

# WORDPLAY

The PUNN Newsletter - Portland, Oregon

September 1988

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## From the President

Our 2nd Annual PUNN Picnic was a success by several standards; we had a good turnout; the weather cooperated; we had lots of excellent food. And yet, it would have been even MORE successful if we had been able to entice even more members to attend. Perhaps next year, YOU will come and join in the fun.

Coming up in September is the Third Seattle TI Fair. This is a great opportunity to see, first hand what is available on the market, to hear what the "movers and shakers" of the TI world have to say, and in general to have a good time. The cost is nominal, the trip easy and there is much to be gained. Come along with us and let's have a good showing from PUNN.

Now is the time to start thinking about a "project." Perhaps you've been putting off learning the new database program you got, or maybe you've been saying, "I'm gonna' get a modem, one of these days!" Well, with the onset of fall, set yourself a goal and learn something new about your computer and the world around it. If there is something the Users Group can help with, be sure to ask us.

—Al Kinney

## What's Inside

From the President . . . . .	Page 1
News and Views . . . . .	1
Seattle TI-Fair . . . . .	2
Funnelweb Hints . . . . .	2
September Program . . . . .	2
Alpha Blast . . . . .	3
Report on the Picnic . . . . .	3
Over-Due Books . . . . .	3
"A Tale of Two Letters" . . . . .	4
Fortune of Wheels . . . . .	4
Game Scores . . . . .	4
Hi-Res Graphics Part VI . . . . .	5
Strings & Things . . . . .	6
The Myarc RAM Disk . . . . .	7

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## News & Views

Probably what has come to be one of the most important events for TI-er's will take place next month---The Seattle TI Fair---This will be the 3rd Annual Fair, and you won't want to miss this most important event---Punn will be there!---See inside for details and a money-saving coupon---Volunteers are needed to man the tables---Contact Mike Caulkins if you can help---Al Kinney reports that there is still a little more work to be done before the 2400 baud rate becomes operational on the BBS---You can still of course communicate to the BBS on either 300 or 1200---Those members who still do not have modems are missing an important link in the use of their computers---You can open a wide world of knowledge when you contact a BBS, whether it be our own or another one across the country---Please return those overdue books to the library so others might also borrow them---It's a little early but the club has planned a little 'party' for the December meeting---Cookies and punch will be served to get you started toward the Christmas Season---We have many members who have grandchildren---Ashley Reed has 7 and yours truly has 6---I wonder if some member has more than 7---If so speak up and we will report it---The 'Disk of the Month (DOM) will feature 3 utility programs, TELCO, ARCHIVER 3, & the latest version of FUNLWRITER---They will be available from the Librarians for \$3.00 each or all three for \$7.00---Remember though, you are still obligated to send a contribution to the author if you use the programs, as the fees to the club are for copying only---Jim Thomas is cataloging the Nova (Vancouver,WN) Library) for them---A copy of the list of programs will be available to the members---ccb, editor.

### Show of strength

Little girl: Daddy, why does an editor refer to himself as 'we'?

Father: So that the fellow who doesn't like what he's printed will think there are too many for him to beat up.

# Seattle TI-99/4A Convention

The Seattle TI-Fair will be held this year at the Seattle Center on Saturday September 24th. Doors open in the Snoqualmie Room at 9:00am for Speeches and Seminars. Sales start at 12:00 noon and will continue until 6:00pm. Visa and Mastercharge will be accepted by all vendors.

On Friday evening September 23rd., there will be a Social Hour followed by Dinner and a live band for dancing.

Tickets for the Friday evening affair are \$18.00 which includes both tax and tip. If you plan to attend the Friday evening dinner, it is imperative that you send in your reservation immediately as only 200 reservations will be accepted.

The dinner will be held at the:  
Best Western Executive Inn,  
200 Taylor Avenue North  
Seattle, WN 98109  
Phone: 206/448-9444

Rooms have been set aside at \$54.00 and you can reserve a room by calling directly to the Inn.

Reservation with a \$18.00 check for the dinner should be sent to:

Barb Wiederhold  
6102 Roosevelt Way N.E.  
Seattle, WN 98115  
Phone 206/522-6558  
You can also reach Barb on her  
BBS, 24 hours 206/361-0895

As mentioned elsewhere in this issue, PUNN will be there selling software. Printed below is a coupon that will save you \$2.00 if you show your PUNN membership card when you enter. You are free to copy this coupon if don't want to spoil your issue of WordPlay.

## Funnelweb Hints

These helpful hints should work with just about any version of TI-Writer or one of the clones, (Funnelweb, BA Writer, etc.)

Did you know that you can type anything you want after a carriage return ON THE SAME LINE and it will not print out. But it will SAVE. This could be great for text notes on the screen, but not printing out in your manuscript.

When you LF for instance, and there is already, a DSK2.HEMENWAY up there because it was the last input, and you want to load DSK2.KONG, all you have to do is type KONG and one space and you will load the new program. The remaining letters after the space are meaningless and will not affect the LOAD in any way.

Another fine feature for those who write a lot of letters is the sorting that FUNNELWEB will do for you. Just name the letter by date and name in the following way. For instance a letter to Jim Peterson on May 17, would be SAVED as the file DSK2.517JIMPETE Month first (5) followed by day (17) and the name as far as it'll go. Another example, a letter to the Editor of PUNN on June 14, would be DSK2.614CBALL.

This is handy if you write a lot of letters as TI-Writer will sort them for you, cataloging first by number and then by letter. When you print out your disk contents they will be numerically AND alphabetically sorted in the catalog.

## Program

Paul Coleman of Name Loc Software, will be the featured speaker at the September 6th. meeting. Paul is a very talented programmer for the TI-994/A computer and is also a member of PUNN. He will be discussing some of his current software as well as new offerings. One of Paul's most popular programs is "Label Maker". Your editor uses it frequently for the various label he needs. If you have not had the opportunity to try this pro-

gram, you should. You'll want to be present for this important presentation.

Ted Peterson, our Program Chairman, also reports that Walt Morey will be on the program in October. More on his topic will be found in the October issue of WordPlay.

Ted also seeks input from all the members as to what they would like to see in the way of programs. Call him at 244-1587 if you have an idea for him.

```

*****
**          ADMISSION COUPON          **
**   GOOD FOR ONE (1) ADMISSION ONLY   **
**   CHILDREN 12 AND UNDER FREE WHEN   **
**   ACCOMPANIED BY AN ADULT.         **
**                                     **
**   $5.00 . . . . . $5.00           **
**   $4.00 (With this coupon) . . . . $4.00 **
**   $3.00 (Show membership in a . . . $3.00 **
**           TI99/4A user group)       **
**                                     **
**   Date: Saturday, September 24, 1988 **
**   Time: 9:00 am. til 6:00 p.m.      **
**   PLACE: SEATTLE CENTER SNOQUALMIE ROOM **
**   ---                               **
**   Cut out and give a copy to a friend **
*****

```

# Alpha Blast

This little program "Alpha-Blast" is a neat program for kids. What it does is to help them with the alphabet and learn the order of their "abc's".

When the program runs it first displays a lot of sprites in the form of letters dancing around the screen. After a short time the letters stop dancing and the player is presented with a screen and reminds him it is time to start. On the left side of the screen a countdown timer is present and will count all the way down and end the game if the player is not able to properly complete the proper joystick commands in the allotted time.

On the right there are four random letters flashed on the screen one each on the left, right, top and bottom of the screen. It is the players job, using the joystick, to

eliminate each letter in the proper order by moving the joystick toward that letter. Example: if the letters randomly selected by the program were "C" on the top, "K" on the bottom, "N" on the right and "Q" on the left, the player would point the joystick successively to the top, bottom, right and then left. He would score points depending on how accurate he was in getting the proper order. If the entire order is incorrect a negative score could result. Score is kept at the top of the screen and the highest score is also shown.

Besides being a learning tool this program is a nice demonstration of the use of sprites. I found it in the LA Topics, but understand it originated from the East Anglia Region 99'ers. —editor

```

100 GOSUB 510
110 RANDOMIZE
120 DIM N(3)
130 CALL CLEAR :: CALL SCREE
N(16)
140 CALL HCHAR(8,5,120,24)::
  DISPLAY AT(10,4):"A L P H A
  -- B L A S T" :: CALL HCHAR
(12,5,120,24)
150 CALL MAGNIFY(2):: FOR L=
1 TO 28
160 CALL SPRITE(#L,INT(RND#2
6)+65,INT(RND#13)+3,INT(RND#
24)*8+1,INT(RND#32)*8+1,INT(
RND#60)-30,INT(RND#60)-30)
170 IF L=25 THEN DISPLAY AT(
21,10):"GET READY!"
180 NEXT L :: CALL DELSPRITE
(ALL):: CALL CLEAR :: HS=0
190 CALL COLOR(12,6,1)
200 DISPLAY AT(1,6):"HIGH SC
DRE:";HS :: U=0 :: R=0 :: SC
=0
210 U=H+.03*SGN(1-U):: R=R+1
:: DISPLAY AT(5,14):"ROUND
#";R :: DISPLAY AT(2,6):"SCD
RE: ";SC
220 FOR I=6 TO 21 :: CALL HC
HAR(1,6,128):: NEXT I
230 FOR I=5 TO 7 STEP 2 :: C
ALL VCHAR(5,1,95,17):: NEXT
I
240 FOR I=3 TO 9 STEP 6 :: C
ALL VCHAR(4,1,120,20):: NEXT
I :: CALL HCHAR(4,4,120,5):
: CALL HCHAR(23,4,120,5)
250 FOR I=0 TO 3
260 N(I)=INT(RND#26)+65
270 FOR J=0 TO I-1 :: IF N(J
)=N(I) THEN 260
280 NEXT J :: NEXT I
290 CALL SPRITE(#6,42,3,97,1
53)
300 CALL SPRITE(#2,N(0),14,5
7,153):: CALL SPRITE(#3,N(1)
,14,97,201):: CALL SPRITE(#4
,N(2),14,137,153):: CALL SPR
ITE(#5,N(3),14,97,105)
310 ROW=21 :: A=-1 :: B=-1 ::
C=-1 :: D=-1
320 T=0
330 CALL JOYST(1,X,Y):: IF A
BS(X)+ABS(Y)<4 THEN CALL HC
HAR(ROW,6,32):: ROW=ROW-U ::
IF ROW<5 THEN 400 ELSE 330
340 IF (X=0)*(Y=4)*(A) THEN C
430 CALL KEY(0,KEY,ST):: IF
ALL PATTERN(#2,32,#6,43):: V
ST=0 THEN 430
(T)=0 :: A=0 :: GOTO 390
440 IF (KEY=89)+(KEY=121) THE
350 IF (X=4)*(Y=0)*(B) THEN C
N CALL CLEAR :: CALL DELSPRI
ALL PATTERN(#3,32,#6,43):: V
TE(ALL):: GOTO 200 ELSE 560
(T)=1 :: B=0 :: GOTO 390
450 REM
360 IF (X=0)*(Y=-4)*(C) THEN
460 FOR T=0 TO 2 :: IF N(V(T
CALL PATTERN(#4,32,#6,43)::
))<N(V(T+1)) THEN 480
V(T)=2 :: C=0 :: GOTO 390
470 SC=SC-INT(1.5*R*ROW):: G
370 IF (X=-4)*Y=(0)*(D) THEN
DTD 490
CALL PATTERN(#5,32,#6,43)::
480 SC=SC+INT(R*ROW)
V(T)=3 :: D=0 :: GOTO 390
490 NEXT T
380 CALL HCHAR(RDW,6,200,2)::
500 CALL DELSPRITE(ALL):: GO
: ROW=ROW-U :: IF ROW<5 THEN
TO 210
400 ELSE 330
510 REM
390 CALL SOUND(-10,200,2)::
520 CALL COLOR(14,9,1)
CALL PATTERN(#6,42):: T=T+1
530 CALL CHAR(120,"007E7E7E
:: IF T=4 THEN 450 ELSE 330
E7E7E00"): CALL CHAR(128,""
400 DISPLAY AT(22,11):"YOUR
)
TIME IS UP!"
540 CALL COLOR(12,6,10):: CA
410 CALL SOUND(800,110,5,120
LL COLOR(13,1,9)
,5):: FOR I=1 TO 200 :: NEXT
550 RETURN
I
560 CALL CHARSET :: CALL CLE
420 DISPLAY AT(24,10):"PLAY
AR :: CALL DELSPRITE(ALL)::
AGAIN(Y/N)I" :: IF SC>HS THE
CALL SCREEN(16)
N HS=SC

```

## Good Picnic

The PUNN picnic was, if you listen to those that attended, a huge success. The weather cooperated perfectly, the food was good and there was plenty of it.

There were many people that helped to put the picnic on but the real contributor was Terry Priest and his family. It's true, Terry and his wife are real professionals at this and we're fortunate to have this kind talent in our club.

The turnout was great, but if you didn't make it this year why not plan on next year. It's a good way to meet the other side of all those club members.

Thanks again Terry!

## 'Over-Due Books'

Mike Caulkins, our hard copy Librarian, urgently requests those members who still have books outstanding from the Library to please return them.

Some of these books have been out for months now, and it is only fair that they be returned so that other members may borrow them.

If you are one of those members please return them at the September meeting. No questions asked.

# "A Tale of Two Letters"

There are only two kinds of letters-letters you receive and letters that you write. Eventually one of the letters that you receive or write is going to be a letter of complaint.

This month we will discuss how to complain and what to do if someone complains to you.

Your own letters of complaint are of course justified and under the circumstances remarkably restrained no matter how bitter they might seem to someone else. Complaining letters directed to you however are usually much ado about nothing and the angry tone is never in proportion to the alleged error.

When you write a letter of complaint prepare for what often turns out to be a long struggle by making (use your word processor) several additional copies which will prove useful as you direct your subsequent letters-assuming that your first letter fails to get results. Thus you can send copies as you reach higher and higher until you reach the ultimate authority. (Of course, if you are angry enough to begin with or if you must have immediate action, start off by writing to the chairman of the board or to the president. Since the chairman of the board ordinarily has few duties and is anxious to prove that he must still be reckoned with, he is usually the better choice.

The first letter, if to a peer or and underling, should be matter-of-fact and should state the details of the incredible situation in a cool, patronizing manner that indicates you are an extremely busy man who,

although reasonable, will tolerate no further foolishness. This approach has two advantages: it allows you to eventually escalate your anger without strain and, when you finally attack the higher echelons, it proves that only the most stupid handling of your initial complaint could have produced your final disenchantment.

As for other complaining letters (when you are on the receiving end) there is good news. Automation has practically solved the problem. No matter what the mistake, blame it on the computer and the customer will not only understand but will be pleased to know that he is dealing with a company that has kept pace with the fast-moving world of automation. Practically no one today expects the degree of efficiency from a machine that we once demanded from mere people, and computer horror stories have been so widely circulated that the way has been prepared for you.

Humility-as abject as you can muster-should be the keynote in your reply. Even if your company is in the right and the customer obviously an idiot, a little crawling on your part will not only strengthen your character but will turn the complainant into a long-term friend. If the letter you are answering is unusually bitter, aim for sympathy-we've worked our fingers to the bone to please you and this is the thanks we get. If this approach is well handled, you may even achieve the ultimate reward-a letter of apology. There can be no greater tribute to your literary skill.

# Fortune of Wheels

Fortune of Wheels is a two player or two team game. The first player or team turns their back while the other types in the mystery word or phrase. As soon as ENTER is pressed the screen will clear and the guessing begins. When all the letters are determined then the entire phrase must be typed in to reveal what your score is.

Entering a wrong letter or more than one letter costs you a try. Unlike the TV show, where the amount of the prize depends on the random spin of the wheel, the prize in this game is proportionate to the relative difficulty of the puzzle and how quickly you solve it.

If you are sure of your typing you can change Line 2 and the screen will black out during entry of the mystery phrase.

```
2 CALL SCREEN(2):: INPUT
  :: CALL CLEAR :: CALL SN
  (8):: L=LEN(M$)
```

This Tinygram is easy to type in, quick to load and FUN to play. It can be as simple or as challenging as you want it to be.

```
1 !### FORTUNE OF WHEELS ### 3 D$=RPT$(CHR$(30),L):: FOR
  !# A TINYGRAM $ J=1 TO L :: IF SEG$(M$,J,1)<
  !# by Mike & Ed Machonis $ >)" THEN 4 ELSE D$=SEG$(D$,
  !##### 1,J-1)&" "&SEG$(D$,J+1,L)
2 CALL CLEAR :: INPUT "ENTER 4 NEXT J :: PRINT D$
  THE MYSTERY PHRASE "M$ 5 T=T+1 :: PRINT "TRY No.":
  :: CALL CLEAR :: L=LEN(M$) T::: INPUT "TYPE LETTER O
```

```
R ENTIRE PHRASE":A$ :: IF LE 0 5
N(A$)>1 AND LEN(A$)<L THEN 5 9 FOR J=1 TO W :: CALL " "D
6 W=L+1-T :: IF A$=M$ THEN 9 (200+J*10,330+40*J,0):: N:1
7 FOR J=1 TO L :: IF SEG$(M$ J :: PRINT "YOU WIN ";STR$
,J,1)=A$ THEN D$=SEG$(D$,1,J (W);",000 WHFFLS!":::: INP
-1)&A$&SEG$(D$,J+1,L)ELSE 8 UT "PRESS F4:R TO PLAY AGAI
8 NEXT J :: PRINT :D$ :: GOT N":G$ :: T=0 :: GOTO 2
```

# Game Scores

Our East County reporter, Ted Thrailkill, sends in the following report on game scores. He says that our member Ed Reynolds has reached level 35 in the game of loaders. In reaching this level he has passed through screens showing the TI, IBM and now APPLE. Ted knows of no others that have reached this high. He himself has only risen

to level 3 and wonders if any one of you have done better.

WordPlay is interested to learn of these scores and we will publish any and all results if they are sent into the editor. You can mail the results in or put them up on the BBS in the message section.

# Hi-Res Graphics-Part VI

(Sixth in a series by Ann Dhein)

Do you have a second computer that you wish you could tie in to your 99/4A?

The Bitmac software will let you do just that. When the coprocessor function is in effect, the other computer (not necessarily a TI) can manipulate data while the 99/4A is processing elaborate graphics from that data.

Bitmac has a Cursor Report feature which can be turned on or off as desired. It keeps track of the actual pixel location of the cursor. The program also lets you scroll your picture one pixel at a time to the right or left or up and down on the screen. This is handy for getting a drawing onto color boundaries, and also for special effects using the Boolean inputs AND, OR and XOR.

The TI Artist instance file was mentioned last month as being an excellent additional storage area for clip-art, because these files can be added so easily to any picture you are currently working on. The instance file is invaluable for using as a vehicle to transport your artwork to other mediums. Many support programs have been built around the ability of these instances to be so easily used, including Font Writer (Asgard) Art Convert (Triot+) and Character Sets and Graphic Design III (Texaments).

Besides being used for planning color in drawings, the unique grey box function in Graphx can be used for designing schematics and other precision drawings which require precise measuring.

The Graphx clipboard also lets you experiment with computer animation. If you store the appropriate images on the clipboard you can create short, animated sequences which you can display against a background of your normal Graphx pictures.

Like the Norton Graphics Package, Draw 'N Plot is primarily a programmer's tool. Unlike the Graphics Package however, Draw 'N Plot has a very nice full-featured drawing board. Also the routines in Draw 'N Plot are in assembly language which considerably speeds up operations. Draw 'N Plot makes an excellent program to design your own Extended Basic programs; however memory can be a problem. (Ed Note: Draw 'N Plot is built into Tritons Super Extended Basic.)

Draw a Bit is really a full-scale programmer's tool too, but the programmer must be somewhat conversant in assembly language as well as Extended Basic to use it with his own programs.

As you work in the Draw A Bit environment, your picture is automatically saved for you in intermediate memory. Any time you wish you may clear the screen and with the push of the right keys, redraw the picture, line by line. This is a fascinating procedure to watch. Pictures may also be saved in this Draw mode if desired. Also interesting to use is the Concept-Dots option. This is like a line function except that you plot all your dots first; then the line appear when you are ready for them.

Built right into Paint'N Print is a

font editor that will let you easily change the shape of the resident alphabet. The companion disk additionally allows editing of the texture character for all sorts of special textural effects.

Paint 'N Print is the only drawing package which allows a screen dump to be in color, providing you have the right printer (the Axiom GP 700)

Super Sketch is the only program that includes a touch tablet. This graphics tablet, although deceptively simple looking, is a precision tool that accepts commands through a control arm which determines screen position. The control arm moves the pointer (your pen) around the tablet, and the computer keeps track of where this pointer is at all times. In this manner, any picture placed on the tablet can be traced onto the screen. The device is so simple that even a child can use it easily.

The Artist Extras package from Incebot allows the use of the Super Sketch touch tablet with TI Artist. When used this way, the tablet becomes an integral part of the TI Artist program and is used in place of a joystick or trackball to allow designs traced with the tablet to appear on the screen.

Except for Super Sketch and Draw 'A Bit, which both have supporting disks that contain screen dumps, the drawing package all include built-in printer routines. The printer and software package you use must be compatible. All of the programs are compatible with the TI Impact Printer which was made by Epson, so any printer that uses the same formats and codes as an Epson is also compatible. Paint 'N Print comes in a choice of three cartridges depending on which printer you have. Cartridge A works with the Axiom GP-100 and GP-700 printers. The GP-700 will give color printouts. Cartridge B is set up to work with the Axiom GP-550 and Okidata printers, and C is for the Epson compatibles, which include Star and IBM. The Extended Graphics Package which supports Paint 'N Print contains the routines from all three cartridges. Other printers that can be used with a particular drawing program will be shown later.

Screen dumps vary widely in several important respects, including size, density and placement on the page. All details given here were obtained from screen dumps using the TI Impact printer. They should more or less apply to all screen dumps but there could be differences. A small size screen dump occurs when the screen image is copied exactly as shown, pixel for pixel. A larger dump has more printer dots per pixel - usually either 4 or 16 dots for each pixel.

The size of the printout is also affected by density. On the TI Impact printer there are normally 60 dots printed horizontally per inch. This would make 480 dots per each 8 inch row. Double density prints 120 dots horizontally per inch and some printers have an even higher dot resolution than that. Since the graphic image has the same number of pixels no matter what density is used, it will be only half as wide when prin-

ted double density as when printed in normal density mode. Most of the packages handle this factor for you by adjusting the line spacing when double density is used. Because of the difference in printers, and because screen graphics don't match up exactly pixel for dot with printer graphics you may still find some distortion in your printouts. On the whole, though, most paint packages produce a reasonable hard copy of your screen graphics.

Joy Paint gives you a choice of two dump sizes and either size can be single or double density. The small dump is centered on the page and because Joy Paint uses 92% more area for graphics than other programs, it pretty well extends from one side of the page to the other. Three of the dumps will nicely center on a page and using three screens consecutively will produce a very good flyer. The large dump produces a horizontal picture 8" x 9" in size.

Bitmac also gives you a choice of a large or small dump. The small dump places exactly one dot on the paper for each dot on the screen and gives a single density printout 4 1/4" wide x 2 5/8" high. You have a choice of centering the graphics, or placing them over to the right or left margin. The large dump is centered and is double density. On the TI Impact printer it is distorted quite badly, as it is the same height as the smaller picture, but 6 3/8" wide.

TI Artist gives you the most control over the final output for your hard copy. You have a choice of up to three magnifications and four densities depending on what your printer is capable of doing. You can also control line spacing when the printing is being set up. Using the TI Impact printer you can have a double density printout as small as 1 3/8" x 2 1/8" using a magnification of 1 and a line spacing of 4; or a printout which will fill an 11" x 15" large size paper with a magnification of 3, a line spacing of 8 and single density. And all this from the same screen image! Printing can also be done from the zoom mode.

All TI Artist printouts are centered no matter what the size. A single density printing that has been magnified twice exactly fills one-half of a standard page and two consecutive printings make a very nice flyer.

Graphx gives you a choice of two sizes, single or double density. The smaller 4 1/4" x 2 5/8" is printed at the left margin. The larger is half of a standard page and again two screens make a nice flyer. Draw 'N Plot has one size, 4 1/4" x 2 5/8" single density. Paint 'N Print also has one large size single density printout. Paint 'N Print also gives you a choice of which part of the picture to print - from a very small section up to the whole screen. The drawing will be printed horizontally and in the upper left corner of the paper. (We will conclude this series next and include in Wordplay a special insert comparing the features of 10 of the most popular drawing packages for the TI-99/4A.)

# Strings & Things

Computers long have been seen as a tool for number crunching; a census-taker is credited with development of the first computer a century ago. But surveys time and again show the biggest use of home computers is for word processing, by more than 5 of 6 computer owners. This month we'll look at some of the other functions of your computer, for instance character strings on the TI-99/4A.

In analyzing this function, let's use the following: the larger string, A\$="COMPUTER", the smaller (sub)string, B\$="PUT", N=4, L=3 and X=1. The reason for these variables will be explained below. Here are the major functions with which you should be familiar.:

ASC(A\$) = the ASCII code of the first character in the string. Using the above variables, ASC(A\$)=65.

CHR\$(67) = the reverse process, telling you what character letter equates to ASCII 67. Here CHR\$(67)="C"

DATA marks the program line containing string values, such as 100 DATA COMPUTER, PUT. These values are found by the command to READ A\$,B\$. Data will be read from the first or next available line that has DATA within it, unless RESTORE (line number) is used to indicate a different line to use for the DATA source. (On other occasions you could also read numeric data, such as A,B instead of A\$,B\$)

LEN(A\$) = number of characters in a string. Here, LEN(A\$)=8.

POS(A\$,B\$,X) = what number character within A\$ is the position where substring B\$ begins. X indicates at which character you start searching. Starting with the first character as our above example suggests, if N=POS(A\$,B\$,X) THEN N=4.

SEG\$(A\$,N,L) = a segment of string A\$ beginning at position N, continuing for a length of L characters. Here, SEG\$(A\$,N,L)="PUT"

STR\$(X) = converts a numerical value X into a string that looks like a number, but which can't have numerical functions (such as SQR) applied to it. Here, STR\$(X) converts 1 into "1" (the number one becomes string character "1")

VAL(X\$) = opposite function of STR\$(X). Here, VAL(X\$) would convert the string "1" into the numeric value 1.

All functions discussed above can be used in TI Basic. One other function applicable to strings works only with X-Basic. That's RPT\$(A\$,n), used to extend a string by repeating it n times without a break. That can be accomplished in a somewhat similar fashion in Basic through a concatenation of A\$A\$A\$ etc. n times.

We're not quite finished yet. Other computers use LEFT\$, MID\$ and RIGHT\$ to obtain a segment (that is, a substring) from the left, middle or right hand part of the main string.

For instance, B\$=LEFT\$(A\$,L) sets B\$ equal to the first L characters in the string A\$ on another computer. B\$=SEG\$(A\$,1,L) is TI's equivalent.

Other computers' B\$=MID\$(A\$,N,L) is the exact same function as TI's B\$=SEG\$(A\$,N,L), wherein substring B\$ starts at position N for a length of L characters.

Other computers' B\$=RIGHT\$(A\$,L) derive substring B\$ from the last L characters of A\$. TI's equivalent is B\$=SEG\$(A\$, (LEN(A\$)-L),L). Here is L=3, then B\$="TER" (the last three letters of COMPUTER).

One other function I'd like to see is the Reverse string display, to print A\$ backwards. I'm not aware of a single function to achieve that, but it can be printed or displayed with a FOR - NEXT loop. First in XBasic:

```
1 A$="COMPUTER"
2 X=LEN(A$) :: FOR C=1 TO LEN
(A$) :: DISPLAY AT(4,C):SEG$(
A$ X,1) :: X=X-1 :: NEXT C ::
: $.
```

The difference in Basic (aside from using individual instead of multiple lines) is to substitute CALL HCHAR(4,C+2,ASC(:\$(A\$,X,1))) instead of the "DISPLAY A\$" portion.

So much for what the functions can do. When would one use them? Well, suppose you want to display the letters of the alphabet in groups of seven letters indented on successive lines, for example:

```
ABCDEFG
BCDEFGH
CDEFGHI
etc. until you came to TUVWXYZ.
```

(Seven letters were chosen to keep the display within the screen capability of 24 lines, as you'll soon see.) Successive PRINT or DISPLAY AT lines will absorb much memory. Instead, try:

```
100 A$="ABCDEFGHJKLMNPQRSTUVWXYZ"
110 FOR LOCATION=1 TO 20
120 PRINT TAB(LOCATION);
130 PRINT " " $(A$,LOCATION,7)
140 NEXT LOCATION
```

(See Herbert D. Peckham, "Programming BASIC with the TI Home Computer", McGraw-Hill, 1979, pages 159-160.)

Run it, then change line 110 to read: FOR LOCATION =20 to 1 STEP -1. Then RUN. Change line 110 back to its original version, then add the revised line 110 as line 150. Retype lines 120, 130, 140 as lines 160, 170, 180 respectively. Now run it. Does the pattern look familiar? Like a skier slalom? Imagine if you used CALL CHAR to reshape those characters into a landscape, then ran this program.

There's always someone who insists on practical programming. One example is in looking for an expected answer to the programmers question, and comparing the response to the desired answer. This is in the form, IF SEG\$(A\$,1,1)<>"Y" THEN

Printing text without scrolling is solved in Basic (which doesn't have DISPLAY AT) by the CALL HCHAR command with

a FOR - NEXT loop, such as was shown in the Reverse text example, bringing up part of string segment at a time.

How about the continual problem of label-making from a data collection on names and addresses and assorted information whose length varies from case to case, invariably including material too long for a single line? Why should you worry about it when the computer can fix it for you?

In the original TI Mail List, the first disk-based program written in 1980 (in Basic), the first label line includes a title and an individual's name, but has to fit it all within 32 spaces. Regardless of what length first and last name you may have entered. Mail List chops it into a Title (a maximum of 4 spaces), space, then 27 letters for the name - 12 characters for the first name and 15 for the last name. (See page 32 of the TI Mail List instruction booklet.) In the program, when field 13 (F\$(13)) is the title, and field 3 (F\$(3)) the name -- last name then first name -- this translates into: F\$(13)"SEG\$(F\$(3),16,12)SEG(F\$(3),1,15) as the line to be printed. (See program lines 3730 and 3750.)

Manipulation of the data throughout the Mail List program relies on data segments. What about sorting and lookup routines? Aren't they comparisons of string segment locations?

Replace String function in TI-Writers Editor are certainly an important activity, as another example. Don't forget spacing variations for a different length replacement text. Replacement by a text with uniformly altered ASCII code is the basis for simple Cryptograms.

A program in Manning an Inglsbe's "Get personal with your TI-99", Dilithium Press, 1984, page 190, 191 and 192 gives some good examples of string functions, including a conversion of dates from the mm/dd/yy format into yymmdd (10/01/87 to 871001). Simply multiply the VAL(SEG\$(A\$,7,2)) (year) did you remember the slashes?) by 10000, VAL(SEG\$(A\$,1,2)) (month) by 100, and add the remaining VAL(S:\$(A\$,4,2)) (day) to get the "digital" date. Don't forget STR\$ to convert the number back into a string. Sure is simple when you know how the computer does it; now you know that language and you can program it yourself.

Another use of string functions is to match the segment of a word in a Hangman game. You can figure out the logic for word games if you know the computers capabilities. Computerized Scrabble scoring also derives from string placement. But word games aren't the only use for string segmentation. If you consider yourself a math whiz, and have been around for a while, try interpreting Barry Traver's multiple letter base conversion program (THE DATA vol. 3:6, July, 1985, page 8) which also works on segment manipula-

(continued on page 7)

(continued from page 6)

tion. Then again, graphic programs also use string segmentation to save memory in character definitions. Would you call that use of "word" strings? That's simple computer handling of parts -- bits and bytes -- of building blocks of computer data.

Here's leaving you with a little broader perspective of your computers role in some fairly frequent string variable handling routines you may have been overlooking.

(Jack Shattuck, Delaware Valley User Group)

\*\*\*\*\*
\*
\* Murphy's Rule:
\*
\* ON AGEING: It is better
\* to be "over the hill" than
\* "under the hill"!
\*
\*\*\*\*\*

# The Myarc RAM Disk

The Myarc Ram Disk (hereafter referred to as RAM) has proven to be a very popular unit for TI-99/4A users. It allows programmers much additional memory space and the speed of calling up from its memory would make any user envious, when they see its power displayed.

In this article we are going to discuss how this unit aids the desk-top publisher. We will explore how to use the many functions of the card and how to implement the cards potential for a newsletter editor.

To utilize the 512 version of the RAM (32 and 128 models are also available) you should also purchase the battery back-up so you retain the memory inside the card when your system is shut down. Otherwise you would need to reload all the data to the card upon power-up.

When first used, the RAM needs to be initialized, partitioning would be a more correct term, before it will function. The correct partitioning between print spooling and memory must equal 480 KBytes. The other 32K is the expansion memory, thus the 480K and the 32K equals 512K. You must remove your old 32K expansion card before you can use the RAM. Normally a partition of 400 for memory and 80 for print spooling would be satisfactory for most operations, however a different partition might be indicated for special conditions.

To give you a more specific example of how this card helps the desk-top publisher, let's follow through the publishing of our own newsletter, "WordPlay".

In producing WordPlay, a number of programs are required, for instance; a printer set-up program that will order the printer to set lines per inch, type style and column width is needed; a hyphenator program to hyphenate lines to avoid gaps is desirable; a label maker program; and a program such as the Printers Apprentice along with the various fonts should be included. All of these and more can be loaded into the RAM and the various programs can be loaded with a speed and ease that otherwise would call for a lot of disk changing and loading.

When we have decided what programs,

files and fonts are required, all of these, along with Fun'l Writer can be accumulated on a floppy disk or two. Once these are loaded into the RAM, production can begin. The bulk of the articles that appear in WordPlay use a column width of 45 (.LM 2;RM 46). These commands are also stored on the RAM with .FI; .AD; and IN+5.

The various stories, articles and reviews are typed in and periodically saved to the RAM. (You'll be amazed at the lightning speed in which the files are saved!). When a particular article has been completed, it is printed out to check for spelling, grammar and general content. Any necessary corrections are made and the finished story is re-saved back onto the RAM. A Spell Check program could also be stored on the RAM, but we prefer to correct spelling when we edit the grammar.

At this point we call up the Hyphenator (stored on the RAM, of course) and select the lines that would benefit from hyphenation and perform that procedure. The final DV-80 file is then printed out for paste-up on the standard WordPlay page style. (See the July 1988 WordPlay for an easy Multi-Column procedure). Program listings are stored and printed out in a similar manner.

There are a number of programs available that allow the combining of headlines, graphics and text, but here at WordPlay we are using simple paste-up to achieve the final result. Using the Printers Apprentice (naturally stored on the RAM) and the various fonts that are used for headlines we type in, save and print out all of the headlines that are required for the present issue. From there on the final paste-up is completed it is a relatively easy matter to have some local quick print shop copy the forms for the final result.

One final note for the potential editor is that when all the material is complete, we copy everything to a floppy disk to ensure that we 'HAVE IT'!

Of course there are many other features of the MYARC 512 RAM DISK, but we have limited our discussion here to the features it holds for the newsletter editor.

-by Charles Ball, punn editor

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\*
\* As we go to press, the new (August) Micropendium has
\* arrived and as usual it's full of good information.
\* If you are not a subscriber, you can purchase your
\* copy from Chuck Neal, our treasurer, prior to the
\* meeting or at the break.
\*
\*\*\*\*\*

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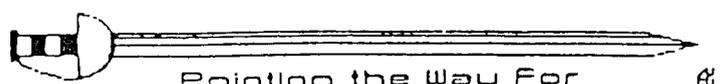


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ALL GENERAL MEETINGS ARE HELD  
ON THE FIRST TUESDAY OF EACH  
MONTH, AT THE PCE BUILDING  
3700 SE 17TH AVENUE  
PORTLAND, OREGON

!! NEXT MEETING DATE !!  
SEPTEMBER 6TH. 1988

The PUNN Newsletter  
**WORDPLAY**  
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Pointing the Way For   
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