaughlin
Council on the Environment of New York City
51 Chambers
New York, NY 10007

Mr. Tom Fox
Neighborhood Open Space Coalition
110 West 34th St.
New York, NY 10001

Ms. Lisa Cashdan
The Trust for Public Land/
New York City Land Project
254 West 31st St.
New York, NY 10001

A PAGE FROM THE STACK by Jill and Vance Giboney

This month we are adding six new disks to the library. Four of these are CP/M disks donated by the CPMSIG. You will find a description of these disks elsewhere in this issue. The other two new disks are DOS 3.3 and are described below.

Volume 126 - Sights & Sounds - features a banjo tablature editor that allows you to enter tunes, edit them, play them back (with bouncing ball), and store them to disk. You can also transpose and control the tempo and pitch. A number of different tunes are included on the disk, as well as additional programs that make use of the Apple's graphics and/or sound capabilities.

Volume 127 - Math/Science A - includes programs on anthropod and insect classification and the solar system, as well as other relevant math/science programs. Ⓜ

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TAKING YOUR APPLE TO EUROPE

by Paul A. Ternlund

SYNOPSIS - When our family learned that we might be spending the next three years in Germany, there was a seemingly endless list of logistics problems to resolve. One of these problems was how our Apple II+, portable black and white TV/rf modulator, two disk drives, and Epson MX-80 printer would fare on 50 Hertz power. After a few letters to folks-in-the-know and some educated guesses, our system has been successfully reestablished in Germany. In fact, this article for the WAP Newsletter has been prepared with it. The following is provided so that other Europe-bound Apple owners may avoid the worry of a less-than-tasty "fried Apple".

THE PROBLEM - Standard household power in the USA is 110-120vac at 60 Hertz. This is what our Apple was designed for. Germany uses 220vac at 50 Hertz. Most American families living overseas employ stepdown transformers so that they may use their appliances from home. These transformers must be of sufficient capacity to supply the required current at approximately 110 volts. Therefore, reducing 220 to 110 volts for the Apple and its peripherals is no problem, so long as the transformer used is capable of providing the total current requirement. Each component's current requirement can be found by reading the manufacturer's label near the egressing power cord. For our system, the Apple and the MX-80 were each rated at 1 amp, and the Zenith ZVM-121 monitor that we ended up with (read on), was 0.31 amps. For 2.31 amp draw, a transformer with a minimum rating of 300 watts should be used.

A somewhat more sticky problem was the ac cycle requirement of each component. On the same manufacturer's labels, Apple specified "50/60Hz" for the computer; Epson specified "60Hz" for the MX-80, and Zenith specified "60Hz" for the monitor. So the question of "will it all work with 50 Hz" was still present.

ATTEMPTS AT RESOLUTION - From the schematic diagrams in the Apple II DOS Manual, I found that the disk drives are provided direct current (dc) power from the Apple. So, if the Apple is happy with the power it is supplied, then it follows that the disk drives should work just like they did at home. Therefore, we can forget the drives and concentrate instead on the computer.

A reasonable way to proceed when you have questions about the operation of a product is to check with the manufacturer. In our case I sent inquiries to Apple Computer, Inc. and Epson America, Inc.

I also inquired directly at a well-thought-of Apple dealer. The technician at this store convinced me that my TV/rf modulator combo would not work in Europe. This, he stated, is because the vertical oscillator in the TV is synchronized from the power

line (50Hz in Germany) while the Apple provides video with a 60Hz basis. To be safe I purchased a Zenith ZVM-121 green screen monitor per his recommendation.

In the meantime I received a terse letter response from our favorite personal computer company. I had asked "...what must I do to operate my Apple system in a safe and proper manner after our move overseas to West Germany?...". Apple, Inc.'s best advice to me was "...sell your present Apple II and either purchase or lease an Apple in West Germany for your stay." They were kind enough to include the address and telephone number for an Apple office in Munich and enclosed a copy of their latest magazine. So I was on my own with my Apple computer.

Epson America's response was totally different. It came via long distance phone call. The first time I wasn't even home and my wife didn't understand the situation. The next time the call came I was informed by the caller that he was an engineer representing Epson and had an answer for my recent inquiry. He stated that a simple stepdown transformer (220v to 115v) would permit proper operation in Germany and that 50Hz would offer no problem. He took time to make me feel comfortable that no damage would come to the printer motors. Super response from Epson with good news!

THE MOVE - After arriving in our new quarters in Germany, I plugged the Apple II+, MX-80 and Zenith monitor into a power strip having 3-wire (safety grounded) 110vac service. Because of the "50/60Hz" label on the Apple, I reasoned the Apple would perform ok. But there was no reassurance from Apple, Inc.....

The moment arrived to supply the "juice". I flipped the breaker on the power strip to ON and the Apple sprang to life with the familiar beep, whirring drive 1 and "APPLE II" display on the monitor. 'Twas music to my ears.

The only noticeable side effect operating with 50Hz is a slight horizontal jitter along the right edge of the Zenith monitor. While this jitter is aggravating, it has not lessened our family's use of the Apple. I still have to beat our three kids and some German friends away with a stick to use the system myself!

Two letters to Zenith Data Systems for advice on eliminating the jitter resulted in the fact that the model I have (ZVM-121) is designed for 60Hz use. I should have purchased a ZVM-121E (export) model.

I have since tried my original portable TV with rf modulation. It worked just like the Zenith monitor, including the slight horizontal jitter on the right side of the screen! I didn't need to buy a monitor

contd. on pg 42

APPLE TECH NOTES

by Ed Schenker

Since this is the gift giving season, I thought it would be appropriate to concentrate on potential gift items. Hopefully, these caveat emptors and other hints from the Tech Notes will help you make appropriate decisions.

APPLE ADVENTURE - AA is shipped in a protected DOS 3.2 format. This means that you will need a DOS 3.2 formatted diskette if you wish to save a game to continue play later. Perhaps your dealer will initialize a diskette with DOS 3.2 for you. You can initialize more 3.2 diskettes by booting with BASICS and the disk your dealer initialized for you, inserting a blank, and typing INIT HELLO. Because of its software protection scheme, MUFFIN won't work on AA.

APPLE STELLAR INVADERS - ASI is a Pascal diskette which boots on a 13 sector, DOS 3.2 Apple II. The BOOT13 program on the DOS 3.3 disk won't help. This means that you must use the BASICS disk to boot on a 16 sector, DOS 3.3 system. Also, ASI won't work properly if you have an 80 column card such as Smarterterm or a communication card in slot 3, since it is a Pascal format disk. It turns on the Smarterterm card and directs the text output to the normal Apple screen.

ARTIST DESIGNER - The AD package won't work on the Apple /// in emulation mode because it is written in Pascal and the Apple /// has no language card.

ELEMENTARY, MY DEAR APPLE - You cannot turn off the music in the LEMONADE program. EMDA will not run on the Apple /// in Apple II emulation mode.

Errata - EMDA manual

PAGE 2: It states that when a blinking cursor and a prompt is displayed, one can press the RESET key and be returned to the main menu. RESET may not always do this, in which case, the system must be re-booted.

PAGE 5: In the paragraph beginning "If you press a wrong key.." it says to go back and correct errors using the forward arrow key. It should say, the back or left arrow key.

PAGE 6: Once you are in the immediate mode, you can only get back to the main menu by typing RUN INDEX after the prompt and the flashing cursor.

PAGE 7: Please note that in the LEMONADE game you can use the arrow keys to correct mistakes.

PAGE 18, Paragraph 3: Whenever you delete the entire word list with DEL 9010,9999 you should also add line #4325 IF I = 9010 THEN 4332 to avoid problems with the problem editor.

Last, I would like to wish all of you a safe and happy holiday season. ☺

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LIBRARIAN'S POTPOURRI

by Dave Weikert

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 SALES

The Washington Apple Pi, Ltd. currently has three different methods of selling diskettes of contributed and public domain programs:

- a. Direct purchase and pickup at the monthly club meeting.
- b. Mail order purchase with mail delivery (Mail Order).
- c. Mail order purchase with pickup at the monthly club meeting (Pre-purchase).

The Pre-purchase method will be discontinued beginning with the December 1982 meeting. The Pre-purchase once served a purpose but has outlived its usefulness. In the early stages of the club, there were often only one or two receipt writers for all of the monthly activities and the library did not stock disks in large quantities and often sold out. However, there are now two receipt writers for disk sales (in addition to the receipt writers for group purchase, membership, etc.) and the club now stocks the library disks in large quantities. At least 20 copies of each volume are available for each meeting and "best sellers" may be stocked 35 to 45 deep. Since processing the Pre-purchase orders takes an extraordinary amount of the library volunteers' time and effort and the original reasons for this special service no longer exist, the Pre-purchase ordering information has been removed from the WAP Newsletter. All Pre-purchase orders received prior to the December 18, 1982 meeting will be honored; orders received after this will be returned. The club will continue to service mail orders with mail delivery and direct purchase at the club meetings.

II. DOS 3.2 TO DOS 3.3. CONVERSION

The Washington Apple Pi disk library currently includes 40 disks with programs that are in the DOS 3.2 (13 sector) format. Most, but not all, of the programs are unique to the DOS 3.2 library and do not appear in the DOS 3.3 library which currently includes Volumes 100 through 125.

The DOS 3.2 formatted programs may be run on any APPLE II or APPLE II Plus with the DOS 3.3 controller PROMs by first booting the BASICS disk or by running the BOOT13 program on the SYSTEM MASTER disk that came with your APPLE II, and then following the prompts. An alternative to performing this procedure each time is to convert the disk

from DOS 3.2 format to DOS 3.3 (16 sector) format using the MUFFIN program on the SYSTEM MASTER. Most of the DOS 3.2 formatted programs can be successfully converted to the DOS 3.3 FORMAT. Programs that call the Read or Write to Track and Sector (RWTS) routine do not successfully convert since RWTS is not the same for the two formats. Programs that use only the BASIC Language and DOS commands should all MUFFIN successfully. The BOOT13 and MUFFIN programs are also included on Volume 101 - UTILITIES B.

There are some problems with the current DOS 3.2 library series. Some of the disks have not been INITIALIZED with the proper volume number. For this reason, the volume number displayed when a disk is CATALOGed does not match the volume number on the disk label. A more significant problem is that four of the disks do not boot because the greetings program name called from within DOS is not the same name as the program name in the Volume Table of Contents (VTOC) displayed by the DOS command CATALOG. The disks in this category are Volumes 23, 28, 29 and 40. This latter problem may be overcome by first booting another DOS 3.2 disk to load DOS and then inserting the disk that does not boot. An alternative is to correct the problem when the blank target disk is INITED prior to the source disk being MUFFINed to DOS 3.3. This is accomplished by specifying the proper greetings program name and volume number. The greetings program name in most of the DOS 3.2 library series is the first program name that appears when the disk is CATALOGed. This is the case for each of the four disks that do not boot. The correct volume number can be read off the disk label. An example of the proper command string for INITIALIZING a blank disk for Volume 23 is: INIT WAP: GAMES 8, V23. Then run MUFFIN and follow the prompts using the = sign (wildcard character) for the file name, Yes in response to whether prompting is desired and RETURN to replace the greetings program with the proper one that will be converted by MUFFIN. More on DOS 3.2 to 3.3 conversion in a later article.

III. NEW STAFF MEMBERS

The club would like to take this opportunity to introduce and extend thanks to the new members of the library copy staff. They include Nancy and Jim Little (whom you have probably seen behind the disk sales and receipt tables), Ed Lang, Terry Prudden, Bruce Redding and John Malcolm. These members are all Marylanders who are helping Dave Weikert copy and maintain the DOS 3.2 library series. Also, although not a new library staff member, Dave Waller deserves thanks for assuming responsibility for the DOS 3.3 and Pascal series and helping Gordon Stubbs coordinate the efforts of the copiers on the Virginia side. ☺

Q & A

by Bruce F. Field

The gremlins have struck again! Last month's Q & A column contained a mistake in the second listing used to print ASCII characters on the screen with a memory dump. When editing I inadvertently left a line out, and the line at memory address 0330 should be changed as follows:

```
0330- A9 2E LDA # $2E
0332- C9 60 CMP # $60
```

Q. I purchased an Epson MX-70 printer after reading an article in the March issue of BYTE magazine. The article by Mr. Bruce Piggott of the U.K. produced a machine language subroutine to get the MX-70 to print lower case letters with true descenders. To address the lengthy time for printing, I purchased the Microbuffer II interface card to allow me to dump a sizable document to the buffer and continue composing or editing while the printer plodded through the original.

In attempting to utilize the subroutine I finally discovered that the Microbuffer II doesn't use a location in memory to sense whether the printer is busy or not so the routine is not directly adaptable to my card. Is there anybody out there who is having the same problem or has solved the problem or would like to tackle the problem???

A. Actually I don't think your problem is a problem after all. The assembly language listing you sent me simply traps the lower case letters that have descenders and generates a new character by sending a series of characters in the graphics mode. After each character is sent, the routine checks memory address location \$C091 to see if the printer is ready. First, memory location \$C091 does not actually contain memory, but rather it is a hardware input (the busy line) from the printer. Second, since you are using the Microbuffer II to operate the printer, your lower case descender routine doesn't need to worry about what the printer is doing. You may send the characters to the interface card as fast as you like. The solution then is to do away with the "wait until printer not busy" routine. The simplest way is to replace the first instruction in the routine by an RTS (return from subroutine) so that it jumps right back to where it came from without waiting. For your specific routine this means replace the \$AD at address \$343 with \$60.

Q. I recently removed the ROMs from my Applesoft ROM card and put them on my motherboard to pave the way for a RAM card. The problem is, while I now have Applesoft Basic resident, the neat editor (i.e. ESC I,J,K,L, Ctrl-S, etc.)

is available only in Integer. Can I get it back for Applesoft by swapping some ROMs?

A. Yes, the "neat editor" resides in the Autostart ROM which is one of your F8 ROMs. You have both the old Monitor ROM and the Autostart ROM. As you have discovered the old Monitor ROM does not have the IJKM editing feature. The solution is to swap the F8 ROM back again so that the Autostart ROM is on the motherboard. Of course you won't be able to use IJKM in Integer Basic until you replace the ROM card with a RAM card. The INTBASIC file on the System Master diskette contains the Integer Basic interpreter and the Autostart ROM code and this is automatically loaded into the RAM card when you boot up on the System Master diskette.

Q. I need help with alternate character sets. The ScreenWriter II manual says it supports alternate character sets. But the instructions are very sketchy for actually doing it. My confusion has to do with following the instructions from "UPSIDE DOWN". This program has you name the file of the new character set, then asks what name it should have after it has been turned around. You also have to add 2 lines to APP2. I did all that, but the printer, and the screen outputs the same old set. Any ideas?

A. There was a letter in the October 1982 Softalk on the point. The solution given there was:

1. For the program APP2, add the text of line 9820 (9820 PRINT D\$;"BLOAD <Character Set name>,A\$C00") as lines 7820 and 8820. If the character set comes from the DOS Toolkit, the loading address should be \$D00.
2. Save the program APP2.
3. Run the customize routine.
4. The character set must be run through the program UPSIDE DOWN before it is usable by ScreenWriter II.

The reason for asking for two file names in UPSIDE DOWN is so that the new character set created by UPSIDE DOWN won't be stored on top of the original. Just use another name, for example if the character set file name is SET1 use SET1.UD for the new set.

Q. I am interested in a schematic diagram or any other information about where the paddles are connected. I am making my own joy sticks and would like to know if

contd.

there are any accepted standards for connections.

- A. The game paddles have two parts, the potentiometers and the pushbuttons. Up to four potentiometers can be used with the Apple; the value of the potentiometers should be about 100 kilohms. One end of each potentiometer should be connected to +5 volts (pin 1 on the Game I/O connector) and the moveable tap to one of the four game controller (paddle) inputs, pins 6, 10, 7, and 11 for paddles 0 through 3 respectively. The pushbuttons are slightly more complicated. If a normally open pushbutton is used, one end should be connected to +5 volts (pin 1) and the other end to a resistor of about 200 ohms with the other end of the resistor grounded (pin 8). The connection point between the switch and the resistor should be connected to one of the three pushbutton inputs, pins 2, 3, or 4 for pushbuttons 0 through 2 respectively.

Tom Riley wrote a good article on game paddles in the January 1982 issue of Washington Apple Pi and he included a complete schematic for connecting paddles to the Game I/O port.

- Q. What is a good statistics program equivalent to the SPSS that I can use with Apple DOS 3.3 or Apple CP/M?
- A. Ordinarily I avoid recommending software in this column because my opinion of what is important in a piece of software is not necessarily the same as the questioner's, and there is a tremendous amount of software out there, but I am familiar with very little of it. However this question came from two different people, one of whom is in Bangkok, Thailand.

Blue Lakes Software has produced two packages for statistics manipulation and plotting. STATMOD is a complete database system for statistical analysis of real numbers. It includes: non-parametric, descriptive, Q-Q normality testing, non-parametric comparisons, cross-tabulation/contingency analysis, linear and non-linear regression, stepwise regression, residual analysis, etc. PLOTMOD takes the output of STATMOD and produces scatter plots, histograms, regression plots, etc. The total cost of both packages is \$600 and they are available from Blue Lakes Software, 3240 University Ave., Madison WI 53705.

- Q. Could you please explain why the carry bit is set to one before the SBC instruction in assembly language? How does the assembler use the carry bit? Examples using 8 bit subtraction and multibyte subtraction would be appreciated.
- A. The 6502 microprocessor has one add (ADC) and one subtract (SBC) instruction. Both of these use the carry bit that is contained in the processor status register. The carry bit is the

least significant bit in the status register. There are two instructions for directly manipulating the the carry bit, SEC which sets the carry, and CLC which clears the carry. When adding two 8 bit numbers if the sum of the numbers plus the carry bit exceeds the maximum value that can be expressed in 8 bits (i.e. 255 decimal) the carry bit is set. When subtracting two 8 bit numbers the carry bit is used as a "borrow" from a previous add or subtract operation. Thus when adding or subtracting, one usually needs to force the carry bit to the desired value before performing the operation. For an "add" we want to "clear" the carry bit (set it to zero). For "subtract" the carry bit should be "set" (set to a one) to indicate no borrow.

Some examples:

| hex | binary | carry |
|------|-----------|-------|
| 11 | 00010001 | 0 |
| +F3 | +11110011 | |
| ---- | ----- | |
| 04 | 00000100 | 1 |
| 56 | 01010110 | 1 |
| -3C | -00111100 | |
| ---- | ----- | |
| 1A | 00011010 | 1 |
| 56 | 01010110 | 1 |
| -F3 | -11110011 | |
| ---- | ----- | |
| 63 | 01100011 | 0 |

Now for some multi-byte subtraction. Let's try 223456 - 65789 which we know equals 157667. We will need three bytes to express these numbers. In hex we have 03 68 E0 - 01 00 FD. We start with the least significant bytes and don't disturb the carry bit between subtractions.

| | | |
|-----------------------------|-----------|-------------------------|
| E0 | 11100000 | 1 carry set |
| -FD | 11111101 | to start |
| ---- | ----- | |
| E3 | 11100011 | 0 borrow |
| first part of answer = \$E3 | | |
| 68 | 01101000 | 0 clear from |
| -00 | -00000000 | before |
| ---- | ----- | |
| 67 | 01100111 | 1 now set, no borrow |
| next part of answer = \$67 | | |
| 03 | 00000011 | 1 |
| -01 | 00000001 | |
| ---- | ----- | |
| 02 | 00000010 | 1 no borrow |
| last part of answer = \$02 | | |

Put it together \$0267E3 = 157667, what do you know, it works!

- Q. Please tell me the difference between the disk emulator and the semidisk. Can all software that is compatible with Apple DOS be used with these?

contd. on pg 36

IRS SEEKS VOLUNTEER HELP

The Internal Revenue Service is seeking volunteer help with the use of personal computers in the Volunter Income Tax Assistance (VITA) Program.

VITA is a program designed to provide free assistance at community locations to individuals who cannot afford professional tax help. Volunteers assist people with simple tax returns, particularly low-income, elderly, non-English speaking and handicapped taxpayers.

Volunteers include college accounting students, law students and members of professional accounting organizations. Members of retirement, religious, military and civic groups also participate. With new technologies and the increased use of home computers, the Internal Revenue Service is now looking to the home computer users as a new group of individuals to join the VITA effort. In 1982, over 34,000 volunteers staffed approximately 6,000 VITA sites and assisted over 590,000 people.

In the Washington, D.C. area IRS is looking for one or two volunteers who would be willing to help prepare tax returns (Form 1040A only) using their home computers. The site would be a convenient community location. The volunteers would be needed on two Saturdays sometime between early February and mid-April. IRS personnel would be present at the site to give technical support and free training is available. IRS would also work with the volunteers to obtain a Form 1040A software package that would be compatible with the volunteers' home computers.

The wide range of volunteer opportunities available makes it necessary to be selective in choosing a volunteer activity. VITA would be of interest to computer users since the program would permit use of a special expertise.

For further information, or if you are interested in volunteering for this worthwhile project please contact Deborah Campbell, (work) 202-566-4904, (home) 301-890-6789.

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BLAISE AWAY! FIBS DON'T LIE

by Dr. Wo

Recently I attended a semi-annual meeting of US.US, the international UCSD Pascal user's group. There are a number of useful bits of information and ideas I picked up, and I thought I would pass some along to you.

What is US.US?

US.US (say Use Us) is a society of users of the UCSD Pascal system, or p-System, including owners and users of Apple Pascal. Its membership is international and numbered about 1500 in June of this year.

The US.US Membership is quite varied, ranging from hobbyists and inquisitive users of UCSD Pascal, to professional software developers. The professionals are active in applications and system software. The hobbyists, or less-than-full-time professionals, include many of the Apple users; they are interested in myriad ideas and activities. The U.S. membership is scattered about geographically, but the biggest concentrations appear on the West Coast, in Texas, and in the Washington-Boston corridor.

Annual dues for US.US are \$20. The dues support four major activities: semi-annual general meetings, a newsletter, a library and special interest groups.

Activities of US.US

US.US holds two general meetings per year, rotated around the country, featuring keynote speeches by members of the Pascal community, tutorials, panel discussions and special interest group meetings. The meetings are very friendly and there is a good sharing of information among the members; I picked up several valuable tips and insights at the last meeting. The next general meeting will be held April 22-24, 1983 in San Diego; the one after on October 14-16 in Washington, D.C. Registration is usually \$35 for members.

A highlight of the general meetings is the SIG meetings. There are a variety of active, computer independent SIGs including Communications, Technical Information, Pascal Language Standards, Publications and so on. And, there are active SIGs concentrated on the major manufacturers: Apple, IBM, Sage, and DEC. The Apple SIG is one of the most active and has benefitted from good, strong leadership in the past. There is a large pool of knowledge available to Apple Pascalers here.

A direct benefit of US.US membership is the newsletter. It is of high quality, including reports of US.US activities, SIG meetings, technical articles, bug reports, product announcements, etc. Unfortunately, the newsletter has been published errati-

cally and has not appeared as frequently as it could have.

Another direct benefit of membership is the library. As of September 1982, the library comprised 17 volumes on standard 8-inch disks. (For benefit of Apple owners, the library is also available on Apple 5 1/4" disks.) Contents include tools, utilities, communications software, data base programs, screen handlers, games, text file handlers, source code for version 1.3 of the system, etc.

US.US also operates a bulletin board on MicroNet called MUS.US. You can get an ID for this board for free if you are a US.US member. Your time on the board is billed to your regular MicroNet account.

Like many another user's group which operates with volunteer help and a limited budget, US.US does have some problems. We mentioned the irregularity of the newsletter. Another problem is how best to serve the general membership, which tends to be quite varied in its interests and experiences. The officers of US.US are aware of these problems and are working hard to improve the services and communications to the members. (I'm perhaps a bit biased in this, since I am an officer of the organization.)

On the whole, I think US.US offers good value and a wealth of information and knowledge to its members. You can contact US.US for more information by writing to:

Secretary
US.US
P.O. Box 1148
La Jolla, CA 92038

With a Little Help

One thing I was able to do at the last US.US meeting was satisfy a curiosity about file information blocks, or FIBs. With a little help from some US.US friends and the US.US library, I was able to convert my newly gained knowledge into a nifty unit for decoding the status of a file during execution.

Consider the process of reading a file from within a program. At compile time we declare an appropriate file variable and include code to open the file, read records, and close the file. For example:

```
VAR
  f: TEXT;
  line: STRING;

BEGIN
  ( open the file for reading )
  reset(f, 'myfile.text');

  (read from the file )
```

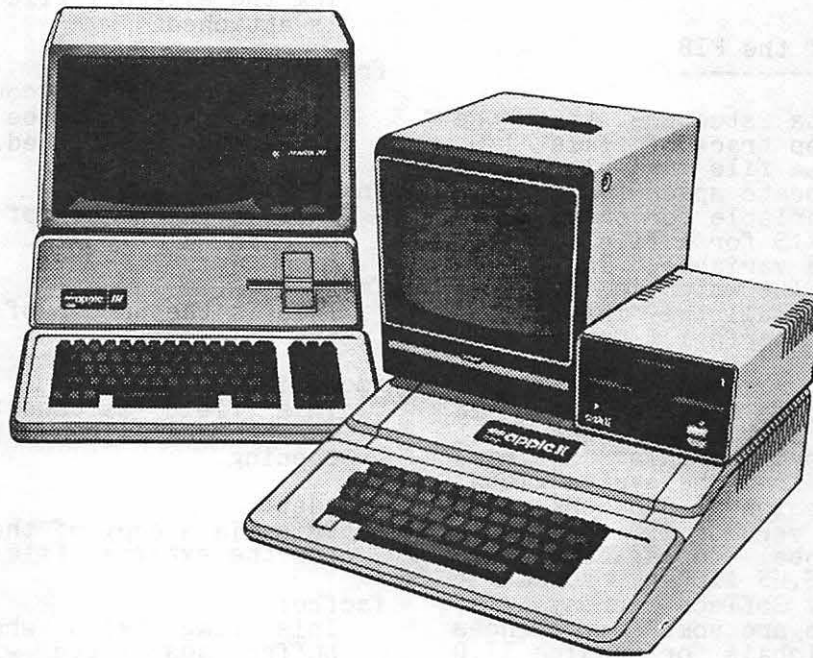
contd.

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```

WHILE NOT eof(f) DO BEGIN
  ( read a line )
  readln(f, line);
  ( write it to the screen )
  writeln(line);
END;

( close the file )
close(f);
END;

```

At execution time the system "attaches" the internal file variable, *f*, to the disk file mentioned in the reset statement and keeps track of the file reading process. Since Pascal files are organized as logical blocks of 512 bytes, this involves keeping track of which block is the current block, which byte within it is to be read next, when and where to fetch the next block, etc.

How does the system do this? Where does it keep track of whether a file is open, where the file is located, which block and byte are current and so on? The answer is the file information block, or FIB. Ah, but what is the FIB and where does it come from?

The What and Where of the FIB

The FIB is the data structure that the system uses to keep track of file I/O. Each declaration of a file variable causes the compiler to allocate space for a file information block variable for that file. In other words, the FIB for a file variable IS the internal file variable. The information stored in a FIB, which is declared as a record, contains all the information the system needs to perform I/O via the attached disk file.

The declarations for a FIB are listed in the implementation section of the unit "file_info" accompanying this article. They were extracted from the system global declarations for version II.0 of the UCSD Pascal system (or version 1.0 of Apple Pascal). These global declarations are published in the US.US library, Volume 8 and are copyright by SofTech Microsystems, Inc. Although there are some differences between the system globals for version II.0 and II.1, they are not germane to our discussion, and they do not affect the functioning of the routines discussed below.

A FIB is a variant record. Let's try to develop some ideas about what the fields mean:

fwindow:

This is the file "window" or file pointer that points to the current record in the file. This is what we normally have access to when doing record I/O.

feof, feoln:

The values of these variables are returned by calls to the intrinsic functions eof(*f*) and eoln(*f*).

fstate:

This field tells whether the file is a standard Pascal file, or an interactive

file and if it is interactive, whether a character has been read or not.

frecsize:

This field tells how big a record in the file is, in bytes, and is used in conjunction with frepct to keep track of I/O.

fisopen:

This field tells whether or not the file is open, i.e., whether it has been attached to an external file or device. Only if the file is open are the remaining fields valid.

fisblkd:

This field tells whether the file is attached to a file on a blocked, i.e. disk, volume.

funitnum:

This is the unit number containing the external file to which the file is attached.

fvid:

This is the name of the volume containing the external file to which the file is attached.

frepcnt:

This is the repeat count, the number of times a record may be read before a new block must be fetched.

fnxtblk:

This is the number of the next block to be read.

fmaxblk:

This is the number of the last block in the file.

fmodified:

This field is used to keep track of whether the file has been updated since opening.

fheader:

This is a copy of the directory entry for the external file.

fsofbuf:

This flag tells whether there is a buffer associated with the file. Recall that untyped file variables do not have such a buffer. Only if this field equals true are the remaining fields valid.

fnxtbyte:

This is the number of the next buffer byte to be read.

fmaxbyte:

This tells the number of valid bytes within the buffer.

fbufchngd:

This tells whether the buffer has been modified.

fbuffer:

This is the 512 byte buffer.

contd.

Getting the Truth from a FIB

Let `f` be a file variable of some type. According to the above, `f` is a FIB by another name. How then do we extract information about `f` from the FIB record? For example, how could we find out whether the file is open and if it is, what disk file it is attached to?

According to the above, it seems we should be able simply to access the fields of the FIB, `f`, directly. For example, to find out whether the file is open, it seems we could simply inspect the `fisopen` field of `f`. If we were to try this, however, we would find it doesn't work. The compiler would flag it as a syntax error on the grounds that `f` is not a record.

Is this a contradiction? Is `f` a FIB record, or isn't it? Well, it is, but the compiler just won't let us get at it in the usual ways. Fortunately, there is a way to get around the compiler. We move the data in `f` to another FIB record, then access the new data! The trick is as follows:

```
VAR
  f: any_file_type;
  fibber: fib;

moveleft(f, fibber, sizeof(fibber));
```

The `moveleft` ships the information in `f` over to the variable `fibber` which is declared to be of type "fib". The variable `fibber` can be accessed like any normal record variable, and the information obtained from it will tell us about the current state of the file `f`. Note that `f` can be a file variable of any type whatsoever. This trick code is used in the procedure "fill_fib" in the implementation section of our unit "file_info".

UNIT file_info

We now have all the tools we need to construct a library unit, "file_info", which returns information for file variables. The routines in the unit are described in the interface so we will not discuss them here.

Note that the actual file variables passed to the routines in the unit may be OF ANY TYPE AT ALL. Therefore, the unit is a general purpose file information unit.

Note also that the implementation of the unit depends on knowing the declarations for the type "fib" and the trick for moving information from a file variable into a fib variable described above. This is dangerous stuff. If the declarations for fibs are changed in a future release of Apple Pascal, the unit, and any programs which use it, may become worthless! CAVEAT EMPTOR!!

PROGRAM test_file_info

The program `test_file_info` is a small program to exercise `file_info`. Its menu is:

```
O(open file
C(close file
S(tatus of file
Q(uit
```

Selecting "O" calls the procedure `f_reset` to open a file `f`. `F_reset` calls `f_open`, in `file_info`, to test whether `f` is already open and if it is, it closes it.

"C" closes the file `f`.

"S" is the meat of the program. It calls all of the procedures in `file_info` to give a status report on `f`.

"Q" quits, and so do I!

Blaise Away! Dr. Wo

contd.

NOTICE OF ERROR IN DECEMBER 1982 ISSUE

In the VF Associates ad on page 11 of the December 1982 WAP Newsletter, the price of the Quentin Drive was erroneously stated as \$225. The price should have been \$245. This error was made by the Editor, not VF Associates. We regret any inconvenience it may have caused.

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```
(S+)
UNIT file_info;
(
```

20 Nov 82

This unit returns information on file variables. It accesses the file information block allocated by the compiler when a file is declared.

The interface of this unit is based on the same unit supplied with version IV.1 of the UCSD P-System. It is source code compatible and functionally identical with that unit.

***** COPYRIGHT NOTICE *****

The implementation of this unit relies on the declarations for file information blocks in the global variables declarations of version II.0 of the UCSD P-System. The declarations are copyright Softech Microsystems, Inc., San Diego, CA. and are published in the USUS software library, Volume 8.

Version II.0 is the same as version 1.0 of Apple Pascal. As far as the author has been able to test, this unit works correctly with version 1.1 of Apple Pascal.

USUS is an organization of P-System users. For information about USUS and its library contact:

USUS
P.O. Box 1148
La Jolla, CA 92038

Tom (Dr. Wo) Wateki, author
814 D. St. N.E.
Washington, D.C. 20002
(202) 547-0984

)

INTERFACE

TYPE

f_file_type = FILE;

f_date_rec = PACKED RECORD
 month: 0..12;
 day : 0..31;
 year : 0..100;
 END;

FUNCTION f_open(var f: f_file_type): BOOLEAN;
(

This function returns TRUE if and only if f is open, i.e. attached to an external file or device.

This function should be called before any of the other routines in the unit since much of the other information is actually meaningless if the file is closed.

If f is closed, the other routines will return the default values specified below.

FUNCTION f_length(var f: f_file_type): INTEGER;
(

Returns the length in blocks of the external file attached to f, provided f is attached to a file on a blocked (disk) volume. Otherwise it returns 0. Should be preceded by a call to f_is_blocked.

)

FUNCTION f_unit_number(var f: f_file_type): INTEGER;
(

Returns the unit number containing the external file to which f is attached. Otherwise, it returns 0.

)

PROCEDURE f_volume(var f: f_file_type; var file_volume: STRING);
(

Returns the name of the volume containing the external file to which f is attached. If the volume name is undefined, it returns a volume id constructed from a unit number, e.g. #3!. If f is closed, it sets file_volume to a null string.

)

PROCEDURE f_file_title(var f: f_file_type; var file_title: STRING);
(

Returns the name of the external file to which f is attached. If f is not open, or if the external file is a volume, it returns a null string.

)

FUNCTION f_start(var f: f_file_type): INTEGER;
(

Returns the block number of the first block of the external file attached to f, provided f is on a blocked volume. Otherwise it returns 0. Should be preceded by a call to f_is_blocked.

)

FUNCTION f_is_blocked(var f: f_file_type): BOOLEAN;
(

contd.

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FIG. TRAVEL TIME/TR DISTRIBUTION

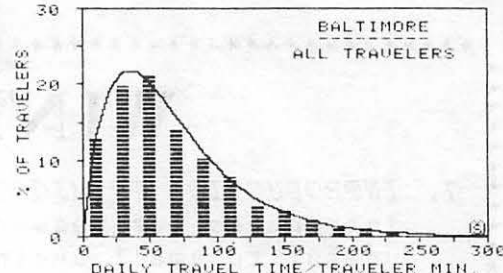
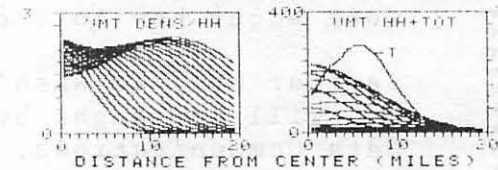
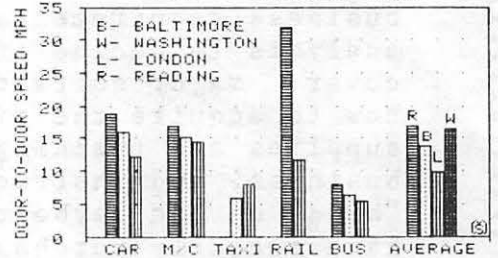
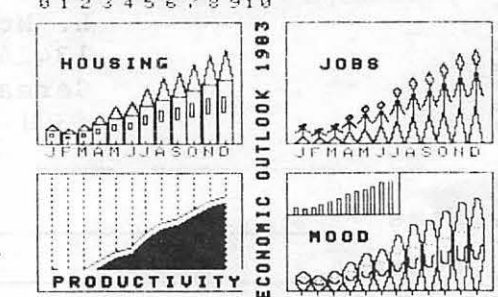
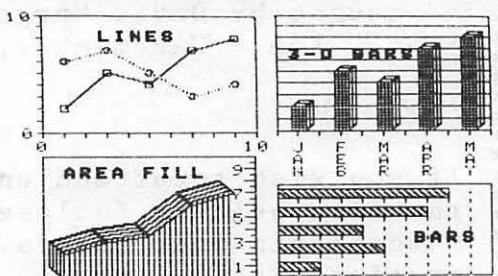


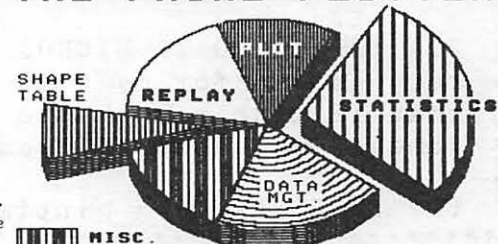
FIG. SPEED BY MODE



REGULAR BOLD HORIZONTAL VERTICAL
 DOUBLE BOLD VARIABLE
 WITH SUPER AND SUBSCRIPT
 THE PRIME PLOTTER DESIGNS
 ROTATION DIAGONAL ROTATION



THE PRIME PLOTTER



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```

END;
END;

FUNCTION f_unit_number( var f: f_file_type ): INTEGER );
VAR
  fibber: fib;
BEGIN
  IF NOT f_open(f) THEN f_unit_number := 0
  ELSE BEGIN
    fill_fib(f, fibber);
    f_unit_number := fibber.funit;
  END;
END;

PROCEDURE f_volume( var f: fib; var file_volume: STRING );
CONST
  colon = ':';
VAR
  fibber: fib;
BEGIN
  IF NOT f_open(f) THEN file_volume := ''
  ELSE BEGIN
    fill_fib(f, fibber);
    IF (length(fibber.fvid) > 0) THEN file_volume := concat(fibber.fvid, colon)
    ELSE ( volume name is not defined )
    IF (fibber.funit = 0) THEN file_volume := ''
    ELSE ( convert unit number to vol id ) BEGIN
      CASE fibber.funit OF
        1 : file_volume := '1';
        2 : file_volume := '2';
        3 : file_volume := '3';
        4 : file_volume := '4';
        5 : file_volume := '5';
        6 : file_volume := '6';
        7 : file_volume := '7';
        8 : file_volume := '8';
        9 : file_volume := '9';
        10: file_volume := '10';
        11: file_volume := '11';
        12: file_volume := '12';
      END;
      file_volume := concat('#', file_volume, colon);
    END;
  END;
END;

PROCEDURE f_file_title( var f: f_file_type; var file_title: STRING );
VAR
  fibber: fib;
BEGIN
  IF NOT f_open(f) THEN file_title := ''
  ELSE BEGIN
    fill_fib(f, fibber);
    WITH fibber.fheader DO
      IF dfkind IN [ securedir, untypedfile ] THEN file_title := ''
      ELSE file_title := dtid;
    END;
  END;
END;

FUNCTION f_start( var f: f_file_type ): INTEGER );

```

```

VAR
  fibber: fib;
BEGIN
  IF NOT (f_open(f) AND f_is_blocked(f)) THEN f_start := 0
  ELSE BEGIN
    fill_fib(f, fibber);
    f_start := fibber.fheader.dfirstblk;
  END;
END;

FUNCTION f_is_blocked( var f: f_file_type ): BOOLEAN );
VAR
  fibber: fib;
BEGIN
  fill_fib(f, fibber);
  f_is_blocked := fibber.fisblkd;
END;

PROCEDURE f_date( var f: f_file_type; var file_date: f_date_rec );
VAR
  fibber: fib;
BEGIN
  IF f_open(f) AND f_is_blocked(f) THEN BEGIN
    WITH fibber.fheader DO
      IF NOT (dfkind IN [ untypedfile, securedir ])
      THEN file_date := daccess;
    END;
  END;
BEGIN
END.

($S+)
PROGRAM test_file_info;
USES
  ($U FILE.INFO.CODE )
  file_info;
TYPE
  ffile = FILE;

  sc_char_set = SET OF CHAR;

VAR
  f: ffile;
  ch: CHAR;
  match_set: sc_char_set;

PROCEDURE sc_clr_screen;
  ( clear the screen, home the cursor. )
BEGIN
  write(chr(12));
END;

FUNCTION sc_space_wait( flush: BOOLEAN ): BOOLEAN;
  ( Read from the keyboard until a space or the altmode character
  is typed. Return TRUE if and only if a space is NOT typed (still
  waiting for space). Clear the type ahead buffer if flush
  is TRUE. )

```

contd.

Returns TRUE if and only if the external file to which f is attached is on a block structured (disk) unit.

)

PROCEDURE f_date(var f: f_file_type; var file_date: f_date_rec);

(

Returns the date of last access to the external file attached to f. Otherwise, file_date is unchanged.

)

IMPLEMENTATION

(***** COPYRIGHT NOTICE *****)

(The following data declarations are copyright
by Softech Microsystems, Inc.)

CONST

maxdir = 77;
maxunit = 12;
vidlens = 7;
tidlens = 15;
fblksize = 512;

TYPE

daterec = PACKED RECORD
month: 0..12;
day: 0..31;
year: 0..100;
END;

unitnum = 0..maxunit;

vid = string[vidlens];
tid = string[tidlens];

filekind = (untypedfile,
xskfile,
codefile,
textfile,
infofile,
datafile,
graffile,
fotofile,
securedir);

dirrange = 0..maxdir;

direntry = PACKED RECORD
dfirstblk: INTEGER;
dlastblk: INTEGER;
CASE dfkind: filekind OF
securedir,
untypedfile:
(filler1: 0..2048;
dvid: vid;
deovblk: INTEGER;
dnumfiles: dirrange;
dloadtime: INTEGER;

dlastboot: daterec);
xskfile,
codefile,
textfile,
infofile,
datafile,
graffile,
fotofile;
(filler2: 0..1024;
status: BOOLEAN;
dtid: tid;
dlastbye: 1..fblksize;
daccess: daterec);
END;

window = fwindow;

window = PACKED ARRAY[0..0] OF CHAR;

fib = RECORD

fwindow: window;
feof, feoln: BOOLEAN;
fstate: (fjandw, fneedchar, fsofchar);
frcsize: INTEGER;
CASE fisopen: BOOLEAN OF
TRUE: (fisblkd: BOOLEAN;
funit: unitnum;
fvid: vid;
frcpnt,
fnxtblk,
fmaxblk: INTEGER;
fmodified: BOOLEAN;
fheader: direntry;
CASE fsofbuf: BOOLEAN OF
TRUE: (fnxtbyte, fmaxbyte: INTEGER;
fburchnsd: BOOLEAN;
fbuffer: PACKED ARRAY[0..fblksize] OF CHAR);

END;

PROCEDURE fill_fib(var f: f_file_type; var fibber: fib);

BEGIN
moveleft(f, fibber, sizeof(fibber));
END;

FUNCTION f_open(var f: f_file_type): BOOLEAN;

VAR
fibber: fib;
BEGIN
fill_fib(f, fibber);
f_open := fibber.f_is_open;
END;

FUNCTION f_length(var f: f_file_type): INTEGER;

VAR
fibber: fib;
BEGIN
IF NOT (f_open(f) AND f_is_blocked(f)) THEN f_length := 0
ELSE BEGIN
fill_fib(f, fibber);
f_length := (fibber.fheader.dlastblk - fibber.fheader.dfirstblk);

contd.

```

CONST
  space = ' ';
  altmode = 27;
VAR
  ch: CHAR;
BEGIN
  IF flush THEN unitclear(1);
  write('Press <space> to continue ');
  REPEAT
    read(Keyboard, ch);
  UNTIL (ch IN [ space, chr(altmode) ]);
  sc_space_wait := (ch = chr(altmode));
END;

PROCEDURE sc_getc_ch(VAR ch: CHAR; return_on_match: sc_char_set);
  ( read from the keyboard until a character in return_on_match
  is typed. Capitalize all lower case letters. )
BEGIN
  REPEAT
    read(Keyboard, ch);
    IF (ch IN [ 'a'..'z' ]) THEN ch := chr(ord(ch) - ord(' '));
  UNTIL (ch IN return_on_match);
END;

PROCEDURE f_status(VAR f: ffile);
  ( Return the "status" of f. )
VAR
  vid, tid: STRING;
  date: f_date_rec;
BEGIN
  sc_clr_screen;
  gotoxy(0,5);
  IF NOT f_open(f) THEN writeln('File is closed.')
  ELSE BEGIN
    writeln('File is open. ');
    writeln;
    writeln('    unit number: ', f_unit_number(f));
    write('    blocked: ');
    IF f_is_blocked(f) THEN writeln('TRUE')
    ELSE writeln('FALSE');
    f_volume(f, vid);
    writeln('    volume: ', vid);
    f_file_title(f, tid);
    writeln('    title: ', tid);
    writeln('    length: ', f_length(f));
    writeln('    start block: ', f_start(f));
    IF f_is_blocked(f) THEN BEGIN
      f_date(f, date);
      WITH date DO BEGIN
        write('    month: ', month);
        write('    day: ', day);
        writeln('    year: ', year);
      END;
    END;
    writeln;
  END;
  IF sc_space_wait(TRUE) THEN ( do nothing );
END;

```

```

PROCEDURE f_reset(VAR f: ffile);
  ( Open f. If it's already open, close it first. )
VAR
  fid: STRING;
BEGIN
  sc_clr_screen;
  gotoxy(0,5);
  IF f_open(f) THEN close(f);
  write('File name? ');
  readln(fid);
  ($I-);
  reset(f, fid);
  ($I+);
END;

PROCEDURE main_menu;
BEGIN
  sc_clr_screen;
  gotoxy(0,5);
  writeln(' O(Open file)');
  writeln;
  writeln(' C(close file)');
  writeln;
  writeln(' S(status of file)');
  writeln;
  writeln(' Q(quit)');
  writeln;
  write('select --> ');
END;

BEGIN
  match_set := ['O', 'C', 'S', 'Q'];
  REPEAT
    main_menu;
    sc_getc_ch(ch, match_set);
    CASE ch OF
      'O': f_reset(f);
      'C': IF f_open(f) THEN close(f);
      'S': f_status(f);
    END;
  UNTIL (ch = 'Q');
  writeln('That''s all folks!');
END.

```

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:

| Host | Area | Phone | Date/Time | Date/Time | Leader Needed |
|-----------------|--------------|--------------|--------------|--------------|---------------|
| Bob Hanson | Frederick | 662-6697 | Jan 13/7:30 | Feb 10/7:30 | Y |
| Walton Francis | Chevy Chase | 245-0291 | Jan 14/8-10 | | N |
| Sue Roth | McLean | 356-9025 | Jan 13/8-10 | Feb 12/10-12 | Y |
| Scott Rullmann | Bladensburg | 779-5714 | Jan 15/7:30 | | N |
| John Henry | Georgetown | 625-7633 | Jan 6/7:30 | | Y |
| Rollande Robert | Annandale | 256-4121 | Jan 21/9:30 | | Y |
| Dave Harvey | Arlington | 527-2704 | Jan 15/8-10 | | |
| Ginny Spevak | Chevy Chase | 362-3887 | Jan 9/8-10 | | Y |
| Robert Wood | McLean | 893-9591 | Jan 6/8-10 | | |
| Donna Campbell | Rockville | 424-5069 | | | |
| Joe Fuchs | Adelphi | 434-6756 | Jan 15/7:30 | | N |
| H. Phelps | Greenbelt | 345-0355 | Jan 14/8-10 | | Y |
| Doug Richard | Fairfax | 323-1027 | Jan 6/8-10 | | Y |
| Robert Boyle | Carlisle Pa. | 717-245-0030 | | | |
| Al Weiner | Wheaton | 946-2585 | Jan 11/8-10 | | N |
| Dick Sanderson | Rockville | 983-9419 | Dec 19/ | Jan 16/ | |
| B&D Acton | Gaithersburg | 428-3605 | Jan 23/1-3 | | N |
| Judy Fite | Fairfax | 691-1082 | Jan 29/3-5 | | Y |
| E&M Kelty | Bethesda | 229-5639 | Jan 9/7:30 | | Y |
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SPEAKING OF FORTH: COMPILATION AND EXECUTION

by Bill Wurzel

(Ed. Note: This is the second article of a series. The first article, "Speaking of Forth: Getting Started with FIG-Forth" appeared in the December 1982 issue of WAP.)

Consider these two lines of keyboard input:

```
2 3 + .  
: TEST 2 3 + . ;
```

The first line is executed immediately: it places a 2 on the stack, places a 3 on the stack, adds the top of stack number (TOS - in this case 3) to the next on stack number (NOS - in this case 2), and finally prints out the new TOS (in this case the resulting sum). The first line outputs a 5 immediately. The second line defines a new Forth word TEST which, when executed will carry out the above steps. The result of the second line, then, is the creation of a new word TEST in the Forth dictionary consisting mainly of a series of addresses of machine code which will be executed when the word TEST is executed. Consider the symbol '+', for example. It is presented to the same Forth outer interpreter once in the first line and once in the second. But the action the interpreter must take is different: in the first case it must execute the '+' word; in the second case it must compile the code field address of the '+' word into the definition of TEST. In order to know which of these actions to take, the interpreter looks at a variable called STATE, which tells the interpreter whether it is executing or compiling. Understanding the difference between execution and compilation is crucial to understanding Forth. The distinction becomes difficult to maintain when we learn that:

1. There are some words in Forth which are always executed immediately, even when the interpreter is in the compile state (and, to confuse matters even more, this immediate execution can be overridden).

2. There are other words in Forth which, if used in a colon definition by their very nature ensure that the word so defined must itself only be used within a colon definition - it cannot be directly executed.

3. At times we may want to execute a Forth word from within a colon definition when that word would ordinarily be compiled into the definition.

This is heady stuff; let's look at some examples...

EXAMPLE #1

First, let's define a word HEXOUT which prints the TOS in hexadecimal no matter what the current number base is:

```
: HEXOUT BASE @ SWAP HEX . BASE ! ;
```

'BASE @' puts the current number base onto the stack, 'SWAP' then puts the number to be output on top of the stack, 'HEX .' sets the hexadecimal number base and outputs the TOS. The old number base is now the TOS and 'BASE !' puts this number back into BASE as the new number base. So far so good. Now let's try a Forth word to multiply the TOS by a hexadecimal 101, add a hexadecimal 60 to the product and output the result:

```
: TRYWORD BASE @ SWAP HEX 101 * 60 + .  
BASE ! ;
```

If we are in DECIMAL (or any nonHEX base) when this word is defined, it doesn't work right. The reason is that we want the numbers 101 and 60 to be interpreted in hexadecimal at the time TRYWORD is defined but the word HEX isn't executed until TRYWORD is executed - and by then it's too late. We need some way to tell the Forth compiler to execute the word HEX immediately, not compile it into TRYWORD's definition. Similarly, the 'BASE @' and 'BASE !' sequences must be executed immediately, not compiled. The Forth words '[' and ']' let us turn the compilation mode off and on -- exactly what we need! (Since Apples without 80 column boards can't generate these characters, the WAP FIG-Forth supports the words '(*' and '*')' to accomplish the same thing.) When the interpreter encounters '[' or '(*', it is placed into the execution mode and subsequent words are executed, not compiled. When the ']' or '*')' is later encountered, the compilation mode is resumed. So, changing TRYWORD accordingly:

```
: GOODWORD (* BASE @ HEX *) 101 * 60 +  
. (* BASE ! *) ;
```

EXAMPLE #2

Suppose, instead of typing '(* BASE @ HEX *)' every time we want to change bases within a colon definition, we define two new words to do this work for us:

```
: BASE16 (* BASE @ HEX *) ;  
: OLDBASE (* BASE ! *) ;
```

Both these definitions get us error message #14 (hex) ('DEFINITION NOT FINISHED'). But the definition certainly looks finished! What happened was this: There are certain Forth words (called "immediate words") which the interpreter will execute immediately upon encountering them - even if it is compiling at the time. '(*' must be an immediate word since its effect - to place the interpreter into execution status - must take place as soon as it is encountered. This is the problem. We want each word of BASE16 (including '(*' to be compiled into its definition so we can execute it later from another colon definition.

contd.

What we need is some way to tell the interpreter to compile an immediate word instead of executing it. The Forth word '[COMPILE]' does exactly this! (Again, to support Apples without the capability to generate brackets, '[COMPILE]' has an alias '(*COMPILE*)' in WAP FIG-Forth). '(*COMPILE*)' tells the interpreter to compile the next word in the input line even if it is an immediate word.

(If you haven't dropped off to sleep by now, you may be wondering why compiling BASE16 generated an error message since the body of the word looks legal, even if it wasn't what we intended. The error results from a feature of FIG-Forth called "compiler security." This means that when the interpreter encounters the ':' beginning a colon definition, it makes a note of the current stack size. When it gets to the ';' which ends the colon definition it compares the stack size with what it was initially. When functioning normally, the compiling interpreter should leave the stack in the same condition it found it, so if the stack sizes before and after compilation are not equal, the interpreter concludes that something must be wrong and issues the DEFINITION NOT FINISHED message. Since the definition of BASE16 caused the current number base to be stacked at compile time, the stack size was one number larger after compilation than before - hence the error message.)

So let's try the new definitions:

```
: BASE16 (*COMPILE*) (* BASE @ HEX *) ;
: OLDBASE (*COMPILE*) (* BASE ! *) ;
```

A little reflection (or maybe a quick trial) reveals that we still have a problem. When we use these words within a colon definition, they will be compiled into the definition instead of being executed immediately. We need some way to tell Forth that these words are immediate words. The Forth word to do this is (strangely enough) 'IMMEDIATE'. This word, when executed outside a colon definition, causes the most recently defined word to be marked as an immediate word. (The word 'IMMEDIATE' is not itself immediate - so it must be used OUTSIDE a colon definition. Inside the definition it would be compiled...) (In case you're interested - a word is recognized by the interpreter as being immediate if its precedence bit is set. The precedence bit in FIG-Forth is the bit just to the right of the leftmost bit of the low order byte of the name field - more on dictionary structure later.) So, we arrive at the final definitions:

```
: BASE16 (*COMPILE*) (* BASE @ HEX *) ;
IMMEDIATE
: OLDBASE (*COMPILE*) (* BASE ! *) ;
IMMEDIATE
```

We'll finish discussing compilation and execution with a third example next month.

Some people have asked how to save a version of Forth to disk after they have added new words to the dictionary. The following two words will do it. ADDNEW updates the coldstart parameters so that when the new version is run, the interpreter knows about

the added words. FORTHSAVE then actually saves the new version to disk.

```
: ADDNEW (* BASE @ DECIMAL *)
LATEST 12 +ORIGIN !   HERE 28 +ORIGIN !
HERE 30 +ORIGIN !   HERE FENCE !
VOC-LINK @ 32 +ORIGIN !
(* BASE ! *) ;

: FORTHSAVE (* BASE @ HEX *)
4 EMIT ." BSAVE " BL WORD COUNT
TYPE ." ,A$800,L$"
HERE 800 - 1+ . CR CR
(* BASE ! *) ;
```

For example, to save a version of Forth to a disk in drive two under the name NEW-FORTH, type:

```
ADDNEW FORTHSAVE NEWFORTH,D2
```

Enjoy - and may the Forth be with you! ☺

LETTER TO THE EDITOR

Dear Editor,

Enclosed is a copy of the letter from Digital Acoustics which I mentioned to you on the phone the other day. The background is that I had written the company about their Motorola 68000 peripheral board attachment for the Apple. They sent me back some cutouts from their "newsletter" with a suggestion that I subscribe to their letter. I wrote again with a list of about 8 questions concerning technical details of their product and expressed an interest in purchasing it. Their response was this gem! I thought it might make a nice addition to the Pi as a chuckle. Either they have a helluva good product to get away with this kind of PR, or they are fools.

Peter Rosden

From Digital Acoustics, Inc., 1415 E. McFadden, Santa Ana, CA 92705 to Peter E. Rosden:

Dear Peter:

I am in receipt of your letter of May 21 in which you ask a large number of questions. You apparently feel that we are going to take the time to individually answer in detail, letters of this kind. However, you are wrong!

In the sample copy you received, there was a pointed suggestion that if you wanted additional information we would happily sell it to you for the price of \$15 per six issues. The 10th issue is going to print this week.

You no wanna pay, you-a go away!

Very sincerely,

(signed)
Hal W. Hardenbergh, President
Digital Acoustics, Inc. ☺



***Seasons
Greetings***

THE BOTTOM LINE

by Leon H. Raesly



This month I wish to describe the dual use of a data base and a word processor. The example that I will use will be for a 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). All this can be done from a single entry into a data base, using a word processor to produce the billing and reminder notices automatically from the data base.

There are many combinations of DB's (data bases) and WP's (word processors) that will work. What is needed is that the DB MUST be a sequential text file, and you must know the order of the data. In addition, the DB must file only the field data (the information you added, or entered, in each field after you set up the DB), and the field labels must be in a separate file. Since many of the commercially available DB's do this, many can be used. Incidentally, this is one requirement we have used at our organization as a primary criterion for a DB before we will purchase it. The one that I will use as my example is Data Perfect, by LBJ Enterprises, Saint Louis, Missouri (314-846-6124). Its retail price is \$95, and it is a fast machine language program designed for one drive. The one drive feature is not a limitation, and I will cover that in a future article.

The WP MUST be transparent to the DB, i.e. there must be some method built into the WP program to access the DB. There are many that will do this, however most are limited to their own DB, or an address list module. The address list modules are really too limited for an Accounts Receivable/Billing system. Some that I have used are Pie Writer, Super Text II, Word Star, and Letter Perfect. The one that we have settled on is Letter Perfect, also by LJK Enterprises, address above. The cost is \$150. We use this one because they provide direct and easy access to their own DB, in a very simple manner. Also, they have provided a short seven-line program in Basic to write the Header you need for any other text file DB. Interestingly enough, Letter Perfect itself can also be used to write its own data base, hence is flexible enough to be used as a DB program itself! I will use Letter Perfect as the WP in my example.

First you must set up the data base. There are several special fields that you need to use in this application, and I will describe them for you, and then show how they are used. First is the Key field. This is field zero (0), and is used to identify the record that you want to print. I will discuss how to use this field further in the WP section of this article. The second field should be the record number field (you could label it REC#), and should be 4 characters in size. In this field you enter the record number, which is usually shown on the screen. Thus, you have a

unique field which is different for every record. For this example, this provides immediate access during the entering of payment data, usually done as a search in the edit mode of a data base. Next, you need a special single character field, to record the age of the invoice. This should be a numeric field, with 1 standing for 30 days (1 month) old, 2 for 60 days, etc. A zero (0) in this column stands for an account that has been fully paid. This field is updated once a month using a global search/replace function. A one (1) would become a two (2), a two (2) becomes a three (3), etc. Since you have entered payment received on a daily or weekly basis during the month, any invoice paid in full would have a zero (0) in this column, and the global search/replace process would not change them. You can now sort based on this field, and select for printing those records which have values other than zero in this column. By this means, you are printing an aged accounts receivable list!

Next we use a date code field, then two regular type date fields. The date code we use is the last digit of the year, and the numerical order of the month, separated by a decimal point. Thus, December, 1983 becomes 3.12 in "date code". This field is used for rapid computation of the delay in receiving payment for that account, thus providing information concerning the overall payment delay for your organization. It answers the question, "How long, on the average, does it take us to get paid for our invoices?" The first standard style date field is used to record the date of the invoice, and the second one the date of the payment. Then you need three dollar fields; usually 7 characters total will provide billing amounts to \$9999.99. If you need a larger field, make it a suitable size to fit. The first is the amount of the invoice, the second the amount of the payment, and the third is the balance (if any). If your DB allows it, this third field would be a computed field, being the result of field 6 minus field 7.

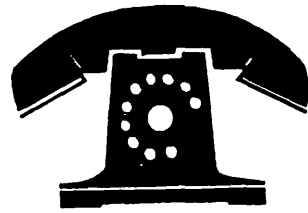
The last two fields of the primary data would be the "Z" field, and the Customer ID Code field. The "Z" field is a single character field, and is used only once, the first time a new customer has an order. You would place a Z in this field that time only. Any other time you would skip this field. Thus, each customer has only one record which has a Z in the "Z" field. This can then be used as a search field to print a directory of customers, a set of mailing list labels, or a customized letter with the WP. The next field is the CIC (Customer ID Code). Here we use an eight character alphanumeric field. Since Data Perfect has the ability within the DB to write either upper or lower case characters, and to distinguish between them, plus the ten numbers, as well as ten more special escape activated symbols, we have

contd.

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- Money order, certified check, cashier's check or bank wire deposit accepted.
- Include full telephone number on all mail orders.
- Include \$2.50 for postage and handling per software shipment (UPS).
- DC residents add 6% tax (if tax exempt, include number).



| Description | List \$ | Sale \$ |
|----------------------|---------|---------|
| NEW GAMES | | |
| Tunnel Terror | 29.95 | 21.95 |
| Fore! | 29.95 | 21.95 |
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| Danger | 19.95 | 14.95 |
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| Choplifter | 34.95 | 26.95 |
| Pig Pen | 29.95 | 21.95 |
| Death Race 82 | 29.95 | 21.95 |
| Deadly Secrets | 34.95 | 26.95 |
| Hardhat Noah | 29.95 | 21.95 |
| Sea Fox | 29.95 | 21.95 |
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| Space Cadet | 34.95 | 26.95 |
| Crazy Mazey | 29.95 | 21.95 |
| Mars Cars | 29.95 | 21.95 |
| Freefall | 29.95 | 21.95 |
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| Phaser Fire | 29.95 | 21.95 |
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| New SSI | | |
| Cytron Master | 39.95 | 29.95 |
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| Guadalcanal Campaign | 59.95 | 49.95 |
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| Borg | 29.95 | 21.95 |
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| Deadline | 49.95 | 39.95 |
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| Russki Duck | 34.95 | 26.95 |
| Snack Attack | 29.95 | 21.95 |
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| The Artist | 79.95 | 59.95 |
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| GraForth II | 75.00 | 59.95 |
| APPLE III | | |
| Versaform III | 495.00 | 389.00 |
| PFS III | 175.00 | 134.95 |
| PFS: Report III | 125.00 | 94.95 |
| EASy | 725.00 | 529.95 |
| Link Index | 195.00 | 149.95 |
| VisiCalc Advanced | 400.00 | 329.95 |

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|----------------------------------------------------------------|----------|----------|
| HARDWARE | | |
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| Davong 5mb hard disk Includes cables, card and software: | 1,995.00 | 1,495.00 |
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| Prism 132 | 1,696.00 | 1,395.00 |
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| Buffered Interface Graphic Cards | | |
| Epson — 16k | 259.00 | 209.95 |
| PC8023 — 32k | 299.00 | 239.95 |
| IDS — 32k | 299.00 | 239.00 |
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| 12" green: 15MHz a best value | 99.00 | 87.95 |
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| ML83A | 995.00 | 745.00 |
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| PC-8023 | 645.00 | 479.95 |
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| Description | List \$ | Sale \$ |
|------------------------------------------|---------|---------|
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| Data Managers | | |
| dBASE II with ZIP | 700.00 | 459.95 |
| DB Master | 229.00 | 149.95 |
| Utility pac #1 | 99.00 | 74.95 |
| Utility pac #2 | 99.00 | 74.95 |
| General Manager | 149.95 | 119.95 |
| PFS | 95.00 | 74.95 |
| PFS: Report | 125.00 | 94.95 |
| PFS: Graph | 125.00 | 94.95 |
| Versaform II | 389.00 | 289.95 |
| Versaform II — Hard disk | 495.00 | 379.95 |
| VisiFile | 250.00 | 179.95 |
| Accounting | | |
| Accounting Plus | 425.00 | 299.95 |
| Accu-Ledger | 495.00 | 379.95 |
| Business Bookkeeping System | 395.00 | 294.95 |
| E-Z Ledger | 60.00 | 44.95 |
| General Ledger w/Payables | 495.00 | 379.95 |
| Payroll | 395.00 | 294.95 |
| Receivables | 495.00 | 379.95 |
| Financial Modeling & Planning | | |
| Asset Manager | 200.00 | 149.95 |
| Budget Planner | 150.00 | 119.95 |
| Business Forecasting Model | 100.00 | 79.95 |
| CalcStar | 195.00 | 114.95 |
| Desktop Plan II | 250.00 | 179.95 |
| SuperCalc | 295.00 | 199.95 |
| VisiCalc 3.3 | 250.00 | 179.95 |
| VisiTrend/Plot | 300.00 | 219.95 |
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| Executive Briefing System | 199.00 | 139.95 |
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| Time Manager | 150.00 | 119.95 |
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seventy-two uniquely different characters which we can use. Within the CIC the first four positions are used to indicate special information, the last four digit are assigned as a unique number. The first character is used to designate geographic area, the second to indicate size of company, the third the credit rating, and the fourth to indicate the volume of last year's purchases. The last four digits are numerical. We have four positions, so we can have up to nine thousand, nine hundred and ninty-nine customers (9999). If you need more than that, you are probably already on a mainframe, and not reading this article anyway!

Within this set of numbers, we also assign certain values to each letter of the alphabet. 0001 to 0200 is A, etc. If the name of the customer begins with A, then they are assigned the next available number in the A group. Thus, if the top of an invoice were torn off, we could still identify which letter of the alphabet within which their file is located, a considerable savings in time compared to having to search every file! Since each customer record would be printed with the CIC, by looking at it we know where they are, what their credit rating is, and how large they are. This also saves considerable time.

The next six (6) fields complete the data base. They are: company name, address, city, state, zip, and telephone number (which is only placed in the file once - in the "Z" record!). Thus you would have seventeen (17) fields, and the best order to arrange them in would be this:

- 0-Key field
- 1-Record number field
- 2-Aging field
- 3-Date code field
- 4-Date of invoice field
- 5-Date of payment field
- 6-Amount of invoice 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.

This completes setting up the data base for these multi-purposes. Next month I will cover how to use it, both within the normal functions of the DB, as well as some of the special uses, and the procedures for using them. I will also cover the procedures of using the DB with the WP.

WAP BUSINESS SIG REPORT

The November meeting had forty-one people attending, and featured an open sharing by the people of their different applications. This discussion was chaired by Ralph Hallen and me. Each person introduced him/herself and told us how s/he have had an Apple, and what programs s/he use, and for what purpose. One thing that became obvious was that there are two groups: those that have

had an Apple eighteen (18) months or more (about one third of the group) and those that had had their Apple less than six (6) months (about two thirds of the group).

The special December workshop was hosted by John New (and held at his house). Among the 28 present were Dr. Ernest Forman and Mary Ann Forman of Decision Support Software, McLean Va. John had two Apples at the workshop, one used for the personal version of The Accountant (list price \$120; WAP has four on hand at the time of this writing) and the other in a separate room, for the business version (list price \$295, available from your dealer). Ernest and Mary Ann answered many questions concerning the use of the programs, and they gave an introductory demonstration for those that were interested. In addition, there was much interaction between current users of these programs. Thanks to you, John, and your wife, for the meeting. Thanks also to Ernest and Mary Ann for sharing their time and knowledge.

As I mentioned last month, there will be no December meeting because of the swap fest. In January, plans are firming up for a presentation by users of both Howard Soft's tax program and the other major one (I am embarrassed to say that I cannot recall it, and can not locate anybody that knows its name, but in any case we have been promised a knowledgeable user of this mystery program!). Also scheduled is a program to provide attendees an opportunity to share experiences with the various tax programs. It looks like a good, timely meeting, so mark it on your calendar now.

In February, John is scheduling a meeting on the various stock programs. Next month I shall report a more detailed agenda. In the works for February or March is a special four-to-six hour hands-on workshop, including one or two hours on data base programs, word processors, stock programs and specialized applications. More on this as John and his group firm up their plans.

As I mentioned in the last column, please send me the applications that you have for VisiCalc, and a short description of their use. I am compiling this for general information in a future column. Send them to me care of our Washington Apple Pi P. O. Box listed elsewhere. Thanks for listening.

Q & A contd. from pg 16

A. The difference between a disk emulator and a semidisk seems to be an arbitrary distinction by the manufacturers. A disk emulator is usually considered to be a card containing RAM memory that is plugged into the Apple to provide the equivalent of disk storage in RAM memory. The term "semidisk" appears to be used with devices containing RAM memory that are external to the Apple. They both perform the same function and are probably compatible with most everything that runs using standard Apple DOS. There may be a few problems with some utility programs or programs that modify DOS. However, most copy protected programs WILL NOT work with these types of devices.

HOW ABOUT A U/L CHIP

by Tom Van Flandern

What is a lower case chip, and do you need one? A lower case chip replaces an existing chip in your APPLE and provides a character generator for lower case characters, with the result that you can use both upper and lower case letters on your text screens. While prices have been prohibitively high until now, JSK ASSOCIATES is one of several new companies marketing these handy chips for less than \$35 retail. Nonetheless, they are still not for everyone. In this article I will try to describe enough about what it can and cannot be used for to enable you to decide if the investment is worthwhile for you.

Perhaps the first consideration is that you must have a recent vintage APPLE to use one of these chips. Only revision 7 and later motherboards (marketed since March 1981) have the "ROM SPCL" chip which this one replaces. The chip goes at location A5 on the motherboard (under the keyboard), and older APPLES on which the change cannot be made have a chip marked "2513" at that location. You will probably need to remove the case to see this chip, unless you use a mirror, since it is under the keyboard.

A second consideration is the resolution of your viewing screen. Lower case characters are smaller than upper case, and if your TV already has poor resolution, the new characters will be even tougher to read. A high resolution TV like a Sony and most monitors give excellent readability.

If you're still with us, the next consideration is that the lower case characters in the chip are not automatically available, but do require software to bring them up. You can of course write your own; but examples of existing software which allow utilization of U/L case are Apple Writer I & II, Super Text II, Data Capture IV, and Program Line Editor. Even here some reservations are in order. In Apple Writer I there is no option to change back and forth from all upper case on the screen (with highlighting for capitals) to mixed U/L case text. This means that existing files written without the new chip will look strange when displayed on your screen (printing is unaffected). Letters are unchanged, but numbers and punctuation marks may have alternate characters substituted. This does not occur for Apple Writer II. Likewise, Super Text now comes in a 40/56/70 column version which, like Screenwriter II, gives U/L case text on the Hi-res screen, eliminating the need to use a special hardware chip. The character set in the chip is, however, more legible, since it uses true descenders, whereas Super Text does not. Descenders mean that certain letters (g, p, y) have tails which extend below the text line.

How do you change between upper and lower case with the chip installed? That is a function of the software. For example, in

Apple Writer you would still hit the ESC key first. However it is possible to do a "shift key modification" independently of the chip, which will permit the shift key on your APPLE to operate as it would on a typewriter. Instructions for doing this easy one-wire modification are widely available, or your dealer will be glad to do it for you for a nominal fee. It consists simply of joining the second pin from the right between the two boards under your keyboard to pin 4 in the game I/O socket.

If you have an 80-column board, it already has a lower case character generator, and you aren't likely to need another one for your 40-column text screen.

I found the JSK ASSOCIATES chip, which came with complete instructions, easy to install. It gives excellent performance and an attractive, legible character set. They also advertise custom character sets, such as Greek or all inverse. My only reservation about their product is that after about a dozen phone calls, I found them unwilling to return my calls or to reply to inquiries. But the chip works, and the price is right! If you have need of the conveniences it offers, I recommend it. ☺

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THE CP/M SIG LIBRARY DISKS

by Dave Neumann

This is a short explanation of the contents of the library disks that have been assembled by the CP/M SIG. Most of these public domain programs are usually quite well documented, and full documentation for the various programs is included on each disk. They have been collected from various sources by Jim Harvison, Charles Franklin, and me. Since bulletin boards seem to be a popular way for CP/M users to trade public domain software, we are lucky to have an especially good local Remote CP/M (RCPM) Bulletin Board System:

Laurel
RCPM/SBBS
Laurel, Maryland
(301) 953-3753 (300 baud)
Wayne Hammerly, SYSOP

We are always looking for more programs and encourage WAP members to contribute any public domain software to which they have access. We are gradually acquiring the CP/M Users Group library in Apple format, and will put the latest versions of the most useful programs into the WAP library. Anyone who has converted any Applesoft programs to run with MBASIC under CP/M is encouraged to submit the program for inclusion in the CP/M library. Send your contributions either to the WAP library committee or to me, David Neumann, CP/M SIG Chairman.

=====

Library disk CPMSIG01

| | | | |
|---------|-----|------------|-----|
| CATALOG | TXT | : CATALOG | DOC |
| FMAP | COM | : FMAP | DOC |
| READ | ME | : CPMSIG01 | DOC |
| CAT | COM | : UCAT | COM |
| MAST | CAT | : CAT2 | COM |

This disk contains a group of programs to create a master catalog of your disks. A file of the filenames is created and merged with the master file. The master file can then be searched using wildcard characters. The main part of the disk is taken up by the catalogs of the disks distributed by the CP/M USERS GROUP. The disks can be ordered in Apple format from the company advertised on the disk. However, we are attempting to get them through the local CP/M users group. Jim Nielsen is the Apple librarian for that group.

=====

Library disk CPMSIG02

| | | | |
|----------|-----|------------|-----|
| UNSP32 | DOC | : NEWSP | COM |
| SQUEEZER | DOC | : SQ-15 | COM |
| ROFF | DOC | : ROFF | COM |
| APLXFR | DOC | : APLXFR | COM |
| CPMSIG02 | DOC | : PASTOCPM | DOC |
| USQ-15 | COM | : FLS-11 | COM |
| PASTOCPM | ASM | : PASTOCPM | COM |

UNSP32.DOC, NEWSP.COM -

This program will allow you to print files while running other programs. Read the documentation in UNSP32.DOC for more details.

The original program would not work on an Apple system because of the way Microsoft implemented the system. I had to put in a few patches to get it to work. If anybody has the source for this program, I would like to make the changes and reassemble it. NEWSP.COM is the patched version of the original UNSP32.COM.

APLXFR.COM, APLXFR.DOC -

This program is the reverse of the APDOS program. It will transfer CP/M files to DOS. It was an application note by Microsoft.

PASTOCPM.ASM, PASTOCPM.COM -

This program will transfer Apple Pascal files to CP/M. It requires two disk drives.

SQUEEZER.DOC, SQ-15.COM, USQ-15.COM, FLS-11.COM

This group of programs will squeeze and unsqueeze files. Reduction in size is claimed to be typically 35%. FLS-11 is used to generate lists of file names for the other two programs.

Any file that is squeezed will have a Q as the second character of the extension. These files must be unsqueezed before they can be used.

These programs are written in BDS C, and I have the source available for anyone who has the compiler.

ROFF.DOC, ROFF.COM-

This is a formatter program written in BDS C.

=====

Library disk CPMSIG03

| | | | |
|----------|-----|------------|-----|
| MLIST | COM | : MODEM | AQM |
| RBBS | BAS | : DCHAYES | PAT |
| MDMPROTO | DOC | : APPLHALT | ASM |
| MLIST | DOC | : TAG | DOC |
| BYE | AQM | : XMODEM | AQM |
| TURNKEY | ASM | : BOOT | COM |
| HALT | ASM | : TAG | ASM |
| CPMSIG03 | DOC | | |

APPLHALT.ASM, BOOT.COM, HALT.ASM-

These programs provide three different ways to boot another system from CP/M without having to turn off the machine. The only major difference is with BOOT.COM which

contd.

allows you to boot 13 or 16 sector disks. The other two show examples of calling 6502 routines from CP/M and how to code 6502 routines for the CP/M assembler ASM.

TURNKEY.ASM -

This program allows you to modify your disk so that any command can be executed when the disk is cold booted. This will only work with the new version 2.20B of the system. Read the comments at the beginning of the file for more instructions. This was originally a hex listing in the Microsoft Application Notes, but I dis-assembled the Z-80 code and changed it to 8080 ASM source.

TAG.ASM, TAG.DOC -

This program is intended to be used with the XMODEM program. It will mark files that you do not want to be sent by XMODEM.

MLIST.ASM, MLIST.DOC -

This program is a multiple file lister. It is fast because it buffers a large part of the file in memory before starting to list. It will accept the standard * and ? wildcard characters in filenames.

DCHAYES.PAT -

This is a patch to install as a driver in your BIOS. It will allow use of the ROM routines on the Micromodem II.

MDMPROTO.DQC -

This is an explanation of the Ward Christensen protocol used by the MODEM and XMODEM programs. This is the standard protocol used by all CP/M bulletin boards.

BYE.AQM, RBBS.BAS, XMODEM.AQM, MODEM.AQM -

These programs provide a complete communications package. They allow you to start your own bulletin board system and to communicate and transfer programs with other systems.

BYE will answer the phone and then allow the remote user to run your system as if he were at the local keyboard. There are options such as ringback, passwords, number of disk drives, etc.; so be sure to set this up properly before assembling. There is an intentional assembly error so that you can tell how big the program is after you have selected the different options. Make sure this address is not greater than 0C400H, so that the CCP is not clobbered. BYE relocates itself into high memory, and it is the starting relocation address near the beginning of the program that must be set low enough to allow BYE to fit under the CCP.

RBBS is a BASIC program that allows all the normal bulletin board functions of saving and reading messages. It also has some parameters and passwords that you might want to change before using. Since it is a BASIC program, MBASIC has to be present on one of your disks for the remote user to use the program. If anyone has a compiled version of this program, or an

equivalent assembly language version, I would like to get a copy. The BYE program can automatically load a COM file when the user signs on, and this is usually the bulletin board program.

XMODEM is the program you run on your remote bulletin board system (RBBS) to allow the user to send files to or from your system. He would use MODEM or its equivalent. The XMODEM program has some special checks (see TAG above) to prevent certain files from being sent that may cause problems.

MODEM is the standard CP/M communication program that uses the Ward Christensen protocol. This is version 5 and the latest version that I could find that had already been modified for the Apple. It is set up to run with the DC Hayes MMII, but has conditional assembly parameters for other boards. If anyone has modified a later version to run with any Apple modem, pass it on to be included in the library.

There is no separate documentation for MODEM, but it has two options that supply some help:

MODEM H will give help on the possible options
MODEM X will give examples of use

Note that the unsqueezed program USQ from volume CPMSIG02 is needed for some programs on this volume.

=====

Library disk CPMSIG04

| | | | |
|----------|-----|-----------|-----|
| / | COM | : BITMAP | COM |
| DISPLAY | COM | : GO | COM |
| INUSE | COM | : MENU | COM |
| PIP | COM | : SD | COM |
| TYPESQ | COM | : U | COM |
| / | DQC | : DISPLAY | DQC |
| SWEEP | HQP | : SWEEP | DQC |
| CPMSIG#4 | DOC | : D | COM |
| HALT | COM | : INDEX | COM |
| MOVE | COM | : NEWLIST | COM |
| STATUS | COM | : SWEEP | COM |
| UNERA | COM | : TED | DQC |
| NEWINDEX | DQC | : NEWLIST | DQC |
| UNERA11 | HQP | : UNERA | DQC |
| TED | COM | : | |

This disk provides many of the utility programs available in the public domain that are useful in the creation of a "SYSTEM MASTER" for an Apple CP/M system.

Specifically, files of common, day-to-day usefulness or utility in the areas of SYSTEM OPERATION, FILE INDEXING, FILE MAINTENANCE, and FILE MANAGEMENT.

Documentation for most of the programs may be found on the disk (Apple CP/M's 126K space permitting) in one of several formats:

1 - with the inclusion (in the squeezed format) of the documentation files available in the public domain library;

2 - as help files included within the '*.COM' file;

contd. on pg 41

MANAGING YOUR MEMORY

by J. T. DeMay Jr

Most of us who have been using an APPLE][for some time have come to the point of not having enough memory. There was a time, oh so long ago, that I thought I would never use the 48K. However, more and more programs are being written to take advantage of additional memory. This memory comes in the form of a plug-in card. These cards come in various sizes from 16K to 128K and even larger. (See the January and March 1982 WAP Newsletter articles by David Morganstein and Walt Mills respectively. Also see Fred Schulz' article in the December 1981 issue of WAP.)

Somewhere in between lies the Saturn Systems 32K RAM BOARD. The list price is \$239 which includes some powerful memory management software. While the recommended position for the 32K card is in slot #0, it will also work in any other slot, or with a combination of other memory cards. More about that later.

Starting with an APPLE][with INTEGER BASIC, I bought an APPLESOFT FIRMWARE CARD for slot #0. The APPLE LANGUAGE CARD was the only other memory expansion card available at that time, and not yet having caught the PASCAL BUG, I didn't feel the extra \$400 outlay was cost effective. When I purchased DOS 3.3 and discovered that the System Master disk included a HELLO program which looked for a RAMcard in slot #0 and loaded the non-resident language, the benefits of a RAMcard became more evident. Then someone published a program that would load DOS onto the RAMcard freeing the upper 10.5K of motherboard RAM for use by a basic program. With a RAMcard in slot #0 housing the relocated DOS, and a FIRMWARE card in another slot, both languages plus an extra 10.5K of memory are available. The software included with the 32K card allows all this and more. Imagine having both languages available and DOS relocated to the RAMcard without using a FIRMWARE card. Just boot a normal DOS, then BRUN MOVEDOS. This will relocate DOS to the second bank of the 32K card. The HELLO program can then load the non-resident language into the first bank of the 32K RAMcard. If you want to use a FIRMWARE card in another slot, then run the configuration program called SET (INTEGER/APPLESOFT) SLOT and answer the questions. The required changes will be made to the DOS image in memory. To save these changes all that is necessary is to INIT a blank disk. Be sure to use a HELLO program on this disk which doesn't try to load a copy of the non-resident language into the card in slot #0 if you decide to use a FIRMWARE card. Something not very clear in the manual is that to use a FIRMWARE card in slot #0 and the 32K card in another slot, it is necessary to first remove the FIRMWARE card, insert the 32K card into the appropriate slot, then run the MOVEDOS program. This is because the MOVEDOS program can't find the 32K card if the FIRMWARE card is present in a lower

slot. If I had known about this, it would have saved me some anxious moments when first trying out the new card. I wasn't sure if the software, the hardware, or the operator was to blame.

The next time the system is booted using the disk INITIALIZED under this configuration, the modified version of DOS will be loaded. Alternate configurations can be stored on different disks and simply rebooting with one of these alternate disks will set up the system as you want it. The advantage of using a FIRMWARE card in slot #0 is that both languages are immediately available, however most commercial programs won't look anywhere other than slot #0 for a memory expansion card.

There is also a program included which fixes some bugs in FID, MUFFIN, and BOOT13 so they will work with the relocated DOS.

Earlier I mentioned using the 32K card with other memory cards and alternate configurations. There are other programs included which will configure the system to use at least one real disk drive and one or more memory cards as a phantom disk. The set up is just as easy as the relocated DOS set up procedure mentioned before. Run the BASIC program PSEUDO DISK (A/I) depending on your resident language. Answer the questions concerning your hardware: How many real disk drives? How many 32K cards? How many 16K cards?, etc.. These parameters will be saved in a binary program called SATURN DISK. To set up the phantom disk again, just BRUN SATURN DISK. The phantom disk software will not work with a relocated DOS, but if it did, the DOS would use 10.5K which we could be using for disk space, thereby decreasing the effectiveness of the phantom disk. Using one 32K card allows 124 sectors for storage on the phantom disk. Unfortunately, the data stored there must be saved to a real disk prior to removing power, or it will be lost. The phantom disk is great for transferring files from one disk to another using FID. If there are several small files to move from one disk to another, they may be first saved to the phantom disk and then transferred to the other real disk. On a single drive system, this saves a lot of disk swapping. The files saved on the phantom disk will remain intact, even after rebooting. A handy way to transfer files from DOS 3.2 to DOS 3.3 is to install the phantom disk, transfer the files to be converted to the phantom disk using FID, boot the other DOS, BRUN SDP (this binary file reconnects the phantom disk), then copy the files from the phantom disk to the real disk. The phantom disk software works under either version of DOS.

Disks INITIALIZED with the phantom disk installed will not boot correctly because the RWTS subroutine has been modified. To reconfigure the system with the phantom

contd.

disk installed, INITIALize a disk using a standard DOS. Then copy the SATURN DISK program to the new disk. Be sure to include a line in the HELLO program to BRUN SATURN DISK. When BOOTed, this disk will configure the system to use the phantom disk automatically.

Another program (RAMEXPAND) will allow access to the additional memory from a basic program for storage of programs, program segments, or numeric array data. To set up the system to use the additional memory, relocate DOS. Then load RAMEXPAND with RAMEXPAND.LOAD. After answering some questions, RAMEXPAND will be ready to use. The method of accessing the extended memory is through a command string: CM\$ which passes instructions to RAMEXPAND. There are 13 different functions which can be called using the command string. They range from initializing RAMEXPAND to FETCH and RUN a program from the extended RAM. An error code is returned if RAMEXPAND could not complete the desired function specified in the command string.

The manual is well written (with a few exceptions). There are 60 pages full of information. Some are technical; especially those dealing with addressing and controlling the card. It is not necessary to understand the technical sections to use the card, but the information is there when you feel ready for it. For the most part, the manual is educational and easy to read.

The 32K memory card uses a considerable amount of power from the +12 volt supply, 190ma according to the manual. This may be a problem depending on your hardware configuration. I have been using an Epson printer interface card, an APPLE FIRMWARE card, a Thunderclock, and a single disk drive with my SATURN SYSTEMS 32K RAM BOARD for almost a year with no problems. I suspect that the addition of a cooling fan might conserve the life of the system, but as yet I haven't done it. &

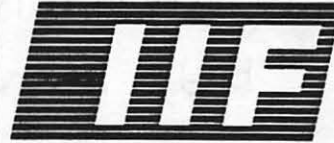
CP/M Library Disks contd. from pg 39

3 - by the 'user friendliness' of the program.

As provided, hereon, the built-in help file "INDEX /H" outputs garbage via the Apple's 80 column cards.

Several of the utilities (D.COM, /.COM, and NEWLIST.COM) create a disk output file in their operation, and therefore will not run on this distribution as provided ... there's no space!!!

To read the documentation files provided hereon in the squeezed format, it will be necessary to either unsqueeze using the USQ.COM utility program provided on WAP CPMSIG02 and available in the public domain, or to use the TYPESQ.COM utility provided on this disk. syntax: TYPESQ FILENAME.EXT (use only for squeezed ASCII files having a 'Q' as the second letter of the .EXT portion of the filename). &



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TESTIMONY BEFORE THE COUNTY COUNCIL by David Morganstein

The following was given on November 18, 1982 as testimony before the Montgomery County Council on capital acquisitions in the school system.

My name is David Morganstein. I am a survey statistician living and working in Montgomery County. I have two children; one is currently in elementary school and one will be in several years. Their future is just one reason why I am here tonight.

I am the President of the Washington Apple Pi, a non-profit, microcomputer users group of 2300 members, most of whom live in the Washington D.C., Maryland, and Virginia area. About 600 of the families live in Montgomery county. The members of the group are, by and large, not data processing or engineering professionals. The majority of the adult members of the group do not even work directly with computers.

However, almost all of our group recognize the importance to them and their children of computer literacy. They have invested personally in a microcomputer because they know that computer literacy cannot be learned from a book. It requires involvement with a computer. I am here tonight to speak in favor of an expanded capability for our school system to teach computer literacy through the purchase of additional personal computer equipment for use in our schools.

I need not talk extensively about the need for computer literacy. American business and industry are making it clear that workers require increased skills in this area. If we are to plan wisely for the future of our children and our Nation's competitive position, we must expand the educational opportunities for computer literacy. We have already heard of at least one American university which has stated plans to give incoming freshmen, as part of their tuition, a personal computer for their use during their college experience; to not know about computers will be a crippling limitation. However, "speaking computer" is not the only reason for increasing the County's use of personal computing equipment.

One of the largest and most active of our organization's special interest groups is dedicated to education. This group holds monthly programs on the many ways in which personal computers can facilitate the educational process. As they routinely demonstrate, this equipment can be used for more than the instruction of computer languages and computer fundamentals. Personal computers can assist in the instruction of virtually any subject by providing continuous feedback to the student, and by increasing their interest through the use of sound and graphics. The personal computer equipped with educational software provides a one-to-one teacher/student

ratio; the personal computer shows infinite patience with the learner.

At our last meeting, with over 400 members in attendance, we were treated to a demonstration by several Montgomery County teachers. They displayed materials developed by them which support science instruction using the personal computer. Their excitement about the potential to education of this equipment was quite evident. Computers can assist teachers in many ways. They seem to be bringing a renewed excitement of learning to both teachers and students. We need to nurture that excitement and help it grow.

Most of our members come from what might be called upper and middle income brackets. By increasing the numbers of personal computers in our public school system you insure that the opportunities computer literacy makes possible will be available to all our citizens, not just those who can afford such an investment.

Let me close by observing that another of our active Special Interest Groups is comprised of youngsters aged 7 to 16. Almost all of this group are computer literate. Personal computers must not be confined to the upper grades. Students of elementary age are quite capable of gaining immensely from access to this equipment. &

Apple to Europe contd. from pg 12

after all.

CONCLUSION - Taking your Apple to Europe should not be as worrisome as it was for us. Just be careful to provide the required 110-120vac through a stepdown transformer that has a power rating that meets or exceeds your system's requirements, and 50Hz should be no problem. For the most stable (jitter-free) display output, I recommend a TV or monitor that is rated for 50/60Hz.

One sad note to me was the lack of concern demonstrated by the three U.S.-based companies and their apparent profit-motivated style, while Japan-based Epson went beyond one call to see that an honest answer was delivered. &

NOTICE

Please note that if your renewal date is 8212 (on your label just after your WAP No.), and you have not renewed, this is the last issue of the Newsletter that you will receive. Most of the 500 or so members up for renewal in December have renewed, but there are still some who haven't. So, if you've tucked your renewal notice away and forgotten to send it in, do so as soon as possible.

APPLE TECH NOTES: A Review

by Robert C. Platt

One of the key reasons for the Apple]['s popularity has been its documentation. Ever since the Apple]['s introduction, its internal design details have been made public. Unfortunately, more recent Apple products, such as the Apple /// and Apple Pascal, have not been as thoroughly and publicly described. Apple Tech Notes marks a welcomed return to the level of documentation and support that users have come to expect from Apple.

Apple Tech Notes is a 450 page loose-leaf notebook which contains items gleaned by Apple employees in the course of responding to inquiries made on their Hotline. Apple Tech Notes are published and distributed by the International Apple Core, the federation of Apple user groups. Given the \$64.95 suggested retail price, Tech Notes is beyond the reach of most hobbyist users. However, I recommend that software houses and other institutional users seriously consider purchasing the Tech Notes.

FORMAT

The Tech Notes consist of individual feature writeups varying in length from half a page to 14 pages. These items range from explanations of possible causes for a given error message to programs illustrating a given feature. For each Apple product reference manual, an errata sheet for the manual is included as a separate Tech Note. Each Tech Note item is assigned a unique number and can be accessed through a two level index. The first index takes the user to the notebook tab for a given Apple product, and a more detailed index for each product gives the number of a specific technical note.

STRENGTHS

The two areas covered in greatest depth are the Apple /// and Apple Pascal. Twenty pages are devoted to Apple /// hardware and 14 pages to Apple /// software packages. These include helpful discussions of the Apple][emulation mode and the differences between Apple][and Apple /// Pascal.

Apple][Pascal has 92 pages of Tech Notes. Of particular value are routines that use BLOCKREAD to speedup the reading of Pascal text files, that save hi-res pictures to disk, and that pass strings to and from functions. However, most of the Pascal material has already appeared in other sources including Apple Orchard and Soft-talk.

In contrast, Apple DOS is covered in only 38 pages which do not offer as helpful or detailed treatment as Beneath Apple DOS by Worth and Lechner or Bert Kersey's "DOS-talk" column in Softtalk magazine.

Among the reference materials included in Tech Notes are a catalog of microcomputer

bulletin board systems and a directory of vendors selling Apple-related products and software.

WEAKNESSES

In some areas, the Tech Notes present interesting new insights on subtle hardware and software features. However, in a few items, the Tech Notes offer little more than the report of a programming bug and a suggested fix.

Although Tech Notes represents an impressive collection of information, I am left a bit dismayed that Apple has not done more to make this data available to users by updating individual manuals. For example, the Tech Notes on Apple PILOT include valuable information on how to link PILOT lessons to Pascal and how to poke values into memory. Although both features are included in the Apple PILOT system as originally distributed, these features were inexcusably omitted from the Apple PILOT manuals. Similarly, errata sheets could be more usefully distributed with each new copy of a manual as it is sold, rather than collecting the errata sheets for distribution through the Tech Notes.

The Tech Notes could also use a comprehensive subject index. The two level index is difficult to use because certain items are hard to identify with particular major topics. For example, the Tech Note giving the fix to the bug in the Applesoft Renumber utility is indexed in the DOS subindex and cannot be found in the Applesoft subindex.

DISTRIBUTION AND UPDATES

Apple Tech Notes can be purchased from Apple dealers for \$64.95. However, IAC member clubs, including WAP, are distributing coupons which give club members a \$7.50 discount.

Apple intends to mail supplement pages four times a year. A subscription to the supplements cost \$12.50 per year, but I understand that each IAC member club will receive the updates free of charge.

Before you purchase the Tech Notes, remember that sets have been provided to IAC member clubs to assist in responding to club Hotline inquiries. In addition, Ed Schenker has begun a new WAP Journal column which will reprint excerpts from the Tech Notes. ☞



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A WAP tutorial on Advanced Pascal will be taught by Dr. Tom Woteki (Dr. Wo). It will be held beginning the week of January 9 on four consecutive weekly dates at USUHS (on the campus of the Bethesda Naval Medical Center, 4301 Jones Bridge Road, Bethesda, MD. (Exact room, dates and times have not yet been determined. Contact Dr. Wo (547-0984 for this information.)

This tutorial is designed for individuals who have a good working knowledge of Pascal programming and who want to learn some advanced techniques such as using library units in program development, and writing device drivers. Some suggested topics were given in the November WAP Newsletter.

The fee is \$45 if you bring a 64K APPLE, disk drive and monitor; \$60 if you do not. Please note that if you do not bring an APPLE, there will NOT be one available for you - you will have to "look over someone's shoulder". (See the remarks on this subject under Tutorials in the President's Corner elsewhere in this issue.)

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EDSIG Questionnaire

EDSIG is as good as its members. This questionnaire is intended to enable you to express your views on the development of EDSIG, so that we can develop it the way you want it to go.

Fill it out, and either bring it to the next meeting or send it to:

Peter Combes
4516 Morgal Street
Rockville MD 20853

Name

Principal Area of Interest:

- | | |
|-------------------|-------------------|
| Elementary School | Home Use |
| Secondary School | Special Education |
| Adult Education | Other |

Favorite Meetings

The presentations at the last eight meetings were:

- | | |
|--------------|--------------------------|
| 1. March | Hi-Res Graphics Programs |
| 2. April | Apple Logo Premiere |
| 3. May | Videodiscs and Apples |
| 4. June | Battleproofing Apples |
| 5. July | Computer Literacy I |
| 6. August | Pilot and Super Pilot |
| 7. September | Computer Literacy II |
| 8. October | Logo Feedback |
| 9. November | Learning Disabled |
| 10. December | Kidbits |

Mark with a "Y" the meetings you attended.

Of the meetings you attended, which was the most interesting?

.....

Why?

Of the meetings you attended, which was the least interesting?

.....

Why?

On a scale of 1-10, rate your preference for the following (i.e. if "Program Demos by Authors" is your favorite - score 10, if you dislike it, score 0.)

- General Discussion:
- Panel Discussion:
- Visits to Users:
- Program Demos by Users:
- Program Demos by Authors:
- Demos of New Techniques (e.g. Logo, Pilot):
- Demos of New Hardware:
- Tutorials on Educational Techniques:
- Reports by Users:

What topics would you like to see covered in 1983?

What activities would you like to see in 1983?

contd.



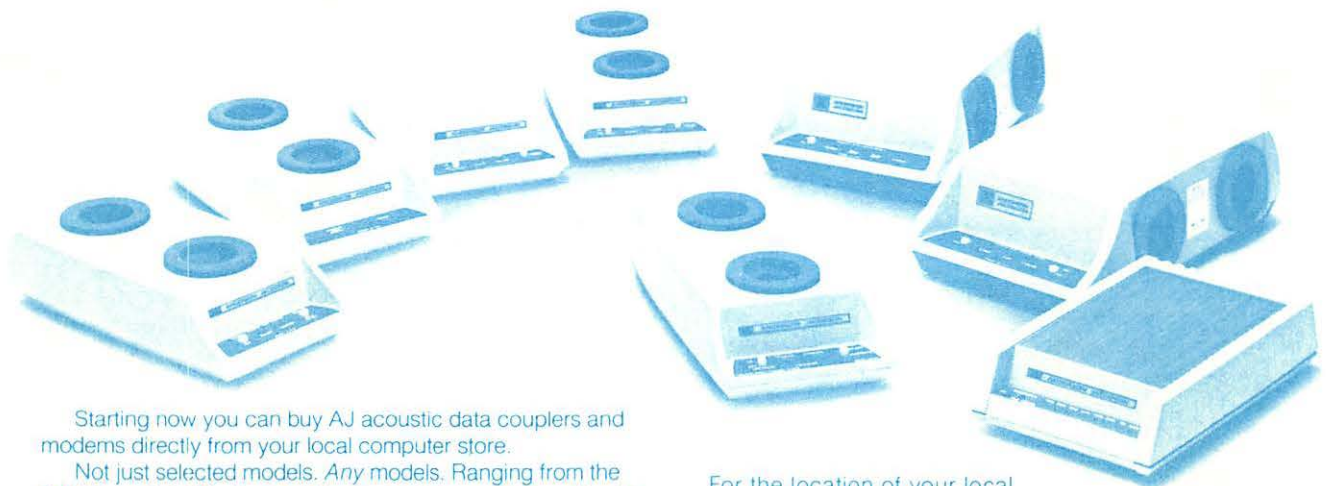
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