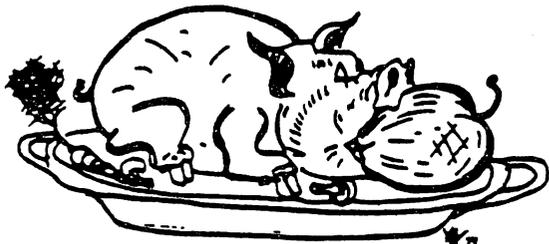


H.A.A.U.G.



HOUSTON AREA APPLE USERS GROUP

THE APPLE BARREL

VOLUME 6 NO. 1

JANUARY 1983

PRESIDENT, Mike Kramer

VICE PRES., Brian Whaley

EDITOR, MIKE KRAMER

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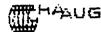
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HAAUG APPLE BARREL

2218 Running Springs
Kingwood, TX 77339

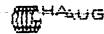
CLUB NOTES

The HOUSTON AREA APPLE USERS GROUP is an Apple user club, not affiliated with Apple, Inc., or any retail computer store. HAAUG is a member of the International Apple Core and supports its publications and purposes. General membership meetings are held on the second Thursday of each month in the rear chapel of Memorial Lutheran Church, 5800 Westheimer, between Chimney Rock and Jungman Library, beginning at 6:30 P.M. A general meeting is held beginning at noon the third Saturday of each month at the UT School of Public Health in the Medical Center at 6905 Bertner at Holcomb. This meeting features tutorials, special interest group meetings, problem-solving sessions, and access to the HAAUG software library. The meeting is held on the main floor of the building.



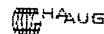
MEMBERSHIP INFORMATION

New memberships are \$30 and include the HAAUG starter kit. Renewals are \$20 per year. Make checks payable to Houston Area Apple Users Group and mail to Lee Gilbreath, 3609 Glenmeadow, Rosenberg, TX 77471. RENEWALS SHOULD NOT BE SENT TO THE APPLE BARREL.



OFFICERS / EXECUTIVE BOARD

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Vice Pres	Brian Whaley
Treasurer	Wally Edmiston
Secretary	Ruth Dill
Software Lib.	Jim Good
Hardcopy Lib.	Larry Baumann
Membership	Lee Gilbreath
IAC Rep.	Robin Cox



APPLE HOTLINE
713-668-3102

The APPLE HOTLINE has been established to provide an easy means to learn of meeting topics, news, etc., and can also be used to obtain answers to puzzling Apple-related questions. Leave your name, date, and time. You should get a return call within 24 hours.

ADVERTISING RATES

AD COST = \$0.06 * MULTIPLIER * CIRCULATION

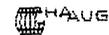
MULTIPLIERS

FULL PAGE	HALF PAGE	QTR PAGE	6TH PAGE	8th PAGE
1.00	0.60	0.35	0.20	0.10

Advertisements should be submitted in camera ready form to H.A.A.U.G., 2218 Running Springs, Kingwood, TX, 77339, by the 1ST of the month. Charges will be billed and accompanied by a copy of the Apple Barrel containing the ad.

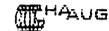
CALL FOR ARTICLES

Articles and program listings should be submitted in hardcopy form, and, if possible, on disk in Applewriter II or ///, Apple DOS or SOS text, Professional Easywriter, Wordstar, Palantir II OR ///, or Pascal files, or via modem (358-6687). If not submitted on disk, articles must be free of typing or spelling errors as they cannot be retyped. Diskettes will be returned to the author provided his name and address are on them. Printed material should be printed using normal size characters, a new ribbon and enhanced print if your printer is so equipped. Text should be printed 45 columns wide. Listings should be printed in 40 column mode in compressed print. Thermal paper should be avoided because it does not reproduce well. Authors of published articles will receive a blank diskette per page as compensation. The Apple Barrel reserves the sole right to determine which articles are used.



APPLE BARREL REPRINT POLICY

Unless otherwise noted within the program or article, any original material published herein may be reprinted without permission by any non-profit Apple club, newsletter, or group, if proper credit is given to the Apple Barrel and the author.



APPLE BARREL SCHEDULE

The following semi-rigid schedule will be followed for preparation and mailing of the Apple Barrel. With everyone's help, it's delivery might even become predictable.

- Advertisements due by 10th of month
- Articles due by 10th
- Paste ups to printer 15th
- Pick up from printer 25th
- Mail by 27th
- Received in Houston by 7th
- Received in outlying areas by 15th

THOUGHTS

By the time you read this HAAUG will have a new President. Since I am still President as of this writing, it is appropriate that I "pen" one more "THOUGHTS" column. The topic I'd like to discuss is one that I think of often in most of what I do ... that of the givers and the takers. Since HAAUG depends heavily on volunteers (the givers) to satisfy the needs (and sometimes demands) of a rapidly growing membership and appears to have more than its share of non-volunteers (the takers), it appropriate to discuss the topic at this time.

The takers problem exists in most of what we do. We see it at the checkout counter at the store, where someone always wants to be taken care of ahead of the others who have waited their turn. We see it at Astroworld when people step over the railings to get ahead. We see it on the freeway when the cars and trucks exit wherever they want or drive on the shoulders. We see it in the computer stores, where everyone wants a rock bottom price or is trying out the software and hardware before buying mail order. They can't understand why the sales people can't afford to help them hour upon hour or deliver a system and teach them to use it after they were forced to give 20% off to get the sale. We see it at the Saturday HAAUG meetings, where everyone wants something done for him and can usually find half a dozen reasons why he can't help when asked.

When I joined HAAUG three years ago, I had just bought my Apple II and was reading everything in sight to learn how to use it. I found the members to be helpful when I had "impossible" problems to solve, but I usually asked for help only as a last resort. It wasn't long before I wrote my first article, something that looks pretty trivial now I suppose. But I became involved right away and tried as much as I could to contribute. For some unknown reason, I even volunteered to run for Vice-President at the end of the first year, even though I knew the previous one had resigned because no one ever volunteered to do anything. The club numbered 200 or so then, so the demands were much, much less. Then I ran for President and took over the struggling Apple Barrel because it desperately needed direction.

The last Saturday session had to be the worst I have attended. The reason?? Everone had a gripe about something or worried that Ed Seeger would use the printer HAAUG was buying for printing the mailing labels for his personal use or insisted on running nibble copiers or wondered why some service was not available or was impatiently waiting for me to pause in conversation so they could rudely interrupt and ask for advice. There were a few times when I suggested the individual might volunteer to provide the service he wanted, but of course you know the response.

HAAUG is blessed with quite a few willing, capable, work horses whose efforts in running the software library, teaching tutorials,

writing articles, leading SIGs, etc. are appreciated. This is done entirely on a voluntary basis without compensation. Be thankful for what these people do for you and do not think that having a HAAUG membership gives you the right to demand anything more than responsible handling of the treasury and a place to meet. If a service is missing that you want, then dig in and help provide it. Please remember that most of those running HAAUG really do have a full time job and likely would find it difficult to commit any more of their time. We could begin hiring things done, but you would not want to pay the higher dues.

I hope that the Saturday meetings become a little less hectic for me than they have been at the last two years. I really would like to begin enjoying them again.

Mike Kramer

HAAUG

DECEMBER 9 MEETING MINUTES

Mike Kramer said the format of the Apple Barrel will be changing soon to a folded and stapled magazine with cover. He asked for a volunteer(s) to see the newsletter from the printer's thru mailing. Also needed are an advertising manager and an artist, to help with cover artwork. The deadline for articles is now the fifteenth of the month. All submissions should be printed 45 characters per line, 10 cpi, emphasized print. If possible also send a formatted text file (print to disk).

The new election rules were reviewed and the candidates present were introduced. Ballots may be returned at the Saturday meeting or sent to the address on the ballot. To be counted ballots must be received by January 3, 1983. The election committee is comprised of Jon Stevens and Robin Cox.

Announcements were made:

- o Bryan Whaley is the new Education/Logo Special Interest Group Chairman.
- o Software and ... is a new supporting store.
- o The programs of several Special Interest Groups for the December Saturday meeting were announced.

Prizes which were won by members who joined during Apple Fest were given out.

Robin Cox gave the IAC report. He explained what IAC is and told about their magazine "The Apple Orchard". Robin asked that nominations for the club's IAC representative be submitted to him as soon as possible. This position was left vacant when D. Van Hoozer left for California.

The program for the January Saturday meeting will be a Swap Meet. Bring your surplus hardware, software, accessories, etc!

The program was a question and answer session with a group of "experts".

Submitted for Ruth Dill by Steve Knouse

HAAUG



PALANTIR™ (Pal-an-TEER) Word Processing

Pronouncing it is the hardest part

Mastering Palantir Word Processing is a snap, if you don't worry about how to say it.

If you've never seen a computer before, you'll probably want to step through our relaxed and friendly lessons, just to learn some of the terms. But most of you will just grab the reference guide and begin.

You won't hurt our feelings if you never read the manual. Not that we didn't work awfully hard to make it easy to read and understand. But we worked even harder to make Palantir easy to use *without* a manual.

Sure, everyone says that their word processor is easy to use; and then when you try it, you wonder what they would consider *hard*. But we aren't the only ones saying it about Palantir.

In a recent review (*80 Micro*, September 1982) Palantir was compared to Select™ and Scribes™ 2.0. It was not surprising (to us,

anyway) that the reviewer, a Scribes user, found Palantir easiest to learn and to use. (Select was third.) But even we were surprised when our tutorial was also rated highest. We, too, had believed Select's ads about typing "T" for Teach™.

OK, you say, maybe you do have the easiest word processor; but those others are hard because they can do so much. How do you compare in power to old warhorses like WordStar™?

We thought you'd never ask. The reviewer also said, "Palantir's ease of use is not at the sacrifice of power or efficiency." The man knows his stuff.

And we are proud to announce something the reviewer didn't see. Palantir now has Mailout™ — a form letter function so simple that real people can use it without calling for the programming staff. Create letters, labels,

reports—repetitive files of all kinds—by adding a few straight-forward commands to handle variables, conditionals and nested files. It even has four-function integer math if you want to get tricky.

The warhorses can't beat it for power, and they never get near if you compare usability.

Palantir doesn't cost you an arm and a leg either. You can get Palantir Word Processing with Mailout, not for the \$745 of Word Star with Mail Merge™, not for the \$595 of Select, but for only \$450. It's not \$29.95, but for the closest thing to a dedicated word processor this side of \$7,000, that's not bad.

Palantir. Ask your dealer for it by name. If he can't pronounce it, we answer to almost anything that begins with "P" that's not a fruit.

Say it again—"Pal-an-TEER." The rest is easy.



**3400 Montrose Blvd., Suite 718
Houston, Texas 77006
713-520-8221 Telex 790510**

Special Apple® Price
Now available on Apple ///®!
For Apple II® or Apple III using CP/M®, you can buy an uncut Palantir for only \$350, suggested retail price. Contact your local Apple dealer or have them contact us.

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Special Users Group Price

Return this ad and a check for \$295 (or your VISA or MasterCard number) and we'll send you a complete Palantir™ in Apple disk format. This unit is good for either the Apple/// with Softcard or the AppleII with Softcard and Videx board. As soon as we ship your Palantir to you, we will send HAAUG \$25 for its treasury.

Name _____

Address _____

City, State, Zip _____

Day Phone Number _____

MasterCard or VISA no. _____ Exp. date _____

HAAUG APPLE BARREL

PICA-PLOT

by
John M. White

This program was designed at the urging of Mike Kramer. Some time ago he asked if the work that I've done in MX-80 GRAFTRAX graphics could be used to fancy up the Apple Barrel text. Until now, I've had no convenient way to produce the graphics strings. PICA-PLOT facilitates the creation of these graphics strings by providing an inverse text grid on the monitor screen upon which designs are made. At completion, the results are dumped to the monitor screen and the printer. Thus, graphics strings for a user's program may be keyed using data from the hardcopy printout. In this way, designs, borders, and special characters or fonts are created.

The program performs three functions: positioning the cursor, plotting a position, and dumping the final results. When the program is run, a 7 (or 6) high by 24 wide text grid is produced on the screen. Each of the 7 (or 6) horizontal lines of the grid is the alphabet A to X. The normal system cursor is used, and as it is moved about on the grid, the letters are plotted as either normal or inverse letters. The inverse letters represent the dots to be printed for graphics.

The cursor may be moved with or without plotting. Pressing any valid key (except "\$") will move the cursor with either vertical or horizontal wraparound. Vertical wraparound moves the cursor down one line at a time, or to the top line if on the bottom, always keeping the same position. Horizontal wraparound moves the cursor one position to the right at a time. At the end of a line (position X) the cursor moves to the start of the next lower line (position A), or to the top line if on the bottom.

There are three types of vertical movement in a column, always downward. Pressing the "Y" key moves the cursor down without plotting. The "." key plots an inverse letter before moving down, providing correction capability.

There are five types of horizontal movement, always to the right or to a specified position. Pressing the space bar, moves the cursor without plotting. The "." key plots an inverse letter before moving right, and the ")" key plots a normal letter before moving right, providing correction capability. Pressing "Z" moves the cursor to position "A" of the next line without plotting. Pressing any other letter key "A" to "X" will move the cursor to that position without plotting.

Pressing the "\$" key concludes a session and dumps the results. The graphics string is

calculated, and a binary bit map of the graphic is dumped to the screen as well as character values for the graphic string. Also, the character values are dumped to the printer, and the string is printed in both the K (60 dots/inch) and L (120 dots/inch) formats. The 24 dot wide graphic occupies 4 standard character spaces (10 cpi) in K format and only 2 standard character spaces in L format, which generally produces greater clarity of the image.

In graphics, unidirectional printing at slow speeds, more head homing per line, and smaller line feed spacing are the rule. Experimentation will be necessary to optimize printing speed. Joining the short strings produced by this program into longer ones may be desirable. Also, if you are thinking of creating a disk file of these graphics for downloading, you may find certain graphic character codes make this task more complicated than you would expect. BLOADing the character values and then fabricating the strings in an initialization subroutine may offer the most practical solution.

There is one problem with GRAFTRAX on the Apple. Without extraordinary methods, HEX 09 or HEX 13 (Editors note: TAB and LINE FEED characters) cannot be sent to the printer as part of the graphics string. Therefore, the program changes these values when encountered by deleting the lowest graphic dot. This changes HEX 09 to HEX 08 and HEX 13 to HEX 12. If you can't live with this, you can take your own extraordinary means! A simple solution is to use only the top 6 lines of the grid, representing 1/12 of an inch, exactly 1/2 of a normal line feed. The program provides for this variation at the end of the session. Using the 6 line format produces the same values, but deletes access to and display of the bottom line of the grid, thereby producing only even numbers for character values.

The aspect ratio of the printer is 5 dots wide in K format or 10 dots wide in L format for each 6 dots of height. Provision is made for printing graph paper for planning graphic designs which is proportional by a factor of 5 to the printer aspect ratio for either format and for printing the graphics printed below. They were created with this program and then patched in as DATA statements.

So, in closing, our editor now has graphics capability (Editor's note: He appreciates it), as well as the rest of us -- provided, of course, that you have an Epson printer with the GRAFTRAX feature.



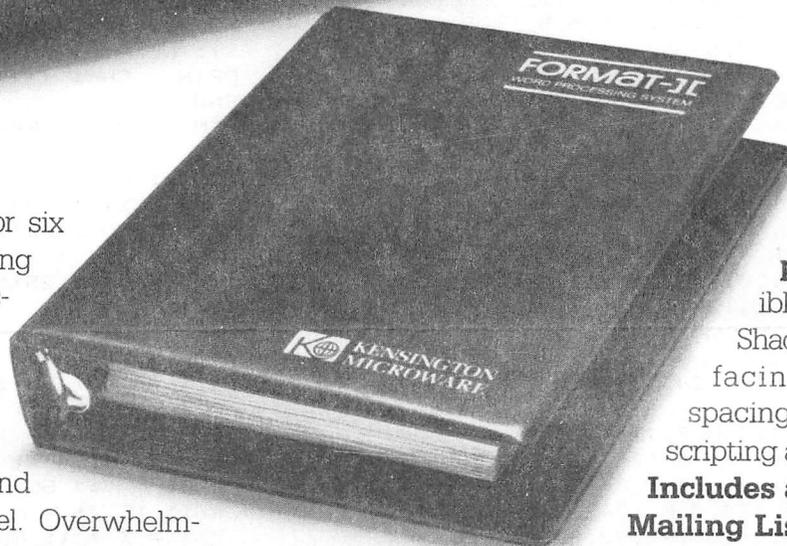
Format II.TM Word processing so advanced anyone can use it.

Format II was tested for six months in the demanding arena of Wall Street. Distributed by local dealers to law firms, financial institutions, and the like, Format II was used by secretaries and non-technical personnel. Overwhelmingly, Format II was recognized as one of the easiest and most effective word processing systems available *in any form*.

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What you see is what you get. Format II performs virtually any editing and formatting function you can imagine and displays on the screen the text exactly as it will print out—paragraphs, underlining, justification, page breaks.

Simple to Use. You edit and format text with single key strokes. "D" for delete, "E" for edit, "I" for insert, "J" for justify, etc. Easy-to-remember commands because they make sense.



It supports all printers compatible with the Apple. Shadow printing, boldfacing, proportional spacing, sub- and superscripting are all available.

Includes a sophisticated Mailing List. Stores and retrieves names and addresses

which may be printed on labels or incorporated into documents. Powerful "logic" commands allow you to select only those records which match specified criteria.

And more. Format II is lightning fast and menu driven. Add them all together and it's clear why Format II has generated such enthusiasm. Now, at a cost of \$250, you *too* can buy the best.

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 **KENSINGTON
MICROWARE**

*System Requirements: 48K Apple® II Plus with 80 column card.
Franklin Ace version also available.*

LIST

0 REM PICA-PLOT

1 :

2 DIM P(24,7),A\$(20):A\$ = "ABCDE
FGHIJKLMNOPQRSTUVWXYZ":K\$ = CHR\$(
(27) + "K" + CHR\$(24) + CHR\$(
(0):L\$ = CHR\$(27) + "L" +
CHR\$(24) + CHR\$(0)

3 H = 1: REM 6 LINES

5 L = 7 - H

6 GOTO 37

7 INVERSE

8 PRINT CHR\$(X + 64):: NORMAL
:P(X,Y) = V: RETURN

9 :

19 DATA 126,66,66,66,66,126,66
,66,66,66,126,66,66,66,66,12
6,66,66,66,66,126,0,0,0

20 REM APPLE BARREL

21 DATA 6,24,48,80,94,112,80,8
6,120,80,80,126,80,80,120,86
,88,112,80,112,16,0,0,0,112
,12,6,101,29,7,5,117,15,5,5,
127,5,5,15,117,69,39,61,37,3
8,44,112,0

22 REM HAAUG SYMBOL

23 DATA 124,16,16,16,16,16,
124,0,0,4,12,24,40,72,72,41,
27,14,10,18,18,10,6,3,1,0,0
,30,3,1,1,1,1,3,30,0,0,0,14,
27,17,17,21,21,21,21,23

24 REM BORDER

25 DATA 84,84,20,20,116,116,4,
4,124,124,0,0,124,124,0,0,12
4,124,0,0,124,124,0,0,84,84
,80,80,92,92,64,64,124,124,0
,0,124,124,0,0,124,124,0,0,1
24,124,0,0

26 DATA 124,124,0,0,124,124,0
,0,124,124,0,0,124,124,4,4,1
16,116,20,20,84,84,0,0,124,
124,0,0,124,124,0,0,124,124,
0,0,124,124,64,64,92,92,80,8
0,84,84,0,0

27 DATA 84,84,84,84,84,84,84,84
,0,0,0,0,0,0,0,0,0,0,0,0,0
,0,0,0,0,0,0,0,0,0,0,0,0,0
,0,0,0,84,84,84,84,84,84,84,8
4,0,0

28 REM FILLER DESIGN

29 DATA 20,20,20,20,28,28,28,
62,62,99,65,73,73,65,99,62,6
2,28,28,28,20,20,20,20

30 REM GRAY BORDER

31 DATA 42,84,42,84,42,84,42,84
,42,84,42,84,42,84,42,84,42,
84,42,84,42,84,42,84,42,84,
42,84,42,84,0,0,0,0,0,0,0,0,
0,0,0,0,0,0,0,0,0,0,0,0,0,0
,0,0,0,0,0,0,0,0,0,0,0,0,0,
42,84,42,84,42,84

32 DATA 6,4,4,4,6,6,4,6,6,6,6,
4,6,6,4,6,6,6,4,6,6,4,4,1
27,125,1,125,127,127,1,63,95
,111,119,1,127,127,31,99,125
,99,31,127,127,1,109,109

33 DATA 4,4,6,6,4,4,4,4,6,6,6,
4,4,4,6,6,6,4,4,4,4,4,6,10
9,125,127,127,1,111,111,103,
25,127,127,27,109,109,109,51
,127,127,1,109,109,109,125,1
27

34 DATA 124,16,16,16,16,16,16,1
24,0,0,4,12,24,40,72,72,41,2
7,14,10,18,18,10,6,3,1,0,0,
30,3,1,1,1,1,3,30,0,0,0,14,2
7,17,17,21,21,21,21,23

35 REM REPLACE LINE 34 ABOVE
WITH 48 VALUES FOR TESTING
TWO USER STRINGS.

36 :

37 FOR I = 0 TO 20:A\$(I) = "": FOR
J = 1 TO 24: READ A:A\$(I) =
A\$(I) + CHR\$(A): NEXT : NEXT

38 :

39 HOME : PRINT "1 CREATE GRAPH
ICS": PRINT : PRINT "2 PRIN
T GRAPH PAPER": PRINT : PRINT
"3 PRINT GENERATED GRAPHICS
": PRINT : PRINT : INPUT I: ON
I GOTO 50,100,200: GOTO 39

40 PRINT CHR\$(4)"PR#1"

44 FOR I = 0 TO 20: PRINT K\$A\$(I
): NEXT

46 FOR I = 0 TO 20: PRINT L\$A\$(I
): NEXT

48 PRINT CHR\$(4)"PR#0"

49 END

50 REM PLOT ARRAY

51 HOME : FOR I = 1 TO L: PRINT
A\$: NEXT : FOR Y = 1 TO 7: FOR
X = 1 TO 24:P(X,Y) = 0: NEXT
: NEXT : X = 1: Y = 1

52 Y = Y + (X = 25): X = X - 24 *
(X = 25)

53 Y = Y - L * (Y = (L + 1))

54 VTAB Y: HTAB X: GET Z\$: Y = Y +
(Z\$ = "Y") + (Z\$ = "Z"): X =
X + (Z\$ = " ") + (ASC(Z\$) -
64 - X) * (Z\$ > "@") * (Z\$ <
"Y") + (1 - X) * (Z\$ = "Z")

55 IF Z\$ = "\$" GOTO 70

56 V = 1: IF Z\$ = "." THEN GOSUB
7: X = X + 1: GOTO 52

57 IF Z\$ = "," THEN GOSUB 7: Y =
Y + 1: GOTO 52

58 V = 0: IF Z\$ = ">" THEN GOSUB
8: X = X + 1: GOTO 52

59 IF Z\$ = "<" THEN GOSUB 8: Y =
Y + 1: GOTO 52

60 GOTO 52

70 REM PRINT ARRAY

71 VTAB 9: HTAB 1: PRINT "COMPUT
ING PRINTER STRING ": PRINT

72 P\$ = "": FOR X = 1 TO 24:P = 0
: FOR Y = 1 TO L:P = P + P(X
,Y) * 2 ^ (7 - Y): P = P - (P
= 9) - (P = 13): NEXT : P\$ =
P\$ + CHR\$(P): NEXT : VTAB
9: HTAB 1: FOR Y = 1 TO L: FOR
X = 1 TO 24: PRINT P(X,Y):: NEXT
: PRINT : NEXT : PRINT

73 PRINT "CHR\$(27)" CHR\$(34)"K/
L" CHR\$(34)"CHR\$(6/12/18/24
)CHR\$(0)": FOR I = 0 TO 3: FOR
X = 1 TO 6: PRINT ASC (MID\$(
P\$,X + I * 6,1)), "; NEXT
: PRINT : NEXT : PRINT

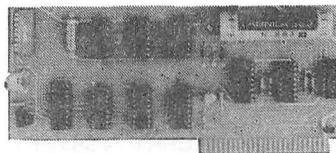
74 VTAB 23: HTAB 1: PRINT "DUMPI
NG STRING TO PRINTER"

APPLE PERIPHERALS ARE OUR ONLY BUSINESS

TIME II

THE MOST POWERFUL, EASIEST TO USE CLOCK FOR YOUR APPLE

- Time in hours, minutes and seconds.
- Date with year, month, day of week and leap year.
- Will enhance programs for accounting, time and energy management,
- remote control of appliances, laboratory analysis, process control, and more.
- 24-hour military format or 12-hour with AM/PM indication.
- User selectable interrupts permit foreground/background operation of two programs simultaneously.
- Crystal controlled for .0005% accuracy.
- Easy programming in basic.
- On board battery backup power for over four months power off operation (battery charges when Apple is on).



- Twenty-seven page operating manual included with many examples of programs to use with your Apple in any configuration.
- Includes disk containing a DOS Dater and many other time oriented utilities plus over 25 user contributed programs at no extra cost.

PRICE \$129.00

SUPER MUSIC SYNTHESIZER



- Complete 16 voice music synthesizer on one card. Just plug it into your Apple, connect the audio cable (supplied) to your stereo and boot the disk supplied and you are ready to input and play songs.
- It's easy to program music with our compose software. You will start right away at inputting your favorite songs. The HI-Res screen shows what you have entered in standard sheet music format.

- We give you lots of software. In addition to Compose and Play programs, the disk is filled with songs ready to run.
- Easy to program in basic to generate complex sound effects.
- Four white noise generators which are great for sound effects.
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- Envelope control.
- Will play songs written for ALF synthesizer (ALF software will not take advantage of all the features of this board. Their software sounds the same in our synthesizer.)
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- 8 Channels
- 8 Bit Resolution
- On Board Memory
- Ratiometric Capability
- Fast Conversion (.078 ms per channel)
- Eliminates The Need To Wait For A/D Conversion (just PEEK at data)
- A/D Process Totally Transparent to Apple (looks like memory)

The analog to digital conversion takes place on a continuous, channel sequencing basis. Data is automatically transferred to on board memory at the end of each conversion. No A/D converter could be easier to use.

Our A/D board comes standard with 0, 10V full scale inputs. These inputs can be changed by the user to 0, -10V, or -5V, +5V or other ranges as needed.

The user connector has +12 and -12 volts on it so you can power your sensors. (These power sources can be turned off with on board dip switch).

Accuracy 0.3% Input Resistance 20K Ohms Typ
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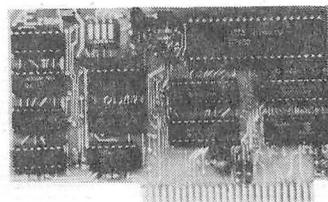
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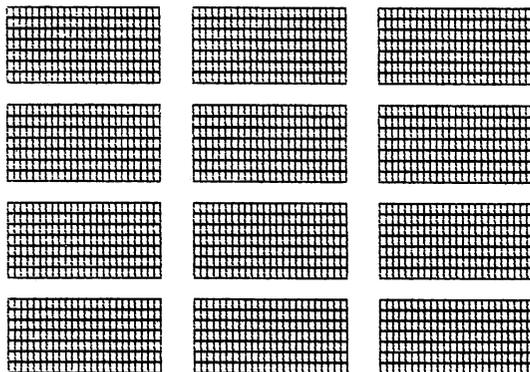
HAAUG APPLE BARREL

```

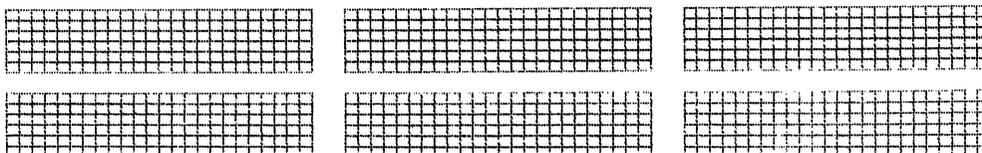
75 REM PRINT GRAPHICS
76 PRINT CHR$ (4)"PR#1"
77 PRINT CHR$ (9)"132N" CHR$ (1
5)
78 PRINT "CHR$(27)" CHR$ (34)"K/
L" CHR$ (34)"CHR$(24)CHR$(0)
";: FOR X = 1 TO 24: PRINT "
," ASC ( MID$ (P$,X,1));: NEXT
: PRINT
79 PRINT CHR$ (18)"K" CHR$ (27)
"K" CHR$ (24) CHR$ (0)P$"K
L" CHR$ (27)"L" CHR$ (24) CHR$
(0)P$"L"
80 PRINT CHR$ (4)"PR#0"
90 VTAB 23: HTAB 1: PRINT "PRESS
SPACE FOR 6 LINES, ELSE 7 L
INES ";: GET L$:L = 7 - (L$ =
" "): GOTO 50
99 :
100 REM PRINT PLOTTING PAPER
110 A$(0) = LEFT$( A$(0),20):A$(
0) = A$(0) + A$(0) + A$(0) +
A$(0) + A$(0) + A$(0) + CHR$
(126)
120 A$(0) = CHR$ ( LEN (A$(0))) +
CHR$ (0) + A$(0)
130 INPUT "L OR K FORMAT? ";G$: IF
G$ < "K" OR G$ > "L" GOTO 13
0
140 INPUT "6 OR 7 LINES? ";L:L =
0 + (L = 7)
150 PRINT CHR$ (4)"PR#1"
160 PRINT CHR$ (9)"132N"G$" FOR
MAT": PRINT CHR$ (27)"A" CHR$
(5): PRINT
170 FOR I = 1 TO 6 + L: PRINT CHR$
(27)G$A$(0)" " CHR$ (27)G$A
$(0)" " CHR$ (27)G$A$(0): NEXT
180 PRINT : PRINT
190 GOTO 170
200 REM PRINT GENERATED GRAPHICS
210 PRINT CHR$ (4)"PR#1"
220 PRINT CHR$ (9)"132N" CHR$ (
27)"A" CHR$ (6)
230 PRINT L$A$(1)L$A$(3)L$A$(4):
PRINT L$A$(2): PRINT
240 PRINT K$A$(15)K$A$(17): PRINT
K$A$(16)K$A$(18): PRINT
250 PRINT L$A$(5)L$A$(7)" "K$
A$(12)K$A$(12): PRINT L$A$(9
)L$A$(10)" "K$A$(13)K$A$(
14): PRINT L$A$(9)L$A$(10)"
"K$A$(13)K$A$(14): PRINT
L$A$(6)L$A$(8)" "K$A$(12)
K$A$(12)
260 PRINT : PRINT K$A$(11): PRINT
270 PRINT L$A$(19)" "L$A$(19)L$
A$(20): PRINT L$A$(20): PRINT
: PRINT K$A$(19)" "K$A$(19)K
$A$(20): PRINT K$A$(20): PRINT
280 PRINT CHR$ (4)"PR#0"
290 GOTO 39

```

L FORMAT



K FORMAT



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```
>F48:=+F45*(1-F28)+F30
>F45:=+F41-(F37+F24)-F26
>F41:(F39+F37)
>F39:=+E39*(1+F35)
>F37:=+E37*(1+F33)
```



Into This

```
F48: 1983 NET INCOME =+ 1983 GROSS INCOME *(1- 1983 TAX RATE % )+ 1983 TAX CREDITS
F45: 1983 GROSS INCOME =+ 1983 REVENUE -( 1983 VOLUME * 1983 UNIT COST )- 1983 BURDENS
F41: 1983 REVENUE =( 1983 AVER PRICE * 1983 VOLUME )
F39: 1983 AVER PRICE =+ 1982 AVER PRICE *(1+ 1983 INFLATION RATE % )
F37: 1983 VOLUME =+ 1982 VOLUME *(1+ 1983 SALES GROWTH RATE % )
```

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APPLE /// PEELINGS

by Mike Kramer and Steve Knouse

ADDING THE MISSING CLOCK TO YOUR APPLE ///

One of the nice features of the Apple /// is provision for SOS to continuously monitor the built-in clock calendar and for such niceties as automatic time and date stamping of disk files, and ready access to time and date from Business Basic, Pascal, and CP/M. Unfortunately, the special clock chip Apple used was one of the several things wrong with the early Apple ///'s. Although National Semiconductor is now producing a revised version of the clock chip, the MM58167AN, Apple is not installing clock chips in the new machines. I wonder why? Are you taking notes, David Reed?

The installation of the clock chip itself in your Apple /// is rather simple, involving plugging the chip into the empty socket at location 3B toward the left front corner of the mother board. You do have to remove the case, unplug the keyboard, power supply, and disk cables, and remove the mother board to get at the socket. After plugging in the chip, making sure to have the chip properly oriented in the socket, you have to solder a capacitor and pair of wires to the board, and install a battery pack. It is absolutely critical that the polarity of the capacitor and battery be correct to avoid damage to the Apple itself. A schematic is provided at the end of this column showing where to solder the wires and capacitor along the right edge of the mother board. The 220 mfd 25 volt (minimum) electrolytic capacitor, battery pack to hold the three 1.5 volt pencils, and hook-up wire can be obtained at Radio Shack (sorry). The battery pack should be attached to the casting inside the cover next to the speaker. Double sided foam tape or silicone sealer can be used. When you are through, the Apple /// automatically uses the clock chip without a system generation or any other effort on your part. A comprehensive article on the clock written by John Jeppson was included in the November issue of Softalk for those who want more in depth information on the clock and how SOS interacts with it.

If there is sufficient interest in installing a clock chip, I can provide the parts excluding batteries for \$15. If you are interested, call the HOTLINE, see me at the January meeting(s), or write me in care of the Apple Barrel. Advance payment will be required. If there is insufficient interest your money will be refunded.

NOTE

The clock installation will void your warranty and definitely should not be attempted unless you have experience with construction or repair of printed circuit electronics. The instructions are correct to the best of my knowledge, but I cannot accept responsibility for damage done to your system.

MAKING A TURNKEY CP/M PROGRAM DISK

When you first receive a CP/M product such as the Palantir Word Processor, the disk likely does not contain the CP/M system and will not boot up running the application program. Three steps are required to make the program disk bootable. First, you should duplicate the disk for safety's sake. With the CP/M system disk in Drive A: (the built-in one) type (don't type the "A>" CP/M prompt):

```
A>COPY B:=A:
```

When prompted, insert the program disk in Drive A:, insert the blank disk in Drive B:, and press return. This will cause the blank disk to be formatted and the contents of the program disk to be duplicated on Drive B:.

Next place the CP/M system disk in Drive A: and transfer CP/M to the new program disk by typing the following command:

```
A>COPY B:=A:/S
```

Next transfer the file TURNKEY.COM from the CP/M system disk to the program disk by typing:

```
A>PIP B:TURNKEY.COM=A:TURNKEY.COM
```

Finally, set up the disk to automatically boot the desired program by typing the following:

```
A>B:TURNKEY filename
```

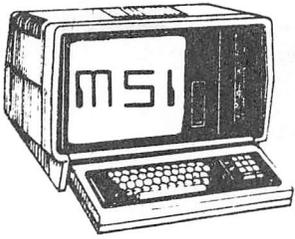
Where filename is the name of the COM file containing the program to be run on bootup.

PROBLEMS WITH UPDATING SYSTEM.WRK.TEXT OR WONDER WHY I CAN'T SAVE IT?

When you first used the Apple /// PASCAL Editor and decided to use the default file name SYSTEM.WRK.TEXT for saving your work, it very likely did what you wanted. After you made the usual mistakes, made corrections to the file, and decided to save the changes back into SYSTEM.WRK.TEXT, you probably got the message:

```
ERROR:Opening the file.  
Please press <space> to continue.
```

When this happened to me, I immediately concluded that I had a bad disk or the PASCAL system had a bug. After talking to my good friend Jon Stevens and being accused of being a dummy, I realized that there was not enough room on the PASCAL1: disk to save the updated file, presumably because the old file is not deleted until the new one is successfully saved. The solution to the problem is to open the manual "Pascal Introduction, Filer,



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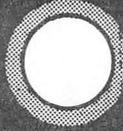
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and Editor" and, following the instructions on Page 9, use the PASCAL1: disk to create NEWPASCAL1: and NEWPASCAL2:. As explained there, the SOS.KERNEL, SOS.DRIVER, and SOS.INTERP files needed to boot the Apple /// essentially fill up the available space on the disk, so a two-stage boot has to be used. Maybe someone can explain why the disks don't come set up this way.

Next generate a cross reference list. Let me know if you can explain why you get:

XREF
20 39461

Profile Directory Damage with PFS ///:
File or Trouble in Paradise

PFS:GRAPH /// - A GRAPHICS ALTERNATIVE

PFS:Graph /// has been released, although the only copy I've seen is the review copy I received from Software Publishing Corporation. It is identical in operation and performance to the Apple II version with the added feature of being able to read Apple II PFS:Graph data files. PFS:Graph follows the SPC philosophy discussed in a recent Softalk magazine interview of having easy use, powerful capability without all the fancy (and often unused) bells and whistles that can complicate use of a program.

A problem has cropped up using PFS: Report on the Apple /// with a Profile hard disk. Apparently SOS 1.1 has a bug (worm) in it which causes directory damage when accessing the Profile while printing. Software Publishing says Apple has a SOS version 1.3 which corrects that problem. Naturally Apple denies everything, even the existence of SOS 1.3. However Quark Engineering is already shipping SOS 1.3 with Discourse (spelling?). By the time you read this Software Publishing will be shipping SOS 1.3 with PFS products and Apple may have released it as a revision utility.

PFS:Graph /// (and II) permits plotting data entered from the keyboard or read from PFS or Visicalc DIF files as pie charts, bar charts, or line drawings on the screen, on a number of popular printers, or on the HP7470A plotter. As with SPC's other products, PFS:Graph has an easy to understand manual, is menu driven, and is very fast as a result of having been written in PASCAL. The package includes a disk full of sample data files so that you can begin plotting immediately.

If Apple releases a revision utility you should use it to update all your bootable disks. If not try to get your hands on SOS 1.3 and copy it over to PFS and all other bootable disks. Do this by using Copy files command of System Utilities, to copy SOS.KERNEL.

BUSINESS BASIC RENUMBER IS UNFORGIVING

The Business BASIC disk includes a utility program which will renumber your BASIC program for you. To use it you must save your program to disk and then RUN the RENUMBER program, a slight inconvenience to say the least. Of course, Apple didn't have to give us a RENUMBER program, did they? The real problem with the RENUMBER program is that it is unable to cope with nonexistent line numbers referenced by GOTOs or GOSUBs. If unreferenced line numbers exist in the program being renumbered, the RENUMBER program will crash and the message below will be displayed.

Problems with PFS ///: File

There is also a problem with PFS: File for the Apple /// in version B:01. With very large files, like those you have to put on a Profile, file linkages can get damaged. This will be evidenced by not being able to find a record on a search on the first field, normally a very fast operation, but that record will be found on a sequential search. Note this is a linkage within the PFS file structure, not the SOS file structure.

UNDEF'D STATEMENT ERROR IN 510

If you list 510 you see the following:

This is corrected in version B:02 which is being released with SOS 1.3 in the near future, probably by the time you read this.

Note that you can check the version of your PFS: FILE or REPORT by entering a V for the selection number on the main menu and then pressing Enter (not Return).

510 PERFORM renum(@i\$,@o\$,%low,...)

Needless to say, there is no reference to another line in Line 510, or is there? It turns out that the RENUM invokable module does reference line numbers and burps if one is not found. To determine which lines in your program reference others, you can also generate a program line cross reference list using RENUMBER, but it gives a strange result if the line referenced does not exist. First type in the following program:

PFS to the RESCUE

A Rescue program for PFS files is being released soon to dealers. This program will copy every block on a disk that appears to have valid data in it. It will run on an Apple /// but will work on PFS files for both the Apple II and the Apple ///.

10 GOTO 20

Updates for Access /// and Quickfile

Access /// has been updated to version 1.1. Quickfile is now at revision B. If you don't have these revisions see your Apple dealer to have your disks to have your disks updated.

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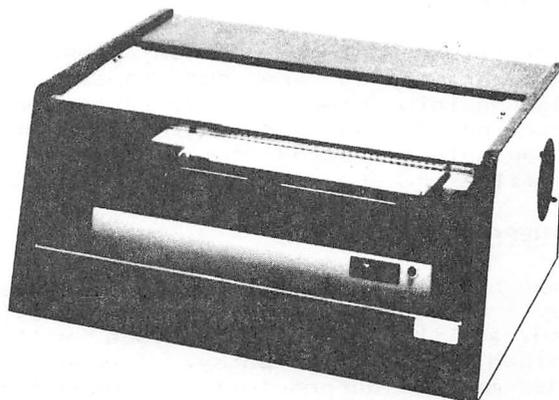
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COMPREHENSIVE STATISTICS PACKAGE

by Nick Fotheringham

INTRODUCTION

The Comprehensive Statistics Package (CSP) was developed to provide interactive access to a variety of univariate and multivariate statistical analyses. In general, these analyses can be performed without re-entering the data base for each analysis. The CSP is a menu-driven package whose main menu branches to a set of sub-menus which describe specific options in more detail.

General instructions are stored in a text file, which can be recalled and displayed, if desired, or bypassed. Specific instructions are added within each routine. Although some routines can be utilized with minimal statistical background, many assume sufficient background to differentiate between (and identify) dependent and independent variables or create a substructure within the data base appropriate to the multivariate analyses selected.

SYSTEM REQUIREMENTS

CSP was developed in Applesoft Basic for use on an Apple II with 48K memory and at least one disk drive.

DATA ENTRY

Three modes of data entry are accommodated. Data may be entered from the keyboard, from an external data file stored on a disk, or from a system file created by CSP during a previous session. Up to 10 variables may be entered for analysis within a single session; these 10 variables must include any criterion variables used to screen or partition the data base prior to analysis. Almost any number of data records (cases) may be entered, limited only by disk storage capacity and size of numbers permitted by the Apple for sums of squares, etc. (i.e. $1 * 10^{38}$). Each variable may be assigned a 1-8 character name and must include only numeric fields. Alphanumeric data must be numerically coded to be accepted.

External files must be random-access files from which records are read in singly and then parsed into component variables using the starting address and length provided for each variable selected for analysis. CSP system files are sequential files.

DATA PREPARATION

Data may be screened or modified at several levels. First, missing values may be encoded, and the code designators will be recognized during data entry. Second, data records may be purposefully excluded from a

particular session if specified values of selected variables occur. Finally, variables may be transformed during data entry using a log, square root or arcsin transformation. Due to the sensitivity of some multivariate analyses to missing data, cases (data records) are usually deleted casewise (i.e. a missing value in any one of the variables in a record will cause the entire record to be ignored during execution); however, this feature may be limited to one or two variables to enable univariate and bivariate statistics to be run on the largest appropriate data base.

SESSION FORMAT

Upon running the introductory program (COMP STAT PACK 48K), you will be asked if you wish to view the general instructions. The main program (MAIN @ CSP) is then called by the introductory program, and you will be asked to assign a run name and provide the current date. A run name of up to 255 characters can be accommodated, but a concise name of less than 30 characters is best since the LEFT#30 characters are used to label output files. The disk catalog will then be displayed, and you will be asked to identify the data file to be used in this session. (Note: if you plan to enter data from the keyboard and wish to save it on the disk, you should enter the file name at this time). You will then be asked to define any missing value designators present in the data base, and then you will be transferred to the main menu (Figure 1).

FIGURE 1. Main Menu

1. ENTER DATA (Fig.2)
2. CREATE COMMENT (TEXT) FILE
3. REVIEW EXISTING COMMENT FILE
4. PERFORM UNIVARIATE ANALYSES
5. PERFORM BIVARIATE ANALYSES (Fig.3)
6. PERFORM MULTIVARIATE ANALYSES (Fig.4)
7. REVIEW PREVIOUS OUTPUT
8. END SESSION

You may wish to develop a comment file at this time (or wait until the end of the run).

This feature was included to enable you to keep a record of any special conditions (e.g. excluded data values) or other documentation applicable to the session. You must enter data (Figure 2) prior to any analysis. If you enter data from the keyboard or from an external file, a CSP system file will automatically be created. Creation of this file may be suppressed during keyboard entry to enable small tasks to be performed without saving the data. During data entry, you will be asked if you wish to exclude any data from the run (based on values other than the

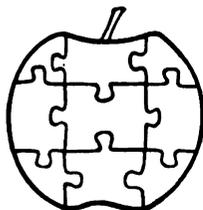
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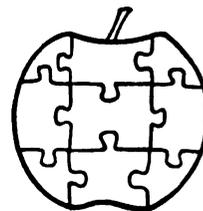
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missing values), and if you want to structure (partition) the data file (required for multivariate analyses).

FIGURE 2. Data Entry Menu

1. ENTER FROM KEYBOARD
2. USE EXTERNAL FILE
3. USE EXISTING CSP FILE
4. RETURN TO MAIN MENU
5. END SESSION

Data are sorted and intermediate products (sums, sums of squares, etc.) are calculated during data entry, so if the data base is large and highly structured, data entry may be time consuming. You will be notified when data entry is complete and whether or not a CSP system file has been created. You will then be returned to the main menu.

If you then select the univariate statistics option, these will be calculated automatically for each variable in the selected set, and displayed, on variable at a time, on the screen. Univariate statistics provided include the mean, minimum value, maximum value, variance, standard deviation, standard error, coefficient of variation, 95 and 99 percent confidence intervals, skewness and kurtosis.

A somewhat artificial bivariate/multivariate distinction is made into the menu that is related to the type of partitioning required in the data base. Selection of a bivariate (Figure 3) or multivariate (Figure 4) option will generally result in a request for definition of the variables to be included and their status (dependent, independent, etc.). The requested analysis will then be completed, during which you may be offered additional options, and you will be returned to the appropriate menu.

FIGURE 3. Bivariate Analyses Menu

1. CORRELATION COEFFICIENT
2. STUDENT'S T-TEST
3. LINEAR REGRESSION ANALYSIS
4. ONE-WAY ANOVA
5. RETURN TO MAIN MENU
6. END SESSION

FIGURE 4. Multivariate Analyses Menu

1. N-WAY (2-3) ANOVA
2. DISCRIMINANT ANALYSIS
3. ANALYSIS OF COVARIANCE
4. RETURN TO MAIN MENU
5. END SESSION

SAMPLE DATA SETS

The program disk contains some sample data sets, comment files and output files which can be used as an introduction to CSP, for partial documentation, and for periodic checks on the performance of the system. The data files included were selected for use with the univariate routine (UNITEST), correlation analysis (CORRTEST), Student's t-test (STDTTEST), linear regression analysis (LREGTEST), one-way ANOVA (ANV1TEST), n-way ANOVA's (ANV2TEST and ANV3TEST), discriminant analysis (DISFTEST), and analysis of covariance (ACOVTEST). With the exception of ANV3TEST, these data sets were obtained from statistical textbooks or manuals, and were used to test the program routines.

A NOTE ON FILE NAMES

CSP stores files using names which consist of a user-defined prefix and a system-defined suffix. CSP suffixes "@CSP", "@OUTPUT", and "@COMMENT" identify files used by CSP for the storage of data, output, and comments, respectively. This enables the user to apply the same file name (prefix) to all output resulting from the same session (e.g. ACME@CSP, ACME@COMMENT, ACME1@OUTPUT, ACME2@OUTPUT) and to easily distinguish CSP files from the user's other files on the disk. CSP adds the suffixes during both storage and retrieval. When asked for a file name, the user should respond with the prefix (ACME, ACME1) only.

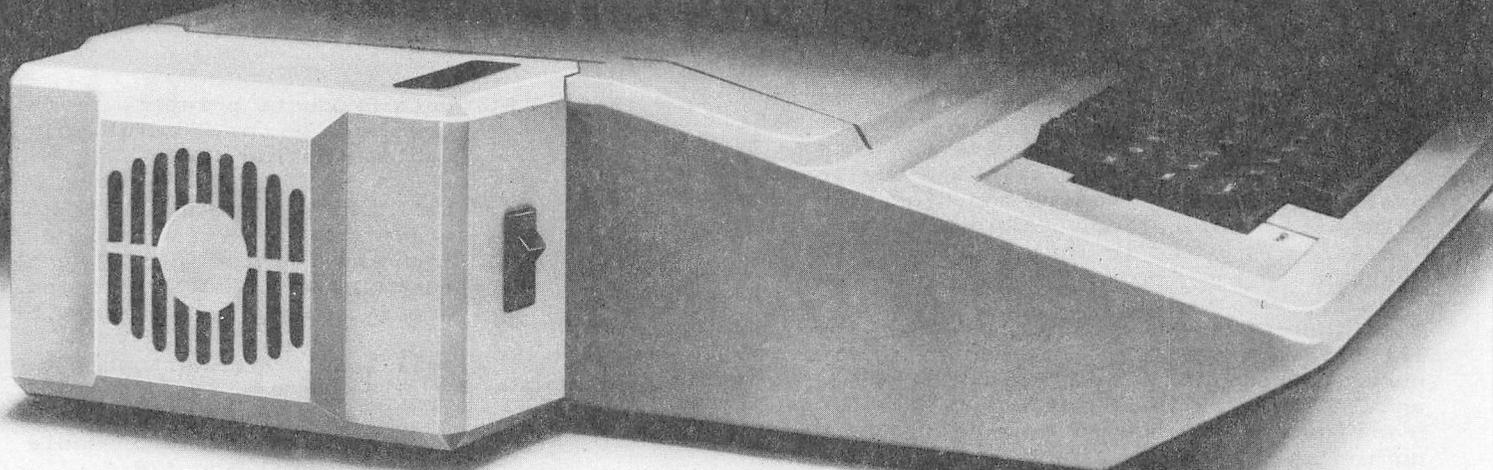
SUGGESTED MODIFICATIONS

When running, CSP utilizes nearly all of the memory readily available in a 48K Apple. Additional space for enhancements may be obtained by (1) wrapping the program around the text screen, (2) utilizing small pockets of unused space (e.g. \$300-\$3FF) for machine language subroutines, (3) moving DOS to a language or RAM card, or (4) breaking the program into components which do not need to be resident simultaneously. (Editor's note: not all of the \$300-\$3FF space is available so watch out.)

Perhaps the greatest limitation of CSP is its lack of printer output. This was imposed because I don't have access to a printer and have no means of testing printer routines. Thus I felt it was safest to leave them out for the time being. I have used output files on disk as an alternative means of saving and reviewing output. Users with printers may either dump these output files to the printer or replace the disk output routine (lines

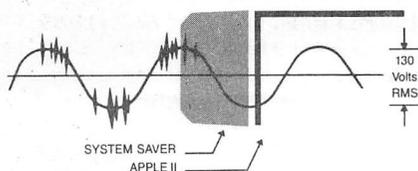
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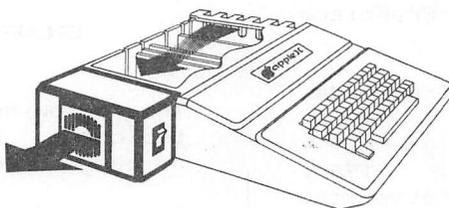


By connecting the Apple II power input through the SYSTEM SAVER, power is controlled in two ways: 1) Dangerous voltage spikes are clipped off at a safe 130 Volts RMS/175 Volts dc level. 2) High frequency noise is smoothed out before reaching the Apple II. A PI type filter attenuates common mode noise signals by a minimum of 30 dB from 600 khz to 20 mhz, with a maximum attenuation of 50 dB.

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As soon as you move to 64K RAM or 80 columns on your Apple II you need SYSTEM SAVER.

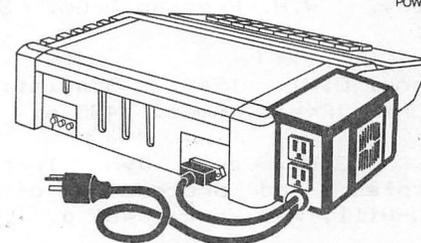
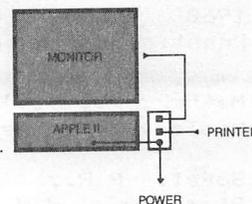
Today's advanced peripheral cards generate more heat. In addition, the cards block any natural air flow through the Apple II creating high temperature conditions that substantially reduce the life of the cards and the computer itself.



SYSTEM SAVER provides correct cooling. An efficient, quiet fan draws fresh air across the mother board, over the power supply and out the side ventilation slots.

For Operating Efficiency

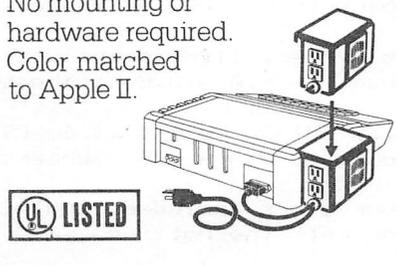
SYSTEM SAVER contains two switched power outlets. As shown in the diagram, the SYSTEM SAVER efficiently organizes your system so that one convenient, front mounted power switch controls SYSTEM SAVER, Apple II, monitor and printer.



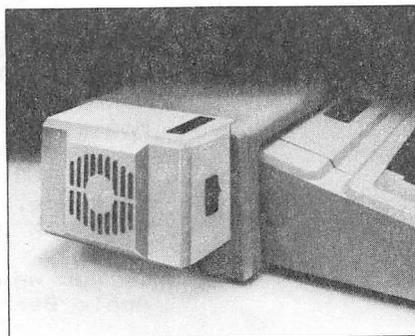
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450-465) with a printer output routine. Another significant limitation is that CSP Version 1.2 cannot use alphanumeric variables to structure the data base. Such a modification is possible by using a string variable to input data and then converting the numeric variables using VAL in the data processing subroutines. However, since CSP currently uses nearly all of the memory available in a 48K Apple and since I had no existing applications using alphanumeric variables, I opted to include other features instead.

One useful modification would be the introduction of a PRINT USING routine for numerical output. This could be linked with an automatic calculation, with manual override, of the number of significant digits during data entry.

DOCUMENTATION

Algorithms and test data sets were obtained from the following sources:

Dixon, W.J., and F.J. Massey, Jr. 1951 Introduction to statistical analysis. McGraw-Hill, New York. 370 p.

Freud, J.E., P.E. Livermore, and I. Miller, 1960 Manual of experimental statistics. Prentice-Hall, Englewood Cliffs, N.J. 132 p.

Mather, K., 1943. Statistical analysis in biology. Methuen & Co. Ltd. London. 267 p.

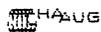
Sokal, R.R., and F.J. Rohlf. 1969. Biometry. W.H. Freeman & Co. San Francisco 776 p.

Snedecor, G.W. 1946. Statistical methods. Iowa Univ. Press, Ames. 485 p.

Steel, R.G.D., and J.H. Torrie. 1960. Principles and procedures of statistics. McGraw-Hill, New York. 481 p.

EDITOR'S NOTE

Due to the size of the programs and the large number of text files included with this package the listings are not included with this article. The disk will be available from the HAAUG Software Library.



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=   DEALING WITH DOS   =
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By

Clark Johnson

Part #3

READER FEEDBACK

Feedback from the readers is nice. It helps me if I go astray with the information in the column. It gives me suggestions for future columns. But, best of all (to a writer), feedback lets me know that there is someone out there alive and reading what takes long hours to write.

One comment I received was that I should advise everyone that all DOS commands can be used after the monitor prompt (*). You do not have to go back to a BASIC language prompt (J or >) to issue DOS commands. This is indeed true; you can BLOAD, BSAVE, CATALOG, etc, etc, following any prompt.

Another person pointed out a mistake in one of my examples when I referred to a D3 (Drive 3). You can only refer to drives as D1 or D2 even if you have more than two drives. In this case the drives must also be referenced by their slot location, as D1,S5, where D1 is your "third" drive. I had caught this error myself and corrected it in last month's column, but I do appreciate the comment anyway.

A third person said he had tried to shorten DOS commands (example - change the 'CATALOG' command to 'C'), but couldn't get it to work. He wondered if this will be a topic for future discussions. Yes, it will be, and although it is not a difficult problem, it is slightly more complex than he had thought. Here's a real quickie for you to try -- after booting up, type POKE 43218,195. Now you need type only C <ret> to get a catalog listing. Unfortunately, many of the rest of the DOS commands are now screwed up when you do this, rendering your DOS inoperable for full capability. This POKE could possibly be useful if all you wanted to do was to catalog a collection of disks. The proper technique will be explained in a later chapter. (If you're interested, 43218 is the location in DOS of the beginning of the word CATALOG, and 195 is the decimal equivalent for the letter 'C' with the high bit set. But a full explanation will have to wait for a later column. If you want to experiment a little more, type POKE 43220,212 after a fresh boot. The number 212 is the decimal equivalent for the letter 'I'. Notice the location for this POKE and try to determine what command will CATALOG the disk.)

One embarrassment - immediately after I made the statement that DOS 3.3 would probably be the last revision to Apple DOS's, I started reading (and hearing from a gloating friend) about DOS 4.0 that would be coming out early in 1983. Rumor is that the

new design Apple II, the Apple II Rev E, would have this DOS and rumor is also that the DOS is very similar to the SOS used in the Apple III's. A major advantage of SOS over DOS is that SOS has virtually no compatibility problems with the multitude of different peripherals (printers, cards, disk storage, etc) because all these devices can be simply accessed by a software interface system built into the SOS. All peripherals could be software-interfaced instead of hardware-interfaced. This is not a very good explanation, but it's not worth the effort right now to go into a lengthy discussion of SOS vs. DOS. However, based on this experience, I probably won't make any more predictions.

One individual questioned a comment that I had made regarding using slave disks (versus master disks) on 64K systems (48K with a 16K ram card.) If you remember this discussion in Part I of this column, I had stated that there was really no reason to convert slave disks (memory-size dependent) into master disks (non-memory-size dependent) since everyone uses 48K Apples today. Also, I indicated that the addition of a ram card does not change this fact. (Refer back to Part 1 in the Oct-Nov newsletter.) My explanation for this was weak, so here goes again -- 1) 64K systems usually have DOS loaded in its normal location in the motherboard 48K, so the DOS is really a 48K DOS. The ram card is used for storage of data, binary programs, or the Integer language. 2) Even if DOS is loaded into the ram card, it takes a special relocater program to store it there. In this case, the 48K DOS is first booted normally into its usual location. The special relocater program must then be run to move DOS to the ram card and to modify DOS so that it can be used in that memory location. 3) Also, the DOS relocater programs will usually disable the INIT command, or if INIT is allowed, the relocater program will modify the DOS to allow the disk to be formatted with INIT but not allow DOS to be saved to the disk. So the ram card DOS (with its specific memory addresses) will not (and should not) be saved to the disk during INITIALIZATION. -- Bottom line -- even with 64K systems, you either have a 48K DOS or no DOS at all if you initialize a disk.

P.S. The club library has a DOS-to-ram-card-relocater program, named DOS3.3LC on HAAUG disk number 16A1. This is a FILE CABINET disk, but the DOS relocater can be moved to any other disk. This might be useful if you have a large BASIC program with lots of data and are in danger of running out of memory.

Also, I have had several nice people thank me for the articles, saying that the explanations and examples were clearer than the published DOS manuals. I thank you - keep those those cards and letters coming.

DOS 3.3 SYSTEM MASTER UTILITIES

This month we will change tactics somewhat and begin to cover the System Master utility programs rather than DOS commands. These are the utility programs on the DOS 3.3 System Master that will be discussed this month.

COPYA
COPY
FID
MUFFIN

I intend not to go too much into the details of the utilities because for the most part they are easy to understand and the DOS manual does explain them well. But I will discuss their relative importance and give emphasis to areas that novices have not discovered or have else overlooked.

COPYA

COPYA and FID are the two most important programs on the System Master disk. COPYA is used to make exact duplicates of whole disks, while FID is used to transfer portions (files) of one disk to another disk.

There are actually two disk copy programs on the System Master - COPYA and COPY. If you CATALOG the System Master you can see that COPYA is an Applesoft program and COPY is an Integer program. So you can use either one depending on the language you're using - they are really identical programs. One very important point - both require a third program, a binary file called COPY.OBJO, which is also loaded into memory whenever the COPYA (or COPY) program is run. Look at Line 70 in the COPYA program listing for the BLOAD COPYOBJ.O instruction. This means if you ever want to put your COPYA program on another disk, you must also transfer the binary file COPY.OBJO to that disk.

The COPYA program has two different phases - the disk initialization phase and the copying phase. After running the program, answering all the prompts, and pressing the return key, the screen will show the word 'FORMATTING'. In this step, the COPYA program is using the DOS command INIT to initialize the destination disk (look at lines 240-250 in the COPYA listing). This means that you will always initialize the destination disk (and wipe out all previous data) even if it was already previously initialized.

You may wonder why the initialization is necessary, since the 'FORMATTING' phase adds about 20 seconds to the copying process. There are two reasons for this - 1) simplicity of program design and 2) disk Volume Number consistency. If you bypassed

the 'FORMATTING' section of COPYA (look at the COPYA listing; bypassing the INIT line would not be hard to do), the destination disk would keep the same volume number as it had when it was originally initialized. Believe it or not, the volume number is stored in 561 places on a disk - one in each of 560 sectors and another in the VTOC. Again, sectors and VTOC will be explained later.

It really usually would not be a problem if the destination disk had a different volume number, unless a program on the disk checked for volume number validity. Some commercial copy programs give you the option of whether you want to initialize the destination disk. Others "initialize" each track of the destination disk as the data is being written to it, thereby speeding up the copying process.

During the second phase of COPYA, the actual copying, "chunks" of data are read into a 'buffer area' in the computer's memory, and then the program will next internally change its operation to read this data from the buffer and write it to the destination disk. It takes 5 "reads and writes" (count - em) to get all the data from one disk to another.

The term 'buffer' is one that you will encounter frequently. A buffer is nothing but a temporary storage area for data on its way to somewhere else. In the case of COPYA, the buffer area extends from the empty RAM area beginning just above the COPYA program all the way to where DOS starts - a memory space of about 34K. If you divide the amount of memory on a disk (144K) by the buffer size, you will get the result 4.2. This means that it will take 5 passes through the read - write routine before the entire disk is copied.

One important point - the DOS on the destination disk comes from the source disk, not the DOS that was in the computer's memory during initialization. You will remember that the INIT command usually transfers the DOS from the computer memory to the disk initialized. However, in COPYA, this step is bypassed to allow an exact duplicate of the source disk, including its DOS.

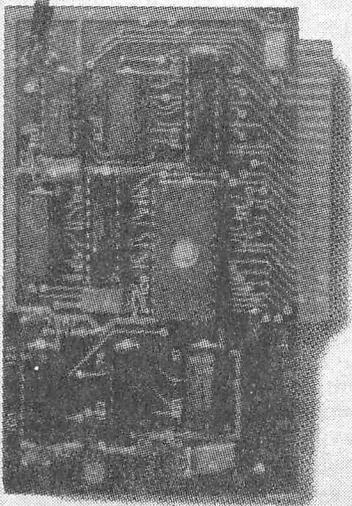
Here is one trick to remember when using COPYA. Have you ever run COPYA and then got unsure as to whether you were about to copy the right disk? So you broke out of COPYA with a Reset and then CATALOGed your source disk. The problem is now that you had to put your System Master disk back in to re-run COPYA. Well, you really don't have to do that last step. The COPYA program and the COPY.OBJO binary file are still in memory. You could simply type RUN to restart COPYA. But wait, Line 70 in COPYA will try to BLOAD COPY.OBJO but you've already put your System Master disk away. So simply delete Line 70 by typing 70 <ret>. (COPYA is still in the computer's memory - remember?) Then type RUN and COPYA is ready to start again.

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FID

FID is an acronym for File Developer. I have been amazed in the past that some people who have had Apples for over a year did not know about FID. It is a very important utility.

The program on your disk may be named FID M, which is the latest version of FID. As stated, it is a program that is used mainly to transfer files from one disk to another. In this operation, it is very useful because otherwise the process of transferring binary files or text files would be much more difficult without it. It is possible, of course, to transfer BASIC language programs by first LOADING the file into the computer's memory and then SAVEing it to another disk. But that process takes much longer.

For the most part, FID is a very simple program to run, so there's no need to go into a great amount of detail. Simply answer the prompts regarding the location of the source disk and the destination disk. Now comes the part that some people don't know how to use - the wildcard character.

The wildcard is the '=' sign. For example, if you wished to copy a file with a name that began with the letters 'UTIL' but you didn't remember the whole name, simply type 'UTIL='. You will now be able to copy all files that begin with 'UTIL'. If you are lazier, type in 'U=' and you will be able to copy all files that begin with the letter 'U'. Or if you can't remember any of the name, type in '=' and you will be able to copy all files, regardless of the spelling.

Any time that you use the wildcard character, you will be prompted by the question "DO YOU WANT PROMPTING?". This gives you the choice of acting individually on each file that satisfies the wildcard identification. For example, if you answer 'Y' to this question after inputting the wildcard name 'TR=', you will have the option of individually selecting whether to copy each file that begins with 'TR' or whether to skip over any particular file and go to the next one that begins with 'TR'. If you wish to copy that file, type in Y <ret> after the file name shows or type in N <ret> to skip to the next valid file name.

If you simply input the file name to be '=' and also answer 'Y' to the prompt question, you will have the opportunity of looking at every file name on the source disk and deciding whether to copy it or not.

The wildcard character does not have to be at the end of a series of letters. It can be at the beginning, anywhere in the middle, or at the end. Selecting 'AC=T' as the file name will give all files that begin with the letters 'AC' and end with the letter 'T'. The wildcard option is a very powerful tool; learn to use it.

Another trick with FID is to remember that it is a binary program and can be run with a 'CALL' command. The program starts at decimal location 2051 (\$803). How is this information useful? Well suppose that you were copying files and ran out of initialized disks. (The FID program will transfer files only to initialized disks). You now need to initialize another disk. It is not necessary to BRUN FID all over again. Simply hit Reset to get out of FID. Then type in the proper INII command (don't initialize your source disk!). After the initialization is completed, now type CALL 2051 and FID will come up again ready for more copying. It was always in the computer's memory. The INIIlization process did nothing to remove it. Also, since FID is a binary program and not a BASIC program, it will not become the hello program on your fresh disk.

Actually you will not have a hello program in this case even though you have issued the command INIT HELLO. This is because there can be no BASIC program loaded while FID is in memory. If you remember an earlier chapter, Applesoft programs start at location 2049. If you loaded or typed in an Applesoft program, it will write on top of FID (beginning at 2051) and destroy it. FID would then have to be BRUNned again. The absence of a hello program during initialization is no problem however because with FID running you can simply copy over a hello program from another disk to your new disk. (But remember that the name of the hello program is placed into the disk's DOS during initialization, so be sure that you have named your hello program correctly when using INII.

FID has other functions besides copying files, although these functions are not nearly as important. You can lock, unlock, delete files, or CATALOG a disk. Of course, you can do all this without FID. In my opinion, the second most important function of FID is to give you the remaining memory available on a disk - SPACE ON DISK. Also, the wildcard character can be used in any option that requires a file name.

MUFFIN

I really don't think MUFFIN is the next most important utility on the System Master disk, but there's a special reason to cover it this time. The program DISKFIXER that many of you have ordered comes on a DOS 3.2 disk. To be able to load it onto a DOS 3.3 disk, the file DF 3.3 must be MUFFINed up. The MUFFIN converts a 3.2 file into a 3.3 file. You must have an initialized 3.3 disk to transfer to. Simply BRUN MUFFIN, select the CONVERT FILES option, and transfer the file DF 3.3 over to the DOS 3.3 disk. You might wish to put it on a couple of your utility disks.

Since very little software comes in 3.2 format today, there will be little use of the MUFFIN program. It also supports the wildcard function as explained in FID.  HAAUG

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SO YOU'RE LOOKING FOR A MAGAZINE

by Mike Kramer

The new Apple owner in his quest for knowledge is faced with a bewildering array of magazines all begging to be bought. The summary below lists the publications which are commonly available. As indicated, some are of minimal value to the typical Apple owner, although they may be of interest to the owners of other systems. There are others which have not been included because I am not familiar enough with them to offer an opinion.

SOFTALK - This magazine has evolved from a skinny publication consisting of product reviews to one of the best Apple magazines. In addition to product reviews and interviews, it now includes continuing series covering Visicalc, Applesoft, Apple /// BASIC, PASCAL, Assembly Language, DOS, and the only really good written word I've seen on CP/M. To top it off, it's free to Apple owners for the first year. The normal subscription rate is \$24 per year without sponser, \$18 with. Softtalk's address is P.O.Box 60, North Hollywood, CA, 91603.

NIBBLE - Nibble started out a few years ago intending to cover the Apple II their first year and a different personal computer every year thereafter. They quickly came to their senses and are now included in the list of best Apple magazines. They include hardware projects, significant application programs, games, utilities, and hints and tips. The major programs in each issue are offered on diskette for a reasonable price, usually under \$20, and all diskettes produced are currently available. Nibble's only problem is their contention that any program you type in from their pages is copyrighted and cannot be given to a friend or placed in a user group library. Subscription rates are \$19.95 per year for eight issues. Nibble, Box 325, Lincoln, MA 01773.

Call-A.P.P.L.E. - This is the publication of a club, the Apple Puget Sound Program Library Exchange, and has long been considered one of the authoritative Apple publications. The articles are usually for the advanced user, but could be of interest to the new user. The club offers a line of very good, reasonably priced software and is getting into hardware sales. One of their new offerings is downloading of programs published in Call-A.P.P.L.E. to members via The Source. The one time Apple-Cation Fee is \$25 with annual dues of \$20. Call-A.P.P.L.E., 304 Main Ave South, Suite 300, Seattle, WA 98055.

APPLE ORCHARD - Apple Orchard is the publication of the International Apple Core. This is one of the better Apple magazines and is getting progressively better. Its articles tend to be somewhat advanced but

there are articles of general Apple interest. Subscriptions are \$15 per year for six issues. Apple Orchard, 910A George Street, Santa Clara, CA 95050.

BYTE - Probably the oldest small computer magazine in existence, BYTE covers the whole spectrum of personal computers and aimed at the experienced user. It frequently includes articles and programs specifically for the Apple, but unless you like reading about other systems or like to read all the parts house ads you probably should avoid it. Subscriptions are \$19 per year. BYTE Subscriber Service, Box 328, Hanover, NH 03449.

CREATIVE COMPUTING - This magazine is worth while but suffers from attempting to satisfy Apple, Atari, TRS80, and Pet users alike. Each issue includes interesting Apple programs and software reviews along with a worthwhile Apple column by Chuck Carpenter from the Dallas club. Subscriptions are \$15 a year. Creative Computing, Box 789-M, Morristown, OH 07960.

PERSONAL COMPUTING - Personal Computing is oriented more toward those who use a computer rather than those who program them. It has comparative reviews of general ledgers, word processors, etc. and introduction-to-computing articles. Probably of more interest to the new user-type owner than any of the previously discussed magazines. Subscriptions are normally \$24 a year but there are frequent special introductory offers. Personal Computing, Box 2941, Boulder, CO 80321.

MICRO - THE 6502/6809 JOURNAL - MICRO has been around for a long time and has always included a large number of Apple programs along with others for SYM and KIM board computers, Ohio Scientific, Pet, and other 6502 based computers. Programs tend to be aimed at the experienced user with a lot of machine language. There were recently a lot of complaints from non-Apple users over the growing number of Apple articles. MICRO's response was that the percentage of Apple articles probably reflected the growing share of the market enjoyed by Apple. Subscriptions are \$18 per year. MICRO, Chelmsford, MA 01824.

SOFTSIDE - This magazine suffers like others from trying to satisfy the owners of too many different machines, with articles for Atari, Apple, and TRS80. At least they frequently try to include versions of the programs for more than one machine. Not a bad magazine if you don't mind 2/3 of your magazine not pertaining directly to your needs. Subscriptions are \$24 per year. Softside, 6 South Street, Milford, NH 03055.

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APPLE SLICES

Steve Knouse

MXPLUS or Decent Printer Control Commeth

Much has been written about controlling the operation of a printer from within a program. It's always seemed to me that you should be able to set condensed or emphasized print or the number of lines per inch from the front panel of a printer. With an Epson MX80 or MX100 printer and MXPLUS you can.

MXPLUS is a device which plugs into your Epson MX80 or MX100 printer and gives you control of the following functions:

1. Reset - turn off all other functions
2. Condensed print
3. Double-width characters - stays on at the end of a line
4. Emphasized print
5. Double-strike
6. Skip over perforation - (any printer which doesn't support this should be shot)
7. Italics - only with Graftrax
8. Indent 6 spaces
9. 8 lines/inch

To change one or more of these settings you hold down the "On Line" button until the printer beeps once (about one second). Press "On Line" for additional beeps until the total number of beeps is the same as the number of the function you want to change. (For instance skip-over-perforation is 6 beeps; indent-6-spaces is 2 more, or a total of 8 beeps.) Then press the "FF" button to turn the function on or off. The "On Line" light indicates whether or not a function is on or off. When all selections have been made press the "LF" button and then "On Line".

To install MXPLUS take off the printer cover and remove one chip. Bend one of the chip's pins out, put the chip in the MXPLUS circuit board, and put the circuit board in the socket where you removed the chip. Finally run two jumper wires and replace the cover. No soldering is required. Although the installation is not difficult, if you do not feel comfortable inside your machine I would advise you to have your dealer install MXPLUS.

The five pages of documentation with MXPLUS cover operation and installation. There is also a nicely done quick reference sticker to put on your printer.

MXPLUS is compatible with all MX80, MX80 F/T and MX100 printers, and with all interfaces (parallel, serial and IEEE 488). With the exception of italics (which requires Graftrax) every function is available whether or not your printer's firmware supports that function (e.g. skip over perf with Graftrax

80). You still have software control over your printer. For instance you could turn on emphasized print with MXPLUS and then turn it off with a software command.

I highly recommend MXPLUS. It is a simple way to control your printer. No more will you have to RUN a program or EXEC a text file, or imbed a control character or escape sequence to set up your printer. It is easy to install and well documented.

MXPLUS costs \$49.95 and is available from the manufacturer, Dresselhaus Computer Products, Box 929, Azusa, CA 91702. The phone number is (213) 969-2250.

Turning on the Printer or How Do I Get This Darned Thing to List a Program?

To list a program (or anything else) on your printer you must first tell the computer to send its listing to the printer. To do this from the keyboard (as versus inside a program) type:

```
PR#1
```

Then you can type:

```
LIST
```

to list the program. But this will list it in a 40 column mode. If you want it to print past column 40 type:

```
PR#1
PRINT CHR$(9)"80N"
LIST
```

This tells Basic you have an 80 character printer and stops the output from going to the screen.

From within a program type :

```
10 D$=CHR$(4)
20 PRINT D$"PR#1"
30 PRINT CHR$(9)"80N"
40 LIST
```

To turn off the printer from the keyboard type:

```
PR#0
```

or from a program type:

```
50 PRINT D$"PR#0"
```

In the above examples I assumed your printer interface card is in slot 1 as this is the standard printer slot. If your interface is in another slot, say 2, substitute PR#2 for

ES-CAPE

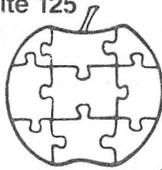
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A programmer's tool to speed up and simplify the development of Applesoft BASIC programs. ES-CAPE provides a split-screen editing window: you can LIST a portion of your program in the upper window and independently edit other lines in the lower window. Editing functions include character insertion and deletion, line truncation, and simple entry of lower case and control characters.

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PR#1. I also assumed that your interface card supports the Apple parallel printer card standard. In other words PRINT CHR\$(9)"80N" will not work the same with an AIO serial interface card.

With an AIO serial interface type:

```
10 D$=CHR$(4)
20 PRINT D$"PR#1"
30 PRINT CHR$(0);: POKE L1,128: POKE L2,80
35 POKE 33,33
40 LIST
```

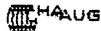
In line 30 L1 and L2 are memory locations which elude me now. (I'd look them up but it is 1 a.m. before deadline and my manual is at the office.) The first Poke turns off the Apple video and the second sets the line length to 80 characters. It is necessary to initialize the card by printing something before doing the Pokes, so a Null character (CHR\$(0)) is printed. The Poke in line 35 stops Basic from splitting lines.

Tabbing with a Printer

To tab to a column when printing you must Poke the tab position in location 36. For instance to tab to column 10 type:

```
100 POKE 36,10
```

If you intend to tab beyond column 40 be SURE you have disabled output to the screen (see above). If you don't you will wind up modifying your program.



**QUICK CONNECT
YOUR PADDLES**

by Brian Whaley

If you are like me and have several children vying for the computer, then you are continually exchanging the joystick with the game paddles. Moreover, when your wife impales her finger on the sharp little pins of the DIP header, you'll look for an alternative. I found it in an advertisement for joysticks that were connected with DB-25 connectors. Here was the solution, but they wanted \$75. I already had the paddles and joystick, so all I needed were satisfactory DB-25 connectors and to discover how to connect them.

I have the original game paddles that used to be supplied with the Apple II. I also have the TG Products joystick. I am quite satisfied with these, especially since I can replace the buttons with Radio Shack push button switches, 275-609. They are the only failure prone components. (Editor's note: Radio Shack 275-618 switches, which are practically flush with the surface they mount

on, are immune to snapping off and can be screwed into the solder connection end of the switch used on the TG and Kramer joysticks without any resoldering.) The TG joystick uses a ribbon cable and Apple paddles have twisted pairs.

To me, the logical standard would be 16 wire ribbon cables, as the extension coming off the Mother board of the Apple can be a ribbon cable terminated with a 16 pin DIP at one end and a DB-25 at the other end. Again, Radio Shack to the rescue. They sell male and female 25 pin DB-25 communications connectors with ribbon cable connectors having the correct spacing for the 16 wire ribbon cable commonly used with 16 pin DIP headers. I purchased a 16 pin DIP jumper, Radio Shack 276-1976, and connected it to a Radio Shack 25 pin female DB-25 connector, 276-1548, using the colored wire as the pin 1 reference with both connectors. I connected a Radio Shack 25 pin male DB-25 connector, 276-1559, to the ribbon cable on my TG joystick, again using the colored wire as the pin 1 reference. I plugged the 16 pin DIP header into the Mother board socket, extended the ribbon cable out the rear or the chassis, and plugged into the joystick. It worked!!!!?

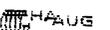
The more difficult task lay ahead. Now I had to correlate the three wires coming from each of the paddles from their former connections on a DIP header to their new connections on a DB-25. This time I used a male DB-25 connector with solder pins, Radio Shack 276-1559 with hood 276-1549. I also purchased the two 560 ohm resistors, normally soldered inside the DIP header, that I would solder inside the DB-25.

The following list shows the correspondence between the paddle wires formerly connected to a 16 pin DIP header and the new connections on a DB-25.

DB-25 connections <u>PIN NUMBER</u>	Former DIP connection <u>PIN NUMBER</u>
1 Not connected	16 (colored wire on ribbon cable)
14	1 red wire pds 0 & 1
15 560 ohm res.	2 white wire paddle 0
16 560 ohm res.	3 white wire paddle 1
19	6 black wire paddle 0
7	10 black wire paddle 1
21	8 see next paragraph

The two 560 ohm resistors are connected from DB-25 pin 21 (DIP pin 8) to DB-25 pins 15 and 16 (DIP pins 2 and 3) respectively. On the DB-25 connector, pins 1 through 6, 9 through 13, 17, 18, and 20, and 22 through 25 are not used. The red wire refers to the 5 volt connection, the whiter wire refers to the paddle button connection, and the black wire refers to the game controller pot. For a diagram of the game paddle connector on the Mother board, refer to page 100 of the Apple Reference Manual.

You should now be able to exchange your game paddles and joysticks quickly. By attaching longer ribbon cables, you can extend the length of the cables considerably.



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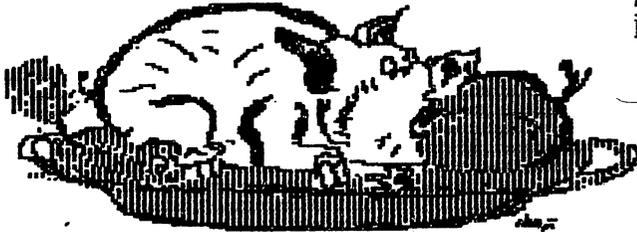
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