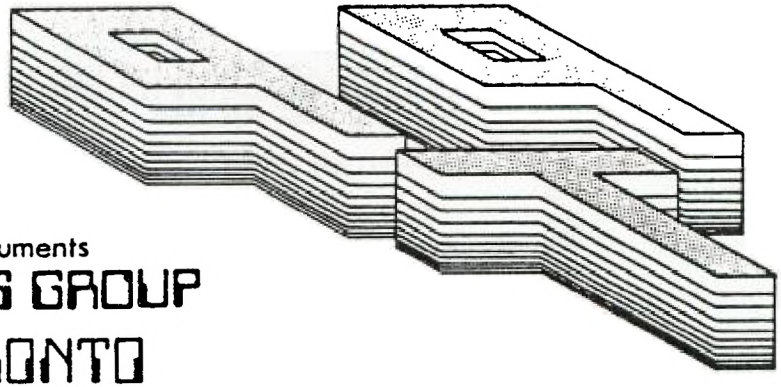

Texas Instruments

USERS GROUP

TORONTO

FOR THE TI-99/4A COMPUTER

JANUARY 1986

NINE T NINE USERS GROUP

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FULL MEMBERSHIP	$25.00 / year
NEWSLETTER SUBSCRIPTION	$15.00 / year

All memberships are household memberships. An newsletter subscription is only for those who do not wish to attend meetings, but wish to receive our newsletter and have access to our library. You are welcome to visit one of our general meetings before joining the group. If you wish more information contact our president in writing at the club address on the front cover or call and leave a message with his answering machine.

NEXT MEETING

The meetings are held on the last Tuesday of each month. The next meeting will be held on Tuesday, February 25, 1986 at the Downsview Public Library in Downsview, starting at 7:30 pm. The library is at 2793 Keele Street just north of Wilson Ave. The entrance to the library is on Keele Street.

COMMERCIAL ADVERTISING

Any business wishing to reach our membership may advertise in our newsletter. The rates are as follows. (width by height):

FULL PAGE	(6" x 7 1/2")	$40.00
HALF PAGE	(6" x 3 1/2")	$20.00
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Don't forget, that any member wishing to place ads, may do so free of charge as as long as they are not involved in a commercial enterprise.

NEWSLETTER ARTICLES

Members are encouraged to contribute to the newsletter in the form of articles, mini programs, helpful tips, jokes, cartoons and questions. Any article may be submitted in any form by mail or modem. We welcome the reprinting of any article appearing in this newsletter providing credit is given to the author and 9T9. If more information is required, call Emile Verkerk.

DISCLAIMER

Opinions expressed in this newsletter are those of the writers and are not necessarily those of the 9T9 USERS' GROUP. 9T9 cannot assume liability for errors or omissions in articles, programs or advertisements.

FROM THE EDITOR'S CONSOLE

Hello again and welcome to a new year. Hope you all had a good Christmas and New Year.

In this newsletter, to start the year off right, we have an article written by one of our members, Steve Mickleson, about OSCAR, the bar code reader for the TI. Amazingly enough, Steve is bringing OSCAR to the meeting to give a demo.

As well, our centrefold this month contains the list of all our paid up members as of the Sunday before the January meeting. If you're not on the list, see the treasurer, Peter Sandford, pay your dues and get on the list. You won't get your newsletter until you do. (If you're reading this I guess you must have paid your dues.)

The art that graces our pages this month comes courtesy of GRAPHX, one of the best graphics packages I have seen for the TI. Well worth getting.

For those of you interested in the corporate jungle, Foudation computing has gone out of business, but from what I hear they will still honor warranties.

As most of you have been following my printer follies, from the DMP-105 upwards, you will be happy to hear that I have recently acquired a ROLAND DG 1212A printer. 65 characters per second faster than my other ROLAND (1111A) plus about 1 million extra features. When will this ever stop. (Probably when I find a letter quality printer that does 5,000 cps and costs less than $10.)

As of this writing, there are nine working days til my final exams and graduation. Finally finished. After two years, I think my wife is the happiest.

Running out of time, space and mind, til next month, Happy Computing . . .

```
 50 REM ************************
100 REM *  AUTO LOAN ANALYSIS  *
110 REM *  TI BASIC            *
120 REM *  by Emile Verkerk    *
130 REM *  Copyright 1982      *
140 REM ************************
150 DIM A(100),B(100)
160 GOSUB 810
170 PRINT " THIS ROUTINE COMBINE
    S ALL":"OF THE FACTORS WHICH
    SHOULD":"BE KEPT N MIND WHEN
    PUR-":"CHASING AN AUTOMOBILE.
    ":::
180 PRINT " BY CHOOSING A SPREAD
    OF":"YEARS, THE PROGRAM CALCU
    -":"LATES THE MONTHLY PAYMEN
    TS":"AND THE TOTAL REPAYMENT
    OF"
190 PRINT "THE AMOUNT FINANCED.":
    ::::::" PRESS ENTER TO CONTIN
    UE"
200 CALL SOUND(150,1397,5)
210 CALL KEY(0,K,S)
220 IF S=0 THEN 210
230 IF K=13 THEN 240 ELSE 210
240 GOSUB 810
250 PRINT :
260 INPUT "CAR PRICE: $":
    CP
270 REM SALES TAX & LICENSE FEES
280 PRINT
290 INPUT "SALES TAX: (%): ":
    T1
300 T=(INT(100*((T1/100)*CP)+.5))
    /100
310 PRINT
320 INPUT "LICENSE FEES: $":
    L
330 PRINT
340 INPUT "INTEREST RATE (%):
    I
350 PRINT
360 INPUT "DOWN-PAYMENT: $":
    D
370 PRINT
380 INPUT "OTHER FEES: $":
    F
390 PRINT
400 PRINT "WHAT IS THE SHORTEST L
    OAN":"YOU WANT TO CONSIDER?"
410 INPUT " (YEARS)":S
420 PRINT
430 PRINT "WHAT IS THE LONGEST LO
    AN":"YOU WISH TO CONSIDER?"
440 INPUT " (YEARS)":Y
450 CALL CLEAR
460 PRINT TAB(6);"AUTO LOAN ANALY
    SIS":" ------------------"::
470 PRINT "AUTO PRICE $";
    CP
480 PRINT "SALES TAX $";
    T
490 PRINT "LICENSE FEES $";
    L
500 IF F=0 THEN 520
510 PRINT "OTHER FEES $";
    F
520 PRINT TAB(21);"--------"
530 Q=CP+T+L+F
540 PRINT "SUBTOTAL $";
    Q
550 PRINT "LESS DOWNPAYMENT $";
    D
560 PRINT TAB(21);"--------"
570 N=Q-D
580 PRINT "AMOUNT FINANCED $";
    N
590 PRINT TAB(21);"________":TAB(
    21);"--------"::
600 FOR J=S TO Y
610 A(J)=(N+(I*N*J/100))/(12*J)
620 NEXT J
630 PRINT TAB(15);"PAYMENTS"
640 PRINT "YEARS MONTHLY T
    OTAL"
650 PRINT "----- ------- -
    ----"
660 FOR J=S TO Y
670 B(J)=A(J)*J*12
680 PRINT J;TAB(10);(INT(100*A(J
    +.5))/100;TAB(20);(INT(100*B(
    J)+.5))/100
690 NEXT J
700 PRINT :"ANOTHER ANALYSIS? (
    N)"
710 CALL SOUND(150,1397,5)
720 CALL KEY(0,K,S)
730 IF S=0 THEN 720
```

NINE T NINE USERS GROUP STATEMENT OF ACCOUNTS rev.01/01/86

			Bank Balance	1075.22	as of 31/12/85
Open Bal.	1543.87	84 exec	Cash on Hand	1.01	
Total Inc	3455.86		Accounts rec.	0.00	
Total exp	3923.50		Accounts pay.	0.00	
ASSETS	$1076.23		TOTAL	$1076.23	
			MISC. INCOME	0.00	

EXPENSES Total to Date $3923.50

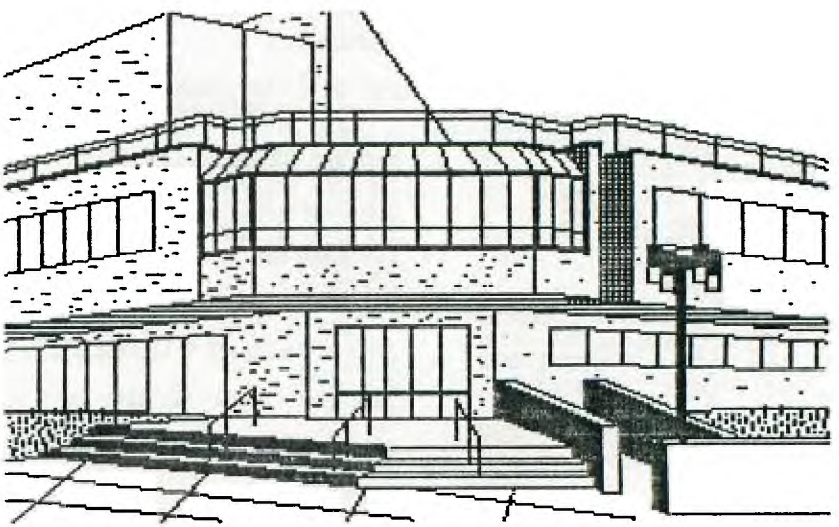
	newsletter, orinting and paper	postage and supplies	equipment	library and software	miscellaneous
SUBTOTALS to Date	1231.45	720.68	322.25	251.47	1397.65

INCOME Total to Date $3455.86 OPENING BALANCE $1543.87

	membership		advertising	library	miscellaneous
SUBTOTALS to Date	2140.00		59.00	538.50	718.36

Misc. expenses includes: $609 for T-shirts
$392 for Mtg. hall rental

```
740 IF K=78 THEN 760
750 IF K=89 THEN 240 ELSE 720
760 CALL CLEAR
770 PRINT " GOODBYE":::::
    :::::::
780 FOR DELAY=1 TO 400
790 NEXT DELAY
800 END
810 CALL CLEAR
820 PRINT TAB(6);"AUTO LOAN ANALY
    SIS":" ------------------"
830 RETURN
```



Product Review:
OSCAR for the TI-99/4A
(c) 1986
by Steve Mickelson

OSCAR is the acronym for "Optical SCAnneR" device which permits the reads software that has been encoded in a bar code format. The bar code looks like those funny verticle Universal Product Code, (UPC), symbols on most items sold by food and department stores. The OSCAR, like the store's UPC readers scans the bars and translates the code to a useful format, name and/or prices in the case of the store's cash register; audible tones that are read by the TI through the cassette port via adapter cable.

The same unit can be used by early Atari and Commodore computers. The difference is they use different cable and program sheets. As for the sheets, a typical program fills about four letter size pages. The lines are alternately scanned left to right then vice-versa. The first data tells the OSCAR which kind of computer-format the data must be made into.

DESCRIPTION: The unit isn't large, 9" x 3-7/8" x 3", but is relatively heavy in that four D-size batteries power it. The scanner head has a combination LED, (source), and photoelectric cell, (sensor), attached by a coiled cable to the main unit. The cable plugs into the OSCAR via a modular phone-type plug. That there is no provision for an A.C. adapter is probably due to the added cost CSA and UL approval would add to the product.

OPERATION: Picking up the scanner head from its cradle activates the OSCAR, this is confirmed by three tones, as well as the indication from a LED attached to the head. With the OSCAR comes a plastic template to be placed over the data sheets. This makes for faster, more accurate line scans. A good scan is indicated by two tones from the oscar. A misread by a lower tone. Data can only be accepted a rate proportional to that of the cassette port of the TI-99/4A. If after a set period of time no data has been read by the OSCAR a built in battery saving circuit shuts off the unit. To re-activate; the reader must be placed back in its cradle, which depresses a micro switch. Lifting the head releases the switch and re-activates it.

LIMITATIONS: The unit has certain limitations. All of the programs are in console basic: need I say more? Also the lack of battery eliminator is a pain not because the battery drain is high, my Duracells have lasted 20 months with the unit still going, but the weight of the batteries makes the unit about as heavy as the TI cassette program recorder. well, DATABAR Corp. discont the OSCAR almost as soon as i introduced.

GOOD POINTS: The programs in a medium which is susceptiole to typical har Leaving the unit near speake in direct sunlight is no prob Back-ups are easily made using good quality photocopier. The loading of data is quick. The typical program takes onl minutes, a great relief for us two-finger typists! Data could be sent in the mail without fear of being X-rayed or scanned. You own programs could be written into bar code by any good dot-matrix printer.

CONCLUSIONS: I thought the OSCAR was a good buy for the money and I paid roughly four times the current $9.95 + mandatory $12.95 for the software. This was before I found DATABAR had pulled out of the home computer market. A letter to them resulted in a reply that returning my OSCAR + $100.00 U.S. would get me the new DBR 100 unit which looks identical to an OSCAR but this unit inputs to the RS232 port at up to 1200 BPS. There are other models which a even faster with larger memory buffers.

As a hobbyist, the unit, wh is currently being sold by Texco without warranty at the sa price makes for an attrac piece of computer hardware. address to write is Texco Box 33064, Granada Hills, CA (1-818-366-6631) USA. By th I didn't take DATABAR up on offer as I never quite comp translating my software libr

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xxxxxxxxxxxxxxxxxxxxxxxxxx
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TI 99/4A <> P.E.Box <> 32K card <> RS232 card <> disk controller and SS/DD disk drive <> XBasic <> TI-Writer <> TE II <> Personal Record Keeping <> assorted cartridges <> $750.00 <> Steve Ramer <> 291-9500

xxxxxxxxxxxxxxxxxxxxxxxxxx

xxxxxxxxxxxxxxxxxxxxxxxxxx
FOR SALE

Volksmodem 12, AA/AO 1200 BPS direct connect modem. Hayes compatible, keyboard dailing & more. Comes with power supply & TI cable. Asking $325.00 or best reasonable offer. Steve <> 657-1494.

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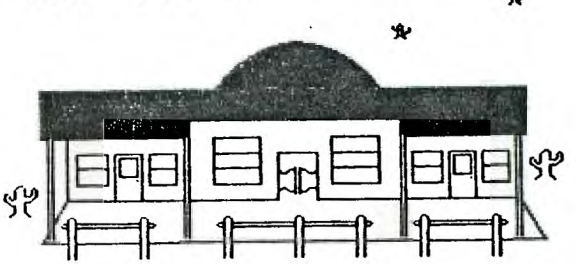
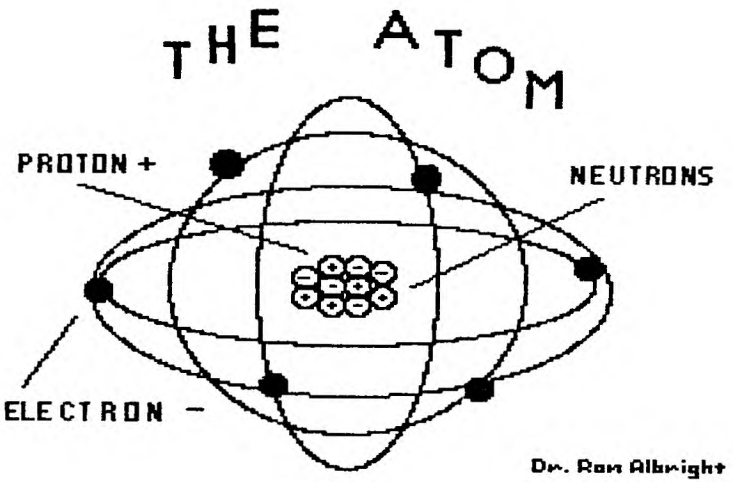
DS/SD original disk controller <> Disk Manager II <> $100.00 <> Emile <> 633-1451.

xxxxxxxxxxxxxxxxxxxxxxxxxx





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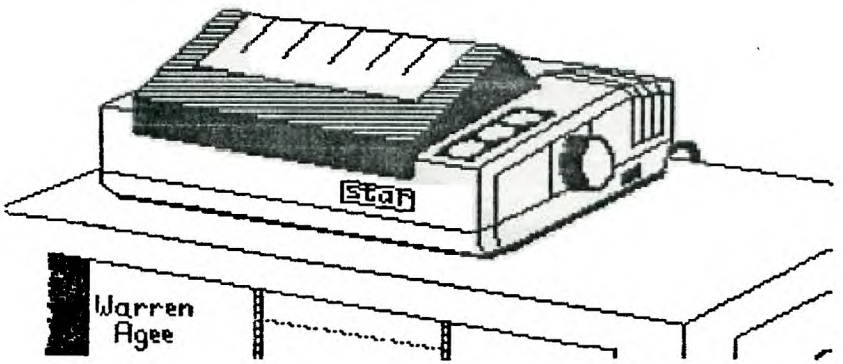
C. Bobbitt



HANDY TIPS from Ralph Landrom

After loading a program requiring the use of CALL FILES(1), type CALL FILES(3) and press ENTER. Then save the program to disk. The program will be saved in DIS/VAR 254 form and will load as any other Extended Basic program.

xxxxxxx

Here's a short routine to clear the screen instead of using CALL CLEAR in your Extended Basic program: J=33 :: k=0 :: FOR I=1 to 16 :: J=J-1 :: K=K+1 :: CALL VCHAR(1,J,32,24) :: NEXT I

xxxxxxx

So you think that TI BASIC has only 16 colours, huh? Wrong! Run this demo program in Basic or Extended Basic:

```
100 REM COLOR BONANZA BY ED YORK
110 REM CIN-DAY USER GROUP
120 REM TI BASIC
130 CALL CLEAR
140 FOR A=40 TO 136 STEP 8
150 CALL CHAR("55AA55AA55AA55AA" )
160 NEXT A
170 FOR B=1 TO 14
180 CALL COLOR(B,1,1)
190 CALL VCHAR(1,2*B,24+8*B,22)
200 CALL VCHAR(1,2*B+1,24+8*B, 22)
210 NEXT B
220 FOR C=2 TO 14
230 CALL SCREEN(INT(16*RND)+1)
240 FOR D=2 TO 14
250 CALL COLOR(D,D,C)
260 NEXT D
270 CALL KEY(0,E,F)
280 IF<1 THEN 270
290 NEXT C
300 GOTO 220
```

xxxxxxxx

Tired of that cyan color screen while programing? Try this Extended Basic routine.

FOR I=0 TO 9 :: CALL COLOR(I,16, 1):: NEXT I :: CALL SCREEN(14) :: ACCEPT AT(1,1):A
Press ENTER. Press FCTN 4 (CLEAR) VOILA!
The foreground color can be changed by changing the CALL COLOR number and the number in CALL SCREEN.

xxxxxxxx

Tired of using the same old CALL CLEAR command to clear the screen? Try this command instead.

10 CALL HCHAR(1,1,32,768) It will clear the screen by sweeping from top to bottom.
Now try this: 10 CALL VCHAR(1,1, 32,768). This one clears the screen from left to right.

xxxxxxxx

Want a sharper display on your black white TV? Add this line at the start of your program:
CALL SCREEN(15). This will disable the color generating circuit in the computer and remove the vertical lines often seen on BW TV's. It also increases the sharpness of the characters.

TERRY'S RAMBLES with more Call Loads by Terry Atkinson.

These LOADS apply to XB with EXPMEM only, except where noted, and may repeat may work for the E/A module, and/or MINI/MEM.

Ever wish you could determine the amount of memory available to you in BASIC, using the E/A or MINI/MEM? Try this.
THEN.....PRINT A6+B-1776.....
This is roughly the equivalent of the SIZE command in XB. The 1776 figure is the approx. overhead in TI BASIC. XB has slightly more.

xxxxxxxx

This one is a bit tricky, but if you have ever had a very very long program and are unable to run it with your disk drives, this is for you. It is much easier with MIN-MEM, and that explanation follows.
CALL LOAD((-31888,255).....
Then...NEW....
This is equivalent to CALL FILES(0) in XB (which of course you can't do.) This has the effect of completely disabling the disk drives, and freeing up the memory allocated to the disks. Any calls to the drives, once the LOAD has been invoked, will FREEZE THE COMPUTER, and you will have to turn it off to restore. Invoking this command prior to loading your long program via cassette, will negate your having to turn your PES on and off again.

With the MINI-MEM installed, it's even neater and you can save your long programs on disk and use them again WITHOUT having to turn your PES on and off. Here's how.

1..Use the CALL LOAD command above.
2..Load your long program via cassette. Then save EXPMEM2.

3..Restore your disk by typing CALL FILES(1)..NEW..then OLD EXPMEM2.
4..Save to DSK!. under whatever name you desire.
5..When you wish to use the long program, merely CALL FILES(1), OLD DSK1.PROGRAM, SAVE EXPMEM2 CALL LOAD(-31888,63,255),NEW, OLD EXPMEM2.
6..Run your program.
7..If you still get a MEMORY FULL message at that point..sorry, I can't offer any more than that.
To restore the PES without turning the PES off and on, use the same location with number 55. CALL LOAD(-31888,55)::NEW or RUN

xxxxxxxx

If you are designing programs with optional speech, here is a convenient way to detect whether or not your speech synthesizer is attached, without having to resort to PROMPTS.
Variable A returns a value of 255 if the speech synthesizer is attached, and 127 if not.
I have received info from other sources that, depending on the system, the return will be 96 if attached and 0 if not attached. Fool around with this location to determine what value is returned on YOUR system.

xxxxxxxx

Here are three loads which I will group together under one title. I use the third one as a protection device against my children using a certain few programs without my permission. (I have a good protection system, but as any programmer knows, there isn't one yet that can't be broken or bypassed in some way or other, but that's for another story.)

CALL LOAD(-32630,128) This will return you to the Title Screen, but the screen will not be recognizable as the title screen because the graphics are not restored. Once the command is invoked, press any key, as per normal, and then press 1 for Basic or 2 for XB.

CALL LOAD(-31961,149) (MIGHT HAVE TO FOLLOW WITH 'END'). This performs much like the above, but will go to the reset position for a program called LOAD on DSK1. If found, will load and run that program. If not found, will be in the XB Command Mode.

CALL LOAD(-31961,51)-FOLLOWED BY 'END'. e.g. CALL LOAD(-31961,51)::END

This staement, when invoked, will reset to the Title Screen, including graphics. As stated earlier, I use this in my programs, and if the proper code is not given, branches to this statement and returns to the Title Screen. QUITE EFFECTIVE.

****

This one, I'm sure most everyone knows already. It's the much heralded "sprite" location. Some say it is only good for the older version of XB, but that is for you to decide.

CALL LOAD(-31878,X) Where X is the highest number of sprites you are using, or 0 if you are using no sprites. Apparently, if the program is not using sprites, the older version of XB still tries to update all 32 sprites, thereby slowing action down. If you load a 0 into that location, no sprites will be checked for and, consequently, faster action???? Take it for what it's worth.

MORE CALL LOADS

Call Loads require Memory Expansion and either Extended BASIC or the Editor/Assembler.

NOTE: You must first use CALL INIT prior to using CALL LOAD.

CALL LOAD(-31740,X,Y)Loads Sound Chip. X Y=-255 to 255. Sound continues until Call Sound, Input or Error.
CALL LOAD(-31744,X)Continue last sound. X=0 to 15. 0=Loud, 15=Quiet
CALL LOAD(-31745,0)Freezes screen then blanks screen. Restore Title screen with FCTN -
CALL LOAD(-31748,X) and
CALL LOAD(-31804,X)Set Cursor blink rate. X=1 to 255.
CALL LOAD(-31788,160)Blanks screen when next key is hit.
CALL LOAD(-31788,192)Disables Sprite motion Automatic sound.
CALL LOAD(-31788,224)Normal operation.
CALL LOAD(-31788,225)Magnified Sprites.
CALL LOAD(-31788,226)Double size sprites.
CALL LOAD(-31788,227)Magnified double size sprites.
CALL LOAD(-31788,232)Multicolor Mode in 48 by 64 squares.
CALL LOAD(-31804,0,36) or
CALL LOAD(-31961,51) or
CALL LOAD(-31962,32) or
CALL LOAD(-32730,32) or
CALL LOAD(-31730,32)Quits from XBASIC to Master Title screen.
CALL LOAD(-31806,0)Enables sprite motion,Quit key and Sound chip.
CALL LOAD(-31806,16)Disables Quit key.
CALL LOAD(-31806,30)Stops sprite motion,disables Quit key.
CALL LOAD(-31806,32)Disables Sound chip.
CALL LOAD(-31806,-32)Continuous sound.
CALL LOAD(-31806,48)Disables Sound chip Quit key.
CALL LOAD(-31806,64)All sprite motion stops.
CALL LOAD(-31806,96)Stops sprite motion disables Sound chip.
CALL LOAD(-31806,128)Disables Sound chip, Quit key sprites.
CALL LOAD(-31060,4) or
CALL LOAD(-32116,4)Go from XBASIC to Console BASIC after New.Can NOT use Memory Expansion.

CALL LOAD(-31860,8) or
CALL LOAD(-31961,149) or
CALL LOAD(-31962,255)Automatic Run of "DSK1.LOAD". Restarts XBASIC.
CALL LOAD(-31866,X)Does not access full 32K. X=1 to 159.
CALL LOAD(-31868,0)No "RUN" or "LIST" after "Fctn 4" is used.
CALL LOAD(-31868,0,0)Memory Expansion off.
CALL LOAD(-31868,255,231)Memory Expansion on.
CALL LOAD(-31873,X)Start PRINTing at column X. X=3 to 30.
CALL LOAD(-31878,X)Turn off sprites. X=# of highest sprite. I f X=0 then all sprites off.
CALL LOAD(-31884,X)Change keyboard mode. X=0 to 5.
CALL LOAD(-31888,63,255)Disk Drive off. Type NEW to free mem.
CALL LOAD(-3188855,215)Disk Drive on. Type NEW for buffers.
CALL LOAD(-31931,0) or
CALL LOAD(-32699,0)Unprotect XBASIC program.
CALL LOAD(-31931,2)Set Command "On Warning Next".

From A9CUG CALL NEWSLETTER

REPEATING WORTHWHILE TIPS

From Ed York of the CIN DAY Users Group:

Some of the speech that is listed in the back of the Extended Basic Manual (Appendix L) are phrases and not just single words. It is not well documented in that the speech which the Synthesizer knows as phrases, must be preceeded and followed by a pound sign # before it can be properly spoken in Extended Basic. Examples of the proper command format are: CALL SAY(#READY TO START#), and CALL SAY(#THAT IS RIGHT#).

Here is a tip for Terminal Emulator II users from Mike Kelly, 4013 Honeycutt Street, San Diego, CA 92109, TIBBS phone 619-276-3173. If you are tired of the TEII screen colors, the next time you are ready to go on-line, enter all the default values and have your modem on, the type CTRL., SHIFT 6, FCTN V(CTRL., SHIFT 9, SHIFT = and then choose a foreground and background color with:

! Black ' Cyan ? Dk.Green
* M.Green (M.Red - Magenta
# Lt.Green) Lt.Red . Grey
$ Dk.Blue ⇕ Dk.Yellow / White
% Dk.Red + Lt.Yellow.

(The symbol for Dk.Green is indecypherable in the original MS.-Ed.)

MULTIPLAN HINT

From The Suncoast Beeper,St.Petersberg, FL

If you use PIO with your printer, this should work to enable you to prinr your worksheet out in condensed print, or any way you want it.

When your worksheet is done and you want a hard copy, type P then press the space bar once, then hit ENTER. Now, if you have your Multiplan main disk in drive 1, remove it. Place in drive 1 a disk you would like to have your worksheet on. Next type in the name you will give to your worksheet. Don't type DSK1 in front of the name. Press ENTER. Now the worksheet is on your disk in drive 1. Take the disk out if you have a one disk system. Load TI-WRITER into your system now then bring up the Multiplan worksheet with the Editor in TI-Writer. You will see the first 7 lines of the worksheet as being empty. Hold down CTRL and press 0 to take you out of word wrap and place you in fixed mode. On the first line (where your cursor appears) type:

.TL 92:27,15 then press ENTER.

(This coding applies to EPSON compatible printers)

You can now print out your Multiplan spreadsheet with TI-Writer's F.FMATTER and it will print in condensed print.

THINGS YOU NEVER KNEW ABOU PERSONAL RECORD KEEPING

(From RND 99er's)

Subtitle: Commands you never you had.

This article is directed to th of you who do not have EXTENDED BASIC module but wou like to use its two most usefu commands - DISPLAY AT and ACCEP AT. If you have the PERSONAL RECORD KEEPING module (PHM 3013) your problems are over. Unknown to most, there are several commands in this module that can be accessed through TI BASIC. Two of these routines, CALL D and CALL A are the subject of this article.

First, insert the PRK module into the module port of your computer, press any key to get the menu screen and select 1 for TI BASIC. Before getting too involved with examples, let me explain what I am up to.

The first command is DISPLAY AT.

This command is emulated through the use of the subroutine CALL D(R,C,L,V) for numerical data and CALL D(R,C,L,S$) for string data. (There are two variations on this last command that will be explained later. Let's look at each command separately.

CALL D(R,C,L,V)
R=row number of first character of print line.
C=column number of first character of print line.
L=maximum length of print li must be>=1.

CALL LOAD(-31931,4)Set Command "On Warning Stop".

CALL LOAD(-31931,16)Set Command "Trace".

CALL LOAD(-31931,64)Set Command "On Break Next".

CALL LOAD(-31931,128) or

CALL LOAD(-32699,128)Protect XBASIC program.

CALL LOAD(-31952,X)If x=55 then "Mem Exp is off" Else "Mem Exp is on".

CALL LOAD(-32112,8)Searches disk.

CALL LOAD(-32114,2)Random garbage.

CALL LOAD(-32114,13)Screen goes wild.

CALL LOAD(-32116,1)Random characters on screen.

CALL LOAD(-32187,9)Zeroes line #.

CALL LOAD(-32188,1)Change color,receive Syntax Error.

CALL LOAD(-32188,127)Change color, receive a Breakpoint.

CALL LOAD(-32572,1)Produces "Mushy" keyboard with improper characters.

CALL LOAD(-32572,128)Disables keyboard.

CALL LOAD(-32639,0)Master Title screen withouy graphics,Shift key disabled.

CALL LOAD(-32639,16)Locks up computer.

CALL LOAD(-32699,16)Start Trace.

CALL LOAD(-32699,14)Stop Trace.

V=variable for the value which is to be printed.

R C Please remember the print field is 24x28 so R must fall between 1 and 24 and C between 1 and 28. There are error handling routines built in that will handle numbers outside this range and will eliminate program halts due to the "BAD VALUE" statement. You can experiment with these yourself.

L You can use either a fixed value(maximum value of 28) or a variable value.

V This is the variable to which the value being displayed is assigned. Again, a specific value can be used here if you wish.

For string data, the rules are basically the same except S$ is the string to be printed. Two other versions also work.

CALL D(R,C,L,"RND 99er's") here, the string between quotes is printed.
CALL D(R,C,L,CHR$(X))-this is comparable to CALL HCHAR(R,C,X) and will give the same results.

Now, let try a couple of examples to illustrate how all this works.

Example 1

```
10 CALL CLEAR
20 V=1234
30 CALL D(12,10,5,V)
40 GOTO 40
```

You should find you have the number 1234 displayed on the 12th row beginning in the 10th column. Experiment a bit and see if you can display larger and smaller numbers at different locations on the screen.

Example 2

```
10 CALL CLEAR
20 W$="THIS IS MID-SCREEN"
30 CALL D(12,4,19,W$)
40 GOTO 40
```

Change the value of R and C and se if you can move the string around the screen. Substitute your name for W$ - don't forget to alter the value of L accordingly. (Remember, L is the maximum length of the string to be displayed so make sure you include spaces.

Now that you have the idea, let's try the second command - ACCEPT AT. This one is emulated by the CALL A command of PRK.

CALL A(R,C,L,F,A,MN,MX)-numerical data

R,C,L are the same as above.

F = function variable - depends on which key is pressed.

FCTN 5 (BEGIN) - returns a value of 6
FCTN 8 (REDO) - returns a value of 4
FCTN 7 (AID) - returns a value of 3
FCTN 9 (BACK) - returns a value of 7
FCTN 4 (CLEAR) - returns a value of 2
FCTN 6 (PROC'D)- returns a value of 5
ENTER - returns a value of 1

It should be noted that CLEAR will do two things. First, it will assign a value of 2 to F and second, it will clear the input field on the screen. This should be used when typed input is not yet ENTERed and should be changed.

!!WARNING!! If you are continually looping back to a CALL A statement, you will effectively disable the CLEAR key. With this in mind, one might like to include an escape sequence such as IF F=3 THEN 10000. With this, you can press AID (FCTN 7) to divert the program to line 10000 which reads: 10000 END

A = accept variable. This accepts the value you type in.
MN= minimum value to be entered.
MX= maximum value to be entered.

NOTE: If L=3 and MX=10000, A will still not accept anything larger than 999 since the screen will not accept more than 3 digits. Also, +,- and E(for scientific notation) can also be entered this way but string data cannot.

Example 3

```
10 CALL CLEAR
20 CALL D(3,3,28,"ENTER 1,2 OR
   3")
30 CALL A(10,25,1,F,B,1,3)
40 IF F=3 THEN 130
50 CALL CLEAR
60 FOR T=1 TO 500
70 NEXT T
80 CALL D(15,3,28,"YOUR CHOICE
   WAS")
90 CALL D(15,20,2,B)
100 FOR T=1 TO 500
110 NEXT T
120 GOTO 10
```