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# WORDPLAY AUGUST 1987

The PUNN Newsletter - Portland, Oregon - July 1987

## From the Editor

This month several officers and board members had the pleasure of a visit from Wesley Richardson of the BLUEGRASS COMPUTER SOCIETY of Lexington, Kentucky. It was a nice meeting and concluded with an informal dinner meeting at North's Chuckwagon. While he was here a number of program exchanges were made that will enrich our club library and all of our members are better off with this kind of interchange.

At the present time we exchange bulletins with some 34 different User Groups. They are located in various sections of the country including several in Canada. If you should be travelling to any of these areas either while on vacation or business, you might want to consider visiting one of the meetings of the various clubs.

We have a list of these clubs and the times of their meetings. It is available to anyone for the asking.

## News & Views

Thanks to Mike King and Al Kinney who helped your editor hook up his 1200 modem. Going from 300 to 1200 is like sliced bread. . . You could never go back! Librarian Ron Mayer is up and around after his operation and stay in the hospital. . . You may recall an article in a previous issue of WordPlay on how to add a voice to your Avatex modem--well the new model of the Avatex has a voice built in. . . Don't forget the PICNIC which replaces the August meeting--see elsewhere in this newsletter for all the details. . . The current issue of Micropendium which arrived too late for the July meeting will be for sale at the Picnic, however no other business will be conducted. . .

. What kind of programs and features do you want to see in WordPlay?. . . Leave a message on the BBS or give the editor a call. . . We have literally hundreds of programs we review each month from other User Groups and maybe there is one there for you too. . . Your assistant editor, Dan Hawes, got a job--Visit him at the Tigard Dairy Queen to see him at work. . . The multiple column print out program promised for this month will appear in the September WordPlay, due to space limitations in this months issue. . . Hyphenator is now in the club library and available for the usual copying fee (fairware and a contribution to the author is expected)--It works great--Try it!. . . The TI-Faire is Seattle will be held at the Airport Holiday Inn (Seatac)--There will be an informal meeting Friday evening (no banquet) and the show will be from 10:00am to 5:00pm on Saturday September 26. Besides the major exhibitors, many user groups will have displays. Our group has signed up for a booth and we need some volunteers to help man it. Admission to the show is \$3.00. . . Don't forget our picnic meeting. . . If you have not yet bought your tickets, contact Terry Priest at 649-9583 or Don Barker 223-1749. . . We need to know how many are coming.

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## Club Officers

President	Keith Fast	777-1531
Vice-President	Dale Kirkwood	646-4354
Secretary	Don Barker	223-1749
Treasurer	Mike King	357-4413

\*\*\*\*\*

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Membership Chairman	Terry Priest	649-9583
Newsletter Editor	Charles Ball	639-0466
16576 SW Matador Lane-King City, OR	97224	
Ass't Editor	Dan Hawes	620-9725

\*\*\*\*\*

### BBS Committee

Chairman:	Al Kinney	640-5860
	Ron Mayer	232-7363
	Mike King	357-4413

BBS Phone Number 233-6804

# BA-Writer Review

The program BA-Writer has been around for a while now, so why a review at this time? The reason for this review is that Paolo has just released version 1.3 of BA-Writer.

One of the key improvements is for those of us who have the Horizon Ram Disk. Previous versions did not always work with the HRD. I was able to make version 1.2 work by going in with John Birdwell's Disk Utilities and making modifications to the object. But it still balked at times.

Now up to five files can be opened in the formatter, that being of use to those who use mailing list for example. A problem with BA-Writer was that at times the GROM return address was destroyed by the Editor. This was found to be a problem in the original TI Writer file EDIT2. Paolo found and corrected that problem.

This TI-Writer clone is still the best on the market. The enhancements added to Version 1.2 are of course still in 1.3. The SD option of marking the file you wish to import so as not to forget the spelling is one of the more useful ones.

The ease with which the program can be configured is a major item. You can select different colors for each screen type (White on blue for the editor and blue on white for the formatter for example). The utility option can be predefined as anything you want (program image that is). I call my spell checker program Spellcheck and when I go into the utility option, the program name is there. All I have to do is press enter and make sure the disk is in drive 1.

All in all, the BA-Writer gets better

everytime. It still continues to run circles around the FunWriter in this authors opinion. For those who wish to have a word processor that works with ease, and not one that is difficult at best to set up, then BA-Writer is the one for you.

No extras such as EA loaders or user menus to play with. The only options are a disk copier program and a very good disk initializer program (both entered thru the Utility option).

I highly recommend this word processing program to all who really want to do some serious word processing. This has to get an AAA+ on all counts. I use it virtually every day (from my HRD) and have experienced no problem of any kind. At fairware prices, you can't go wrong (it is worth much more!).

Speaking of price, send the money to the Southern California Computer Group and they will forward it to Italy (where Paolo lives). Paolo has great difficulty cashing foreign checks. Also international money orders are not cheap. SCCG sends money to Paolo regularly therefore making the per person cost of the money order only a small part of the \$15.00 fairware cost. If your club library does not have the BA-Writer, get it now. And support our fairware authors with your contributions of \$10.00 or \$15.00 or whatever. Without authors the caliber of Paolo Bagnaresi, our machine would not be of much more use than that of a door stop.

Reviewed by Tom Wills  
Sheboygan WI newsletter

(ED NOTE: This new version is now in the club library)

## Assembly For Beginners

There are a lot of people out there who know how to key in an Extended Basic program, but do not know how to program in Extended Basic or just Basic for that matter. But alas, for some reason, those who don't know how to program in Assembly Language would never consider keying in a program that is written in Assembly Language. This article can change all that. All you have to do is put in the Assembly Language cartridge, slip the Part A disk into your disk drive and you are on your way in Assembly!

With any language, such as Basic or Assembly, a program must be translated into machine language before it can be executed by the computer. T.I. Basic makes this conversion all at the same time, but other languages, such as Assembly, do it in a two step process, which is to first "Edit" and then to "Compile" the program.

With T.I. Assembly, you first enter the program with the Editor of the E/A module, called the SOURCE PROGRAM. Then that program is translated by the Assembler of the E/A module into the OBJECT PROGRAM. The object program is the program that you load and run from the Editor Assembler module.

When assembling a program, you will also generate a LISTING that includes the assembly language statements, the resulting machine code produced by those statements, the machine code memory locations, and other information.

Sound tough? Wait until you see how really easy it is. You'll wonder why you never tried it before. Type in the following program using the step-by-step instructions to the right of it. (The fctn 7 "tab" when editing will automatically move you to the columns in the program listing.)

## Follow these steps Listing on page 3

1. Turn on the computer
2. Select Editor-Assembler
3. Press 1 for Edit
4. Press 2 for Edit
5. Press enter to get cursor on line 1
6. Press FCTN 8 for line
7. Type in the program as shown
8. Press FCTN 9 twice
9. Press 3 for save
10. Press Y for "Variable 80"
11. Type in file name (your choice)
12. Press FCTN 9
13. Press 2 for Assemble, Y for Load Assembler
14. Type in the filename as step 11
15. Type in a different file name
16. Type in your printer name and a period.
17. Select option then Enter RCL
18. If it says 0000 errors, go to step 26
19. Press ENTER
20. Press 1 for Edit
21. Press 1 for Load
22. Type in the filename in step 11
23. Press 2 for Edit
24. Find the error and correct it
25. Go to step 8
26. Press ENTER
27. Press 3 for LOAD AND RUN
28. Type in the filename in step 15 and ENTER
29. Press ENTER again at the prompt
30. At PROGRAM NAME prompt type in TRY
31. If it does not work, reset computer, select EDITOR/ASSEMBLER and go to step 20

# PICNIC

TUESDAY AUG 4th. - 6:30pm

This month instead of the regular meeting we will have picnic at the Milwaukie Elks Club.

Bring the family and we'll all have a lot of fun! No club business, programs or library. Just come, socialize, and enjoy yourself.

## MENU

Hot Dogs . Sliced Roast Beef, Ham Turkey  
Potato Salad .Variety of Soft Drinks . All the Fixings

The Milwaukie Elks Club is located just south of Milwaukie If you're coming from the west side take either the Ross Island or Sellwood bridges and drive south. You'll find the Elks Club on your right about 1/2 mile south of Milwaukie. The picnic grounds are in the back and parking is free. You do not have to be an Elks member. Tickets are available at the site . Bring your guests

Swimming available in the Elks Pool - \$1.00

ADULTS \$3.00 - CHILDREN (12 and under) \$1.50

## Assembly Program

```

DEF TRY
REF VMBW,VSBW
MYWS BSS 32
TRY LWFI MYWS
BL @CLEAR
BL @PRINT
LIMI 2
TRY1 JMP TRY1
CLEAR CLR RO
CLEAR1 LI R1,>2000
BLWF @VSBW
INC RO
CI RO,>0300
JLT CLEAR1
B *R11
STRING TEXT 'HI THERE!'
EVEN
PRINT LI RO,>003
LI R1,STRING
LI R2,27
BLWF @VMBW
B *R11
END
    
```

## Innovative Programming

We have received a disk from Innovative Programming that contains 4 Fairware programs.

1. Characters: A utility that creates a complete upper/lower case that you can use in your extended basic programs.
2. Diskdoctor: This program patches files that are fractured and thus decrease loading time.
3. Easy Design: If you want to design a special character this program will make the job easy and fast.
4. Network: An extended BASIC program to calculate ones network. Data can be saved and loaded, printed and changed.

All of these programs are fully documented and have been placed in the club library. If you order them and find them useful you can send a donation to the author for what you think they are worth.

Innovative Programming informs us that their BBS is online 24 hours a day - 7 days a week (300-1200 baud). Their new computer service lets you communicate with Corcomp, DataBiotics, Myarc and other computers nationally.

COMP-U-PHONE 707/585-3321

## Back to Basic

Sometimes we all have to go back to school. For TI-ers that means back to BASIC.

One reason that Basic (Beginner's All Purpose Symbolic Instruction Code) is so popular is its conversational nature. A BASIC program is very similar to the instructions you would write for a person. BASIC makes communications with a computer natural, simple and straight forward.

Another advantage of BASIC is its many built-in conveniences. Handling a large table of numbers can be very difficult in other programming languages. In BASIC you can command the computer to print a table of numbers or names with a couple of simple instructions. In addition, BASIC has excellent file-handling capabilities, although sometimes painfully slow in execution.

To get you started, here are some BASIC computer programs. If you do not completely understand all the details of the instructions yet, relax, get the flavor of programming and the more you work at it the more you will understand.

BASIC can be used like a hand calculator. If you want to find the circumference of a circle with the diameter of four inches, you multiply 4 times 3.14159 (pi). The following BASIC program will make this calculation:

```
10 C= 4*3.14159
20 PRINT C
30 END
```

Type RUN and press ENTER. The program will print:

```
12.5664
```

You can also instruct the computer to read data and make computations before the results are printed. Here is a program that will calculate a 15 percent commission C, on sales, S:

```
10 READ S
20 C=.15*S
30 PRINT C
40 DATA 400
50 END
```

Type RUN and press ENTER. The program reads the sales amount 400 from the DATA statement, calculates the commission in line 30.

How could you modify the above program to calculate the commission for each sale during the month? Assume you make the following sales in dollars: 400, 100, 2000, 500, 1062.47, and 342.61. Of course, you could write the above program six times to calculate the commission on the six sales, but there is a much easier way. The only change is a GOTO 10 statement added to the end of the program (40 GOTO 10) that instructs the computer to read the next value in the DATA statement, after which the program continues as usual.

```
10 READ S
20 C=.15*S
```

```
30 PRINT C
35 GOTO 10
50 DATA 400,100,2000,500,1062.47,342.61
50 END
```

The program will then print:

```
60
15
300
75
159.371
51.3915
DATA ERROR IN 10
```

The GOTO statement in line 35 creates a loop that cycles once for each value in the DATA statement. If we had 100 sales amounts in several DATA statements, this program would loop 100 times, calculating and printing the commission for each sale. After all the data is read and the results printed, there will be an "out of data" error message. You will see in a future article how to avoid this condition.

Assume that the sales manager decided to offer a \$100.00 bonus above the normal 15 percent commission for any sale that is \$1000.00 or more. This new bonus offer can be incorporated into the above program as shown in the following program. All we have to do is add two new lines to achieve this result. Here's how it's done:

The first sales value to be processed is 400. This value is read in line 10 and commission calculated in line 20 as usual. Since 400 is less than 1000, line 24 directs the computer to go directly to line 30. The commission is printed and then line 35 sends us back to line 10 for the second loop, which is processed the same as the first loop. The third loop, where S is set to equal 2000 in line 10 is different. When we get to line 24, since 2000 is not less than 1000, the computer goes to line 26 and adds 100 to the commission. Thus, whenever S is 1000 or greater, 100 is added to C.

```
10 READ S
20 C=.15*S
24 IF S<1000 THEN 30
26 C=C+100
30 PRINT C
35 GOTO 10
40 DATA 400,100,2000,500,1062.47,342.61
50 END
DATA ERROR IN 10
```

Learning BASIC is like learning a foreign language except it is infinitely easier to learn. The average pocket dictionary contains about 50,000 words but there are fewer than 50 commands in BASIC. As with any language, knowing only the grammar of the language is not enough. You must also know how to construct the commands into a functional program. The challenge can be fun but also frustrating. The key to success is to learn from your mistakes and don't give up. READ YOUR MANUAL!

```
*****
*
*   Murphy's Rule:
*
*   The race is not always
*   to the swift nor the battle to
*   the strong, but that is the
*   way to bet.
*
*****
```

**"I still maintain that anyone who has the willpower, the determination, the discipline and the grit to run ten miles every day deserves something better."**

# CLOCK

This program will allow you to put a clock in the upper right corner of your screen. It runs in extended BASIC and when you first run it you must set your clock. The first screen asks you do you want a 12 or 24 hour clock. Then you must set your clock. You do this in the following manner: HH,MM,SS being sure to use a zero when necessary and a comma between the hours, minutes and seconds. The clocks starts when you press ENTER. Do not press the reset button on the Navarone Widget or FCIN= as this has the same effect as turning the computer off and your clock will be gone. Use NEW to clear the computer for another program and the clock will still be there. Try it out and you will see the clock all the time you are computing. The program comes to us from the Pittsburgh User's Group.

```

100 CALL CLEAR :: CALL SCREE
N(2):: FOR ZZZ=0 TO 14 :: CA
LL COLOR(ZZZ,15,1):: NEXT ZZ
Z
110 CALL INIT
120 PRINT "12 or 24 hour clo
ck";
130 CALL KEY(3,K,S):: IF K=4
9 THEN T=12 ELSE IF K=50 THE
M T=24 ELSE 130
140 GOTO 260
150 PRINT "Set time = HH,MM,
SS";
160 INPUT HR,MM,SC
170 SC=SC+10 :: IF SC<60 THE
M 200 ELSE SC=SC-60 :: MM=MM
+1
180 IF MM>59 THEN MM=MM-60 :
: HR=HR+1
190 IF HR>12 THEN HR=1
200 IF T=12 THEN T=13 :: IF
0<HR AND HR<13 THEN 230
210 IF T=24 THEN IF HR<0 OR
23<HR THEN 220 ELSE 230
220 PRINT "BAD HOURS" :: 60T
D 150
230 IF MM<0 OR 59<MM THEN PR
INT "BAD MINUTES" :: GOTO 15
0
240 IF SC<0 OR 59<SC THEN PR
INT "BAD SECONDS" :: GOTO 15
0
250 RETURN
260 R=10240 :: CH=0
270 PRINT "LOADING";T;"HOURL
CLOCK"
280 CALL INIT
290 CALL LOAD(10240,200,32,4
0,234,41,44)
300 CALL LOAD(10246,200,32,4
0,232,41,40)
310 CALL LOAD(10258,4,224,41
,48,4,224,41,50)
320 CALL LOAD(10266,4,224,41
,52,2,0,40,46)
330 CALL LOAD(10274,200,0,13
1,196,4,91,4,224)
340 CALL LOAD(10282,131,196,
4,91,3,0,0,0)
350 CALL LOAD(10290,2,224,41
,40,6,2,22,82)
360 CALL LOAD(10298,192,160,
40,234,5,134,2,134)
370 CALL LOAD(10306,0,60,22,
14,4,198,5,133)
380 CALL LOAD(10314,2,133,0,
60,22,9,4,197)
390 CALL LOAD(10322,5,132,12
8,196,22,5,4,196)
400 CALL LOAD(10330,2,131,0,
24,19,1,5,132)
410 CALL LOAD(10338,6,192,21
6,0,140,2,6,192)
420 CALL LOAD(10346,224,32,4
0,228,216,0,140,2)
430 CALL LOAD(10354,64,32,40
,228,208,100,40,236)
440 CALL LOAD(10362,9,65,2,3
3,144,0,216,1)
450 CALL LOAD(10370,140,0,10
,65,2,65,15,0)
460 CALL LOAD(10378,2,33,144
,0,216,1)
470 CALL LOAD(10384,140,0,2,
1,154,0,216,1)
480 CALL LOAD(10392,140,0,20
8,101,40,236,9,65)
490 CALL LOAD(10400,2,33,144
,0,216,1,140,0)
500 CALL LOAD(10408,10,65,2,
65,15,0,2,33)
510 CALL LOAD(10416,144,0,21
6,1,140,0,2,1)
520 CALL LOAD(10424,154,0,21
6,1,140,0,208,102)
530 CALL LOAD(10432,40,236,9
,65,2,33,144,0)
540 CALL LOAD(10440,216,1,14
0,0,10,65,2,65)
550 CALL LOAD(10448,15,0,2,3
3,144,0,216,1)
560 CALL LOAD(10456,140,0,7,
32,131,214)
570 CALL LOAD(10462,2,224,13
1,224,4,91,64,0)
580 CALL LOAD(10470,0,13,0,2
3,0,59,0,1)
590 CALL LOAD(10478,2,3,4,5,
6,7,8,9)
600 CALL LOAD(10486,16,17,18
,19,20,21,22,23)
610 CALL LOAD(10494,24,25,32
,33,34,35,36,37)
620 CALL LOAD(10500,36,37,38
,39,40,41)
630 CALL LOAD(10506,48,49,50
,51,52,53)
640 CALL LOAD(10512,54,55,56
,57,64,65)
650 CALL LOAD(10518,66,67,68
,69,70,71)
660 CALL LOAD(10524,72,73,80
,81,82,83)
670 CALL LOAD(10530,84,85,86
,87,88,89)
680 CALL PEEK(8196,H,L)
690 LFAL=H#256+L
700 NEWL=LFAL-16
710 MH=INT(NEWL/256)
720 NL=NEWL-MH#256
730 CALL LOAD(8196,NH,NL)
740 CALL LOAD(NEWL,83,84,65,
82,84,32,40,0)
750 CALL LOAD(NEWL+8,83,84,7
9,80,32,32,40,40)
760 CALL LINK("START")
770 GOSUB 150
780 CALL LOAD(10543,T,0,HR,0
,MM,0,SC)
790 CALL CLEAR
800 RUN "DSK.DIALDISK.LOAD"

```

## Mistrust of Computers

Many top bosses mistrust and dislike the computers their companies depend upon, according to a recent survey of 100 major British corporations.

"Unfortunately, this is true in America, too," declared Dr. Alfred McKinney, chairman of the department of computer science at Louisiana State University.

Top executives have been trained in certain areas in which they feel competent and comfortable, Dr. McKinney explained.

"They didn't grow up with computers as their children do," he added.

Here are some of the findings of the British survey, conducted by Lotus Development, a computer software firm, and the Institute of Directors, an organization of business executives:

54 percent say they don't trust the information they do receive from a computer because they don't know who compiled it or how

it was compiled.

56 percent of top executives don't expect the computer to give them all the information they need.

50 percent said they considered computer keyboard work beneath them--suitable only for clerks and secretaries.

49 percent said they were too busy to learn to use personal computers and it was easier to ask assistants.

34 percent believe they are too old and set in their ways to learn to use computers.

21 percent noted they were always beaten at computer games by their children.

Only 14 percent said they used personal computers.

"Many top bosses in America also regard computers with awe and fear," said Dr. Marilyn Suydam, professor of mathematics education at Ohio State University.

	GEMINI			EPSON		FANASONIC OKIDATA	
	10 X	SG-10	NX-10	MX-80	FX-80	KX-P1091	OKIDATA
Italics	27 52	27 52	27 52	N/A	27 52	27 52	N/A
Elite	27 66 2	27 66 2	27 77	N/A	27 77	27 77	28
Condensed	27 15	27 15	27 15	27 15	27 15	27 15	29
Pica	27 66 1	27 66 1	27 80	N/A	N/A	27 80	30
Expanded	27 87 1	27 87 1	27 87 1	27 14	27 87 1	27 87 1	31
Superscript	27 83 0	27 83 0	27 83 0	N/A	27 83 0	27 83 0	27 74
Subscript	27 83 1	27 83 1	27 83 1	N/A	27 83 1	27 83 1	27 76
N L O	N/A	27 66 4	17 120 1	N/A	27 120 1	27 110	27 49
Emphasized	27 69	27 69	27 69	N/A	27 69	27 69	27 84
Underlined	27 45 1	27 45 1	27 45 1	N/A	27 45 1	27 45 1	27 67
Double Strike	27 71	27 71	27 71	27 71	27 71	27 71	27 42
Slashed Zero	N/A	27 92 1	27 126 1	N/A	N/A	N/A	N/A
1/8 Line Space	27 48	27 48	27 48	27 48	27 48	27 48	27 56
1/6 Line Space	27 50	27 50	27 50	27 50	27 50	27 50	27 54
7/72 Line Space	27 49	27 49	27 49	27 49	27 49	27 49	N/A
n/72 Line Space	27 65 n	27 65 n	27 65 n	27 65 n	27 65 n	N/A	N/A
n/144 Line Space	27 51 n	27 51 n	N/A	N/A	N/A	N/A	27 37 57 n
n/216 Line Space	N/A	N/A	27 51 n	N/A	27 51 n	N/A	N/A
Top Margin	27 82 n	27 82 n	27 114 n	N/A	N/A	N/A	N/A
Bottom Margin	27 78 n	27 78 n	27 78 n	27 78 n	27 78 n	N/A	N/A
Left Margin	27 77 n	27 77 n	27 108 n	N/A	27 108 n	N/A	N/A
Right Margin	27 81 n	27 81 n	27 81 n	27 81 n	27 81 n	N/A	N/A
Column Width	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Page Lines	27 67 n	27 67 n	27 67 n	27 67 n	27 67 n	N/A	N/A
Page Inches	27 67 0 n	27 67 0 n	27 67 0 n	N/A	27 67 0 n	N/A	N/A
Paper Out	27 56	27 56	27 56	27 56	27 56	N/A	N/A
Proportional	N/A	27 112	27 112	N/A	27 112	27 111	N/A
Reset Printer	27 64	27 64	27 64	N/A	27 64	N/A	24

## Printer Code Converter

The chart above has several functions. Most of the programs published in WordPlay where a print-out is involved are listed for the GEMINI printer. The principal reason for this is that your editor has a GEMINI.

However we recognize there are other printers that require a different code. This table should help you compare codes

listed in a program to those that are required for your printer.

It should also prove helpful in more quickly ascertaining what code is needed for a particular printing function.

We recognize that most printers have many additional codes, but the most frequently used codes are here and we are hopeful that the chart will be useful.

# Word Processing with Multiplan

Word processing with Multi-plan? Why not? Multiplan has many advantages over TI-Writer and the Editor/Assembler. For instance, Multiplan will allow you to format your document in a columnar layout and print it in condensed text, providing for a larger amount of text on a given page. In addition, Multiplan will center your text where desired, and allow for the movement of blocks of text in a much more flexible format.

Using Multiplan as a word processor does have its drawbacks. Among these are the lack of a global editor, editing of text is a bit more difficult (you can't simply type over your text), and fast typists will have to learn to slow down a little due to the programs relatively slow processing speed.

Despite these drawbacks, however, for many applications Multiplan may be the easiest way to solve the problem at hand.

I don't propose to go into a full tutorial on the use of Multiplan, for that I would refer you to the Multiplan Manual. I realize that many people find this a formidable document, but for use as a text processor, only a general knowledge of the use of Multiplan is necessary. Therefore, in this discussion, I will merely cover what I have found to be the easiest steps to follow in setting up and using the worksheet.

Starting with an empty worksheet, your first step should be to select the OPT or OPTIONS command and turn off the recal option. Since you will be doing no mathematical calculations, this will eliminate the considerable delay incurred as the program searches for mathematical cells.

Next, select the FORMAT option, then DEFAULT on the sub-menu, and finally WIDTH on the next menu, and set the default column width at 30 columns. I realize that it is possible to set the width up to 32 columns, but by setting it at 30 we will later be able to widen it to 32 to

allow for a buffer between columns of text.

The next setup step that is advisable is to again select the FORMAT, DEFAULT option, but this time select the CELLS option on the third menu. In the alignment column select L for Left. Remember, when Multiplan is displaying the ALPHA/VALUE prompt, hitting a number as the first character in a line will select the VALUE option rather than ALPHA. Therefore, if the first character in a line is a numeric one, you must first hit enter twice to specifically select the ALPHA command. In case you forget, however, and the only characters entered on that line are numeric ones, this will prevent them from being right justified or otherwise skewed.

The final setup step I use is to select the WINDOW option and place a border around the one open window. You may then use this border as a line length guide while typing. You may type up to but not including the column containing the right border without having the end of your text cut off.

You are now ready to begin entering your text. Start at row one, column one, and enter one line after the other in column one. I prefer to enter all of my text in column one and format it later, since this makes it somewhat easier to move data about. Another advantage is that you don't have to worry about keeping track of where you are located on the page.

Once you have finished entering your text, you are ready to format the data into columns. Since the maximum column width on the TI printer is 132, we will divide the text into 4 equal columns of 32 characters each and have a 2 column border on the left and right margins.

Assuming we're working with one page as an example, there are two ways you can format the text. One would be to simply divide it into 54 rows per column

(assuming your page length is 66), and leave whatever may be left over in the fourth column. You may also decide that you would like the columns to be of even length, in which case you would simply divide the total number of rows by four, and make each column that length.

For example, let's assume the total number of rows, when the document is formatted in one column is 200. 200 divided by 4 equals 50. We would therefore make each column 50 lines long.

To do this, we would copy from row 51 to 100, and place the copy in row 1, column 2. Next we would copy row 101 to 150, and place the copy in row 1, column 3, and finally we copy from row 151 to 200 and place the copy in row 1, column 4.

You now have the entire document in rows 1 through 50 and columns 1 through 4, but you still have copies of columns 2 through 4 below row 50 in column 1. To get rid of these use the delete command. Now change the default width to 32 to provide spaces between columns.

You are now ready to print the file. To do this, first save the file to disk. Next exit Multiplan and select TI BASIC, then enter the following commands:

```
OPEN #1:"PID"
PRINT #1:CHR$(15)
BYE
```

If your printer is not connected to the parallel I/O interface you will have to supply the proper file-name. This procedure sets up the TI printer to print in condensed text.

Next re-enter Multiplan and select PRINT, OPTIONS. Enter your printer name in the setup field and return to the PRINT menu. Now select MARGINS and set the left margin to 2 and change the print width to 132.

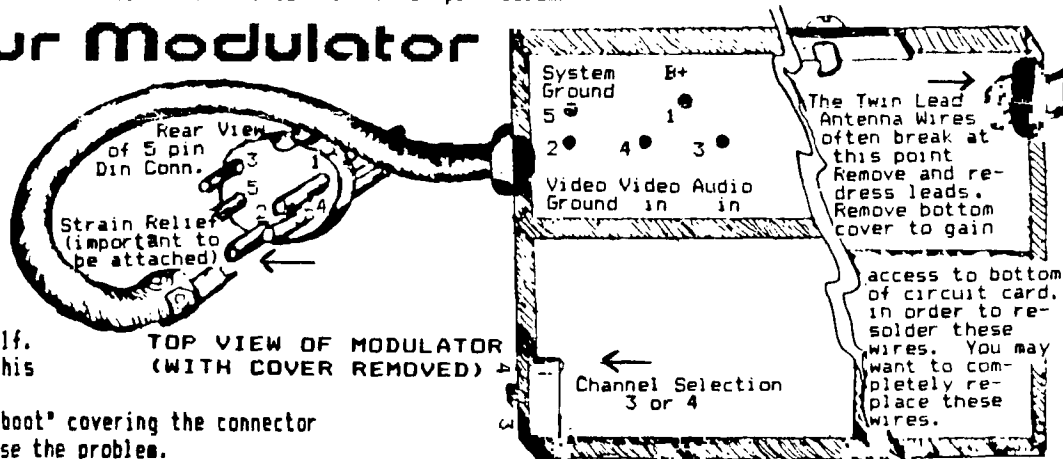
All that need be done now is to select the PRINTER command and your document should come out in 4 even columns. (San Antonio 99ers.

## Repair your Modulator

A very common problem today in maintaining the various components in your TI-44/A system is the modulator that hangs on to the antenna posts of your T.V.

One of the most frequent problems has been with the 5 pin DIN connector, that plugs into the back of your console, and sends the video and audio signals to the R.F. modulator itself. The wires have been known to break at this point, where they are soldered to the 5 pins in the connector. The rubber "boot" covering the connector can be slid back from the cable to expose the problem.

If more than one wire has broken inside the "boot" you might not be able to figure out where to re-attach them. However with this drawing you should be able to follow along and make these repairs. Take the cover off the modulator and you will see the five wires coming from the cable, and going to the circuit card. Note the small labels marked on the card, "B+" and a "1" near it, for example. This will not only give you the name and function for the wire, but the Pin Number that the wire goes to at the computer end. With this diagram you should be able to make the right



connections. (This article will not describe how to solder--that is another story) and perhaps a workshop for those members that would like to learn how to solder electronic parts. We have several members that could assist in such a workshop. The next most common problem deals with the twin lead for the antenna connection. You may need to dress and resolder or completely replace these leads. The availability of these modulators is decreasing and if you can repair yours it could save a lot of inconvenience.

P.O. Box 15037  
Portland, OR 97215



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GENERAL MEETINGS ARE HELD  
THE FIRST TUESDAY OF EACH  
AT THE PGE BUILDING  
PORTLAND, OREGON

**TUESDAY PICNIC**  
AUG 4th. - 6:30pm

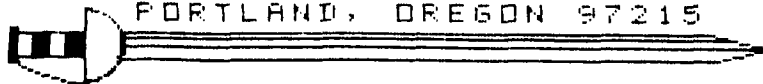
!! NEXT MEETING DATE !!  
AUG 4th. 1987

THE PUNN NEWSLETTER

# Wordplay

P.O. BOX 15037

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POINTING THE WAY FOR  
USERS OF TI'S 99/4 COMPUTERS

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