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**THE HUGGERS**  
**HOOSIER USERS GROUP**  
**People Helping People**

DECEMBER, 1985

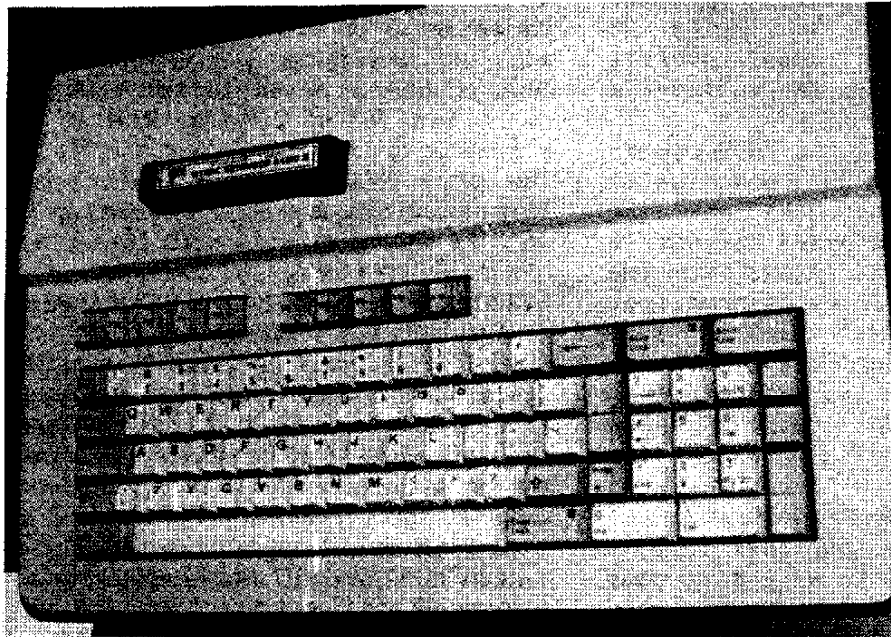
THE HUGGERS NEWSLETTER

VOLUME 3, NUMBER 9

THE OFFICERS' CORNER, SEE PAGE 2.

THE NEXT MONTHLY MEETING WILL BE  
 DECEMBER 8, 1985  
 STARTING AT 2:00 PM AT CREATIVE LOGIC.  
 SEE YOU THERE!

MYARC'S NEW COMPUTER!



## THE OFFICERS CORNER

On Saturday, November 2, I attended the TI Faire which was sponsored by the Chicago Users Group. With about 2000 + TI'ers in attendance I would say that it was a huge success. I would like to give a special thank you to the Chicago Users Group for putting on such a fine show. Users Groups from all over the United States and abroad were represented as well as companies such as Millers Graphics; Myarc, Inc. and Compuserve. Some of the people I met whose names are synonymous with the TI 99/4A computer include Craig Miller, Lou Phillips, Matt McCormick, and John Clulow.

New products which were shown included Millers Graphics GRAM KRACKER; John Clulow and New Horizons Users Group's HORIZON 104K RAM DISK CARD; and a NEW COMPUTER was shown by Myarc, Inc. (picture on page 1). For more information on the GRAM KRACKER, NEW HORIZONS RAM DISK and the NEW COMPUTER, see next article.

The progress report on our group's raffle of a Myarc 128K Ram Disk and a bulk order of the 4464 memory chips are as follows:

It looks like we'll be drawing a winning raffle ticket for the Myarc 128K card this month. We're 25 tickets short, but those tickets should be sold before the meeting is over.

The bulk order of the 4464 memory chips is still about 25 short. We'll continue to accept orders for the chips until the 100 piece minimum is met. WE ARE ACCEPTING ORDERS FROM THE GENERAL PUBLIC! (For more information, see our November Newsletter or send your questions to our Post Office Box which is on front of the Newsletter.)

As you've probably noticed there are no major scheduled workshops for this meeting. There will be at least 1 system set up for the library, and the HUGbbs will be on-line. Larry Conner tells me that he will have some Christmas specials at the swap table this month.

Everybody have a safe and happy Christmas and will see you all at December 8th at 2:00 pm. J. Steven Sims

## NEW PRODUCTS FROM THE TI FAIRE

Some of the new products which were on display and/or for sale at the TI Faire included:

In Books: (The only item not on display) THE ORPHAN CHRONICLES by Ronald Albright, Jr. M.D. "The behind the scenes story that shocked over 2 million people. Ronald Albright, Jr. M.D. takes us through the past, present, and future of the TI 99/4A community" as quoted from Millers Graphics flyer about this soon to be released book. THE ORPHAN CHRONICLES is also an invaluable source book listing hardware, software and freeware producers, mail-order distributors, publications and books, TI produced software and Users Groups "from around the world." Available soon from Millers Graphics, THE ORPHAN CHRONICLES costs \$9.95 + \$2.00 shipping and handling.

In Software: A disk based demo program from Compuserve, and from the New Horizons Users Group, disk based software for the Super Cart.

In Hardware: From the New Horizons Users Group was a battery backed-up 104K Ram Disk Card. Some of the features of the HORIZONS RAM DISK include expandability up to 192K; Ni-Cad battery backed up. Development Software included. Documentation includes DSR Source Code with manual; instructions on how to mix assembly language CALL routines to enhance BASIC and a Schematic. The Ram Disk will be available in three packages: Ready to run card (104K or 192K) with a 90 day warranty on parts and labor; a bare printed circuit board, parts list and instructions with no warranty or as a schematic and part list. "All packages includes the Operating System with Source Code Documentation and Development Software.

From Millers Graphics: THE GRAM KRACKER. The GRAM KRACKER plugs into the module port of the console. It has its own module port through which you can load any module, edit, and save to cassette, diskette, Ram Disk, or Hard Disk. (15 modules can be saved on 1 DSDD diskette.) It comes with 56K of Cartridge RAM an GRAM, which is expandable to 80K and is backed up with a lithium battery. The GRAM KRACKER allows you to program in Graphics Programming Language (GPL) and comes with a diskette with utilities and operators manual. It costs \$174.95 + \$4.00 UPS Shipping, handling and insurance. Millers Graphics will begin shipping the of THE GRAM KRACKER this month.

And last, but certainly not least, whats new in COMPUTERS!! From Myarc, Inc.: A NEW COMPUTER.. A "TI Compatible" computer which has two modes of operation, 99/4A and its own. The 99/4A mode is "turned on" when you plug in a module into its module port. Remove the module and the computer reverts to its own operating system. The computer comes resident with 64K VDP and 256K CPU RAM (expandable up to 2 meg in its own mode); 8 graphics modes; built in RS232, and PIO interface; built in Enhanced BASIC; supports 40 and 80 column screens, and support Composite and RGB Video. The NEW COMPUTER will be compatible with the P-Box and Millers Graphics GRAM KRACKER through the use of an extention cables. Some new expansion cards which will be built for the NEW COMPUTER include a Disk Drive Controller Card and an IBM Interpreter Card. This NEW COMPUTER is expected to retail in the \$500 price range and its expected release date is the First Quarter of 1986.

## HAPPY BIRTHDAY!

A Happy HUGger Birthday to these members who joined (or renewed) in December, 1984! Pat McGraw, Jim Westover, Mike Oeth, Michael Updike, John Schneider, Clemet Woest, George Kruggel, Gordon Edwards, Joseph Minielli, Wendell Bunting, Bill Cagle, and Mark Weis. Its time to renew!

## WELCOME!

The Hoosier Users Group would like to welcome Tony Smith, Kenneth Woods, Ron McGuire and Evan Kessler, who joined in the past month!

## WELCOME BACK!

We'd also like to welcome back these renewing HUGgers: Don Zimmerman, Darrell McConnell, Chris Weis, Johnny Powell, John Schneider, Ed Board, Bob Stahlhut, William Bensch and Michael Lentz!

## SOUTH REGIONAL NEWS

The South Regional meeting will be held on FRIDAY, December 13, 1985. The location is 4582 Moccasin Pl., Greenwood. Anyone needing directions can call Dennis at 881-5918. The meeting will begin at 7:00 P.M. A copy of the HUG library is available for the convenience of our members.

## LIBRARY BITS, by Dennis Sherfy

Those of you who enjoy a little mental exercise will enjoy TI-TOWERS on BASIC-11. Another version of this program is TOWER/HCM on BASIC-12.

TI-TOWERS is a type of puzzle which consists of three poles. On one of the poles, there are several rings. Each ring is a different size. The puzzle begins with all of the rings on one pole, with the largest ring on the bottom, and the other rings stacked on top, each ring is smaller than the one below. Your task is to transfer the stack of rings from the starting pole to either of the other poles. In accomplishing this task, you may move only one ring at a time, and you may never place a larger ring on top of a smaller ring.

TI-TOWERS contains instructions, the best graphic representation, and counts your moves. On the negative side, some of the rings are very close in size and can be confusing.

TOWER/HCM is not as polished, has no instructions, but allows you to enter our moves very quickly, and the difference in ring size is very clear. (Pam: if BASIC-11 contains PROW-CHART, a brief program for owners of the PROWRITER printer. When you run this program, it prints the ASCII codes for all of the printable characters, and the characters they represent. This produces a handy, one-page list of the standard key-board characters, plus the graphics characters and the Japanese alphabetical characters which the PROWRITER is capable of producing.

It is worthwhile to modify this program by adding:

```
115 PRINT #1:CHR$(27);CHR$(38)
```

Then run the program again.

This will switch on your printer's Greek and mathematical symbols character set. Beginning at ASCII 160, the program will print the Greek alphabet, then a series of mathematical symbols, including superscript numerals, plus 1/2 and 1/4. Next month, I will show you how you can use these symbols with TI-WRITER.

## NEWSLETTER CLEANINGS, by Jim Ellis

In reviewing the newsletters, etc. this month, I ran across something that sounded familiar. Just let me back up a BIT (pardon the pun). From Mr. Guyournay of CAN. comes a letter telling of a cartridge called: MAXIMEM. It will work with the TI 99/4 or the TI 99/4A. It expands memory to 96K RAM. It will allow you to dump any module to disk, RUN any module dumped to disk. It has 48K RAM configured as: 32K GRAM and 16K RAM (added to the 16K VDP RAM and 32K card.) Thereby providing a full 96K of ram to the user.

It contains its own menu, consisting of 1 TI BASIC, 2 MAXIMEM, and 3 EDITOR-ASSEMBLER. The Editor-Assembler is an improved version. You can also change the menu depending on what modules you use. Speaking of menu, does this sound familiar (anyone hungry for a cracker)? System requirements are disk drive controller w/disk drive, 32K memory card and your console. Cost is \$199 Canadian funds. Address available if interested. Moving along, Valley Computers say they have Tombstone City and TI Invaders on sale for \$3.49, and MS. Pac-Man for \$6.99 plus \$2.50 shipping.

In my own mailbox I received from Quality 99 Software, a flyer giving 1/2 off of selected programs. I have the flyer if anyone is interested. Also, if you have some of their programs they are allowing a credit for your old disk against the price of the updated version of the same program.

We received a letter from Mr. James B. Mason of Ft. Myers, FL. requesting programs in math for school use. If anyone would like to oblige Mr. Mason his letter is on file.

Well, it looks like this is maybe more of a bi-monthly article due to the lack of input. Time will tell. Anyone interested in the above contact myself or Pam Sims.



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## USING LOGO II

Richard J. Bailey  
68A Church Street  
Gonic, N. H. 03867

If you want to get a new language for your computer that is easy to learn and fun to use no matter what your age—then LOGO is for you. TI LOGO has some limitations but as long as you realize what they are and work within them, you'll have a lot of fun.

LOGO is a language with built-in routines called 'primitives'. These primitives can be combined into larger routines called 'procedures'. Once a procedure is defined, LOGO allows you to use the procedure as if it were a primitive. You can continue to combine primitives and procedures until you have one procedure that does exactly what you want it to do.

First some background. Long, long ago, in the age before video terminals and dot matrix printers (I heard my parents talk about that time!) the only way to draw complex figures was with expensive x-y plotters. The creators of LOGO at M.I.T. designed a simple robot with wheels and an umbilical cord connecting it to the computer. The computer could direct the robot to 'walk' around on a piece of paper. By adding a ballpoint pen which could be raised and lowered, they could create the complex pictures and graphs they wanted. To protect the electronics of the robot they covered it with a hemispherical 'shell'. Because of the shape of the cover and the speed with which it drew, they called it a 'turtle'. Even though this robot has been replaced by its video equivalent, the original names are still used.

One of the easiest ways to demonstrate LOGO is with turtle graphics. This is the facet of LOGO that most people are familiar with. To draw with the 'turtle' is quite simple once you get the hang of it. Commands can be entered in either the immediate mode or stored by creating a procedure. To draw a box you could type:

```
FD 50 RT 90 FD 50 RT 90 FD 50 RT 90 FD 50
```

in the immediate mode. This will draw a line up (forward) 50 units, right 90 degrees, to the right (forward) 50 units, etc... until the box or square is drawn. To create a procedure that does the same thing type: TO BOX <ENTER> then

```
REPEAT 4 [ FD 50 RT 90 ] <ENTER>
```

then FCN ? to exit the procedure. Now any time you enter BOX, a square will be drawn.

More complex shapes can be created by the same method. As an example, the procedure called 'SNOOPY' will draw Snoopy with Woodstock in his dog dish having a bubble bath complete with bubbles. This procedure demonstrates the use of TILES and SPRITES with turtle graphics. The sprites were created with LOGO's built-in sprite editor and the tiles with the built-in character editor. I have not included the tile definitions so you will see the undefined characters if you enter this procedure. You can redefine these characters yourself, or if you don't want to enter SNOOPY yourself, send me \$5.00, your name and address, and I'll send you a disk with SNOOPY and a couple of other eye openers.

Now for some comments. The turtle graphics are but a small part of LOGO. Its sound, music, and list manipulative abilities are intriguing and are well covered in the manual that comes with LOGO. The TI implementation of LOGO needs more memory because you get an 'OUT OF INK' message when you

draw to more than 1/3 of the screen area. You can get around this limitation by combining tiles for the background, adding sprites for movement, and drawing with the turtle on the same screen. You may also find that once a character is redefined you can't reset it to its original shape, you have to redefine it with the editor. One other annoying feature is that there is no way to clear memory. If you 'RECALL' more than one procedure from disk, both will reside in memory. When you go to save, you save both procedures under the name you think you're saving one under. If you work within these limitations, you will find you'll really enjoy LOGO.

## PROCEDURES

```
TO SNOOPY
; SNOOPY + WOODSTOCK
; ***** BY *****
; RICHARD J. BAILEY
; 68A CHURCH STREET
; GONIC, N.H. 03867
TELL TURTLE HT : SETUP
CS CB 15
SXY 71 34
LT 115
REPEAT 10 [FD 2 RT 1 ] ; SNOUT
REPEAT 6 [FD 4 RT 8 ]
SH 180
REPEAT 9 [FD 1 RT 20 FD 2 RT 20 ] ; NOSE
SH 330
REPEAT 10 [FD 4 RT 10 ]
REPEAT 3 [FD 3 RT 5 ]
REPEAT 4 [FD 2 LT 15 ] ; HEAD
REPEAT 7 [FD 2 RT 9 ]
REPEAT 5 [FD 3 RT 3 ]
REPEAT 6 [FD 2 RT 10 ]
REPEAT 3 [FD 2 LT 11 ]
REPEAT 15 [FD 3 RT 4 ] ; EAR
REPEAT 16 [FD 2 RT 10 ]
REPEAT 9 [FD 2 RT 2 ]
SXY 75 38 SH 0
REPEAT 2 [REPEAT 9 [FD 2 RT 20 ] FD 10 ] ; INNER EAR
SXY 56 60 SH 10
FD 1 RT 100 FD 5 RT 100 ; EYE
FD 1 RT 90 FD 5
SXY 88 26 SH 231
REPEAT 11 [FD 2 LT 7 ] ; NECK
RT 20
REPEAT 3 [FD 5 LT 1 ] ; BACK
REPEAT 13 [FD 1 RT 8 ] ; BOTTOM
FD 30 ; FOOT
REPEAT 10 [FD 1 RT 10 ]
FD 19
RT 90 FD 5 BK 5 LT 90
FD 6 RT 10
RT 90 FD 6 BK 6 LT 90
REPEAT 8 [FD 2 RT 18 ] ; TOE
REPEAT 5 [FD 4 RT 7 ]
SH 70
REPEAT 4 [FD 4 RT 8 ] ; LEG
SXY 69 -8
SH 10
REPEAT 16 [FD 2 RT 1 ] ; CHEST
REPEAT 6 [LT 5 FD 2 ] ; NECK
SXY 70 24 SH 110
FD 15 RT 90 FD 1 ; COLLAR
RT 90 FD 13
SXY 73 7 SH 191
REPEAT 3 [FD 4 LT 3 ] ; ARM
LT 35
REPEAT 3 [REPEAT 4 [FD 2 LT 45 ] RT 100 ] ; HAND
SXY 97 -41 SH 45
REPEAT 2 [REPEAT 13 [FD 1 RT 5 ] RT 100 ] ; TAIL
OISH
TURTLE 1
END
```

```

TO BISH
SY -79 -43 SH 15 : BISH
FD 15 RT 75 FD 55
RT 75 FD 15 RT 195 FD 59
SY -87 -44 SH 59
FD 59 : BOTTOMLINE
PT 33 7 16 : SNOOPY
P 3 3 16
P 1 9 9 16
PT 79 18 16
PT 39 11 16
PT 89 12 16
END

```

```

TO BUBBLE :ZZ
PT 33 15 16
PT 35 16 16
PT 36 17 16
PT 37 15 17
PT 38 16 17
PT 64 17 17
TELL 17
CARRY 5
SY -55 -16 : WOODSTOCK
SC 4 55 8
TELL (1 2 3 4 1) : HIDE BUBBLES
SY -68 -28
SC 3 55 3
TELL (6 7 9 9 19 11 12 13 14 15 16 1)
SS 8
SY -55 -28
CARRY :BALL
EACH (SC IN SH -28 + (RANDOM * YN / 3))
SS (3 * YN / 2) 1.

```

```

POP
MAKE *ZZ :ZZ + 1
IF :ZZ > 8 THEN BUBBLE :ZZ
SS 8 SC 16 CS
17 CARRY 9
END

```

```

TO POP
WAIT 55
MAKE *NUMB 6
LABEL: TELL :NUMB
SC 8
MAKE *NUMB :NUMB + 1
IF :NUMB > 16 THEN STOP
GO *LABEL
END
** DONE **

```



## ADDITIONS AND MODIFICATIONS TO FORTH SYSTEM DISK

By TOM FREEMAN

I have found these useful on my system disk, in addition to those such as PAGE or SIZE which have been published elsewhere. For instance, how do you tell which base you are in? BASE @ . will always give you 10 since that is the value in the current base! The following will give the answer in decimal without changing the base:

```
: BASEINDEC BASE @ BASE->R DECIMAL . R->BASE;
```

Those of you dumping information to a printer frequently may find typing SWCH and UNSWCH annoying. The following will make it easier:

```
( PRINTER WORDS TSF 3DEC84)
```

```
BASE->R HEX
```

```
: PINDEX SWCH INDEX CR UNSWCH ;
```

```
: PLIST SWCH LIST CR UNSWCH ;
```

```
: PCR SWCH CR UNSWCH ;
```

```
: PVLIST SWCH VLIST CR UNSWCH ;
```

```
: P" 22 WORD HERE COUNT SWCH TYPE UNSWCH ;
```

```
R->BASE
```

The first three are obvious, but they do save typing time. PVLIST is a problem because it only uses 40 columns. This is probably OK since you won't use it often, but if you wish to change it, find the definition of VLIST on screen 43, copy it using PVLIST in place of VLIST and 4E in place of 25 near the end of the second line.

P" which of course replaces ." was a bit more complicated because of the way in which ." is used. I had to go back to the original definition to figure out where to put the SWCH and UNSWCH.

PDUMP to replace DUMP doesn't appear above because I felt it important to use the full 80 columns of the printer. The following will construct PDUMP: (apologies to Peter Geltner of Los Angeles, who gave it to me but has never published it)

1) make a new word DUMP10 exactly like DUMP8 except 37 in place of 1F in screen 42, line 7.

2) PDUMP is then exactly like DUMP except replace 8 with 10 in scr 43, line 3 and DUMP8 with DUMP10 in line 4.

3) Memory can be saved by defining the parts that are the same as new words, and using these in DUMP8, DUMP10, DUMP, and PDUMP before and after changes.

The Forth editors always give the screen number in decimal. I prefer to have it also in HEX if I'm using HEX. For the 64-column editor the following will do it: on screen 26, in the definition of SCRNO, between BASE->R and R->BASE replace what is there by DUP . BASE @ DECIMAL 16 = IF ." HEX...decimal = " . ELSE DROP ENDIF

For the 40-column editor go to LISTA on screen 34, replace DECIMAL with BASE->R, AFTER SCR # " insert the same code as in the last paragraph, then R->BASE after LOOP.

### COLOR CHANGES IN FORTH

You may wish to change the foreground and background colors in text, graphics, multi, and split modes. I wish to use white on transparent, for instance, since I have a monochrome monitor, with the text area below the 64-column editor a contrasting black on white. The following information will tell you where to do it. XY will always refer to a foreground color of X and a background of Y (both in HEX, see your E/A manual).

1) TEXT mode—screen 51, line 9, where you see 0F4 7 VWTR change F4 to XY

2) text in GRAPHICS mode—screen 52, lines 6 and 10, where you see F4, use XY

3) screen text in 64-column editor—screen 54, line 6, 0F0 VFILL, 0F0->0XY (I left this unchanged, but 17 looks better on a color TV or monitor)

4) text in SPLIT mode—screen 55, line 6, 0F4 VFILL, 0F4->0XY

5) text in SPLIT2 mode—screen 55, line 11, 0F4 VFILL, 0F4->0XY

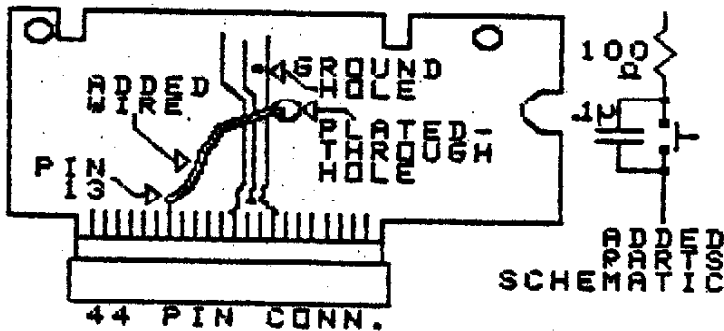
6) cursor in 64-column editor—screen 23, line 5 SPCHAR 0 F, F->X (F, the default is white, but it must contrast with the background of SPLIT)

## ADDING A LOAD INTERRUPT SWITCH TO THE SPEECH SYNTHESIZER

Richard J. Bailey  
68A Church Street  
Gonic, N. H. 03867  
NH99'ERS USER GROUP

A number of people have asked me about the load interrupt switch I had added to my speech synthesizer to allow dumping screens from the various cartridges using the excellent screendump program that was written by Danny Michaels. So here are instructions to allow you to modify your own synthesizer to accomplish this.

Keep in mind that you have to know enough about electronics to add the parts needed for the modification without messing up your synthesizer. I have made the



BOTTOM VIEW OF SPEECH SYNTHESIZER BOARD

modification to my own synthesizer so I know that it works, but if you mess up, then you're out a synthesizer. You could add the same parts inside the console and have a small switch sticking out the back if you want the modification self-contained or don't have a speech synthesizer. The only part really needed is a miniature pushbutton switch with normally open contacts but if you add a 100-500 ohm resistor in series with the switch and a .01-.1 MFD capacitor across the switch, there will be less chance for contact bounce (if you really want bounce-free contact closure, use cross-coupled gates as an R-S flip-flop). The added parts schematic and location diagram of the speech synthesizer board is shown above. These were drawn with GRAPHX.

To modify your unit, do the following:

- 1) buy the parts. The switch must not stick >1/4in. beyond threads.
- 2) dismantle synthesizer. note how shield slides together.
- 3) clear large plated-through hole of solder.
- 4) solder 2 1/2in. piece of wire to pin 13 of 44 pin connector. (all other parts go on top side of circuit board)
- 5) solder one end of 100 ohm resistor in ground hole.
- 6) solder 1 1/2in. piece of wire to other end of resistor.
- 7) solder wires to switch and .1 MFD capacitor.
- 8) drill hole in middle top of shield for switch.
- 9) mount switch, making sure everything fits.
- 10) reassemble unit, making sure nothing shorts.

You can now follow the instructions for the screendump program to check the operation of the switch. You may find other interesting uses of the switch. If you do, please pass them on to the newsletter.

MICROpendium/August 1985

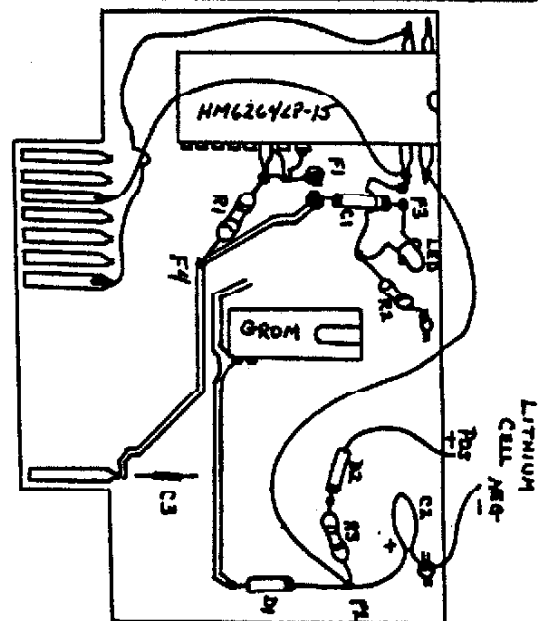
## Update on SUPER CART

John Clulow has sent additional information regarding the construction of the SUPER CART module, articles about which appeared in the June and July issues:

The published design of the SUPER CART module does not work with a cartridge expander. To correct this, disconnect the resistor R1 from its F4 connection and re-solder it to F3.

Some modules, such as TI Invaders, have a capacitor at C3 rather than a wire. The foil around the edge of the board must be grounded. To correct this, remove the capacitor at C3 and replace it with a piece of heavy wire (such as a resistor lead). If this change is not made, the LED will not light and the module will not function correctly.

A disk of software for SUPER CART which includes material to allow any Option 3 E/A program to be loaded into the module for menu access can be obtained from David R. Romer, 213 Earl St., Walbridge, OH 43465. Enclose \$6 for the cost of disk, mailing and handling.



TIPS FROM THE TIGERCUB

026

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New Catalog #6, for \$1 which is deductible from your first order. Describes 140 original programs for only \$3 each (plus \$1.50 per order for cassette or disk, package and postage).

If you have my previous catalog, the following are now available in Extended Basic versions - Fast Addition Practice, Submarine Hunt, Rithmatik, Wawaland (also now available in Basic with Speech), Long Division Cryptograms, Miss Spell, Scrambulation, Bargraffer, Squinch, Dry Gulch, Name That Tune, Scrum, Midnight Trail, Nimbo, Kindertimes, Optical Illusion, Bazoo, Synonymy, Speeder Reader, Changeroo, Glunk, Fraction Math, Three Buckets Puzzle, Roman Numbers, Match A

Patch, Kinderminus, I E Spelling, Casting Out Nines, Haunted Graveyard, Spalling Teacher, Moonymy, Antonyay, Old -Timer Puzzle, Ten Thousand Sights, Mechanical Aptitude Test, Junior Speeder Reader, and Bars and Balls.

Due to reduced prices for disks and mailers, the PPM charge is now \$1.50 for either disk or cassette - BUT PLEASE BE SURE TO SPECIFY WHICH!

And my best seller - NUTS & BOLTS, a full disk of 100 (yes, I said 100) utility subprograms in MERGE format, ready for you to merge into your own programs. 13 type fonts, 14 text display routines, 9 wipes, 8 pauses, 3 programming aids, 9 data saving and reading routines, 5 graphics routines, 4 time and date, 6 music, 12 sorts and shuffles, 2 printer aids, 4 key and joystick, 4 math, 2 protection and 7 miscellaneous, plus a tutorial on subprograms. With documentation, example of using each subprogram. All for only \$19.95 postpaid.

Now for the old business -

I was mortified to find an error in the Unprintable Unkeyable Program in Tips #22. The last line should end with ELSE 100, not ELSE 130. In the Grocery Shopping program in Tips #21, your wife will never get to the zucchini unless you delete line 140 and change line 200 to -  
200 IF EOF(1)<>1 THEN 130

Sorry about that. And the update to the Menu Loader in Tips #22 will not list all listable files, just D/V80 files. I now have a version to really list all listable files, I think, plus show protection,

dump the catalog to the printer, rescan, etc., but am not sure all the bugs are out so will publish it next month.

Folks have been asking why their orders for TI-WRITER COMPANION, mentioned in Tips #22, were being returned unopened, so I called Bill Browning. He said he found he was going broke selling it for \$2.50, but he is now prepared to supply it for \$6.50. Still a bargain, in my opinion.

Barry Ensley warns that when FCTN V is used for a blank in a filename, as mentioned in Tips #25, it is not recognized by the Disk Manager.

In Tips #21, I said that the special characters available on the Gemini printer could not be accessed from TI-Writer. I have since learned that Star Micronics hid a valuable feature of their printer in a paragraph of gobbledegook computerese in the manual. See "Other Function Codes", ESC ">", ESC "=" and ESC "8". In plain English, you can access these codes by CTRL U, FCTN R, CTRL U, SHIFT >, then type the character with an ASCII 128 less than the character you want. In other words, if you want CHR\$(168), hit the space bar (ASCII 32), etc. To get back to the normal character mode, use CTRL U, FCTN R, CTRL U, SHIFT 0. Many thanks to David Aragon (San Antonio Area 99ers newsletter, Aug. 1985), who described how to do the same by transliteration.

In Tips #25, I said that a program which had been converted to I/V 254 format by adding REM lines could be converted back to program format by deleting

the REM lines and reSAVing. Well, it usually can - but not always!

I have been receiving inquiries as to whether my programs published in the Tips are public domain programs which can be placed in user group libraries and on BBS's. Well, the copyright notice on this newsletter is really only intended to keep anyone from reprinting it for personal profit. I have always thought that programs published for the purpose of being keyed in should be OK to copy, and I don't intend to claim that "you must own the magazine"! However, a peculiar situation has developed. The short programs which I wrote to give away to promote my other programs, have become the bread and butter of my business! If it was not for the sales of the Tips disk and the Nuts & Bolts disk, I would long ago have gone out of business. So, I would appreciate it if you would exercise some restraint in putting my Tips programs in your libraries or in downloadable form on your BBS.

And I do consider my two Tips disks, as complete collections of programs, to be copyrighted material which should not be placed in libraries for copying.

In the Automatic Mouse Maze in Tips #23, you can improve the maze by adding these lines -

```
475 IF (C)20)=(X(10))THEN 500
515 X=X+1
555 X=X+1
595 X=X+1
1325 X=0
```

And the last word - I think - on the challenge to quickly scramble the numbers 1 to 255. Ian Swales sent me, from Belgium, two

```

routines which beat everyone
else - and then sent me two
more which beat his first
ones! His PEEK version -
100 DIM A(255),C(255):: FOR
K=255 TO 1 STEP -1 :: RANDOM
IZE :: CALL PEEK(-31000,0)::
J=INT(B*K/256+1):: C(K)=MAX
(J,A(J)):: A(J)=MAX(K,A(K)):
: NEXT K
And see if you can
unravel the logic of this
truly elegant bit of code!
100 DIM A(255):: RANDOMIZE :
: FOR K=255 TO 1 STEP -1 ::
J=INT(RND*K+1):: T=MAX(J,A(J)
):: A(J)=MAX(K,A(K)):: A(K)
=T :: NEXT K

```

So, on to new business -

#### ANNOUNCING

The TI-99/4A TRAVELER  
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To give you an idea of  
Barry Traver's knowledge of  
our computer, try this one.  
I've figured out the why,  
but I'll have to ask Barry  
to explain the why of the  
why!

```

100 ! LINPUT PUZZLE/BUG by
B.A. Traver
110 ! QUESTIONS? Send SASE
to Barry Traver
120 ! 552 Seville St.
Phila. PA 19128
130 CALL CLEAR :: PRINT "LIN
PUT PUZZLE/BUG": "BY BARRY TR
AVER"
140 PRINT "Can you figure ou
t why your computer will not
obey?"
150 PRINT "Why won't it stop

```

```

when you tell it to?": :
160 LINPUT "Want me to stop?
(YES/NO)":N$
170 IF N$="YES" THEN STOP EL
SE 160
180 END

```

It seems that many of  
you still haven't heard of  
Super 99 Monthly, published  
monthly (and on time!) by  
Byteaster Computer  
Services, 171 Mustang  
Street, Sulphur, LA 70663,  
for \$12 per year. The May  
issue contained a Word  
Processor Dump, to dump a  
graphics/text screen into a  
D/V80 file which can be  
printed out of the TI-Writer  
Formatter - that program  
alone is worth the annual  
subscription price!

I've said it before,  
there is more than one way  
to skin that poor cat. This  
is my routine to alternate  
between the #1 and #2  
joysticks.

```

Z=Z+1+(Z=2)*2 :: CALL (JOYST
(Z,X,Y)
Compact, isn't it? Now, the  
Reading-Berks 99ers publish  
a newsletter called "A Byte  
of Info", which is hardly  
more than a byte long, but  
the August byte was a  
mouthful! Check this -
100 Z=2

```

```

110 Z=1/Z*2 :: CALL JOYST(Z,
X,Y)
And this! Elegant!
Z=Z*0 :: CALL JOYST(Z+2,X,Y)

```

Here is another of  
those programs that write a  
program. This one will read  
a screen of graphics and/or  
text and convert it into a  
RUNable program of DISPLAY  
AT statements which will  
recreate the screen.

First, we need a file  
of the hex codes of all the  
normal characters, to check  
against to see if any have  
been redefined. Rather than  
key in all 95 of the  
16-digit codes, let's write

```

a program to write a program
of them -
110 OPEN #1:"DSK1.HEXCODES",
VARIABLE I63 :: LN=30000 ::
FOR D=32 TO 124 STEP 8 :: FO
R CH=D TO D+7 :: CALL CHARPA
T(CH,CH0)
120 D$=D%&CHR$(179)&CHR$(200
)&CHR$(16)&CH0 :: NEXT CH
130 PRINT #1:CHR$(INT(LN/256
))&CHR$(LN-256*INT(LN/256))&
CHR$(147)&SEG$(D%,2,LEN(D%))
&CHR$(0):: LN=LN+1 :: D$=""
:: NEXT D
140 PRINT #1:CHR$(255)&CHR$(
255):: CLOSE #1 :: END

```

RUN that to create a  
MERGE format program of DATA  
statements. Now, key in the  
GRAFWRITER program -

```

31000 SUB GRAFWRITER
31001 OPEN #1:"DSK1.P6",OUTP
UT,DISPLAY ,VARIABLE I63
31002 RESTORE 30000 :: L=300
00 :: GOSUB 31018
31003 FOR CH=32 TO 127 :: CA
LL CHARPAT(CH,CH0):: READ A$
:: IF CH=A$ THEN 31004 ELS
E GOSUB 31019 :: GOSUB 31018
31004 NEXT CH
31005 FOR CH=128 TO 143 :: C
ALL CHARPAT(CH,CH0):: IF CH$
=RPT$("9",16) THEN 31006 ELSE
GOSUB 31019 :: GOSUB 31018
31006 NEXT CH
31007 PRINT #1:L$&CHR$(157)&
CHR$(200)&CHR$(5)&"CLEAR"&CH
R$(0):: GOSUB 31018
31008 FOR R=1 TO 24
31009 M$=L$&CHR$(162)&CHR$(2
40)&CHR$(183)&CHR$(200)&CHR$
(LEN(STR$(R)))&STR$(R)&CHR$(
179)
31010 FOR C=3 TO 30 :: CALL
GCHAR(R,C,6):: CALL HCHAR(R,
C,42):: IF F=0 AND 6=32 THEN
31013
31011 F=1 :: IF FF=1 THEN 31
012 ELSE CC=C-2 :: FF=1
31012 A$=A$&CHR$(6)
31013 NEXT C :: IF CC=0 THEN
CC=1 :: A$=""
31014 PRINT #1:M$&CHR$(200)&
CHR$(LEN(STR$(CC)))&STR$(CC)
&CHR$(182)&CHR$(181)&CHR$(19
9)&CHR$(LEN(A$))&A$&CHR$(0)
31015 L=L+10 :: F,FF,CC=0 ::
M$,A$="" :: GOSUB 31010 ::
NEXT R
31016 PRINT #1:L$&CHR$(134)&

```

```

CHR$(201)&L$&CHR$(0):: GOSUB
31018
31017 PRINT #1:CHR$(255)&CHR
$(255):: CLOSE #1 :: SUBEXIT
31018 L1=INT(L/256):: L2=L-2
56=L1 :: L$=CHR$(L1)&CHR$(L2
):: L=L+10 :: RETURN
31019 PRINT #1:L$&CHR$(157)&
CHR$(200)&CHR$(4)&"CHAR"&CHR
$(183)&CHR$(200)&CHR$(LEN(ST
R$(CH))&STR$(CH)&CHR$(179)&
CHR$(199)&CHR$(16)&CH$&CHR$(
182)&CHR$(0):: RETURN
31020 SUBEND

```

Next, Enter MERGE DSK1.  
HEXCODES to merge in those  
DATA statements. Then save  
the program by SAVE  
DSK1.GRAFWRITER,MERGE

Now, load any program  
which has a screen you would  
like to copy. Run the  
program to the point where  
the screen display is ready,  
then break it with FCTN 4.  
Put in a temporary line  
going to itself, such as  
1001 GOTO 1001, and run the  
program again to be sure you  
found the right place. Then  
replace that temporary line  
with CALL GRAFWRITER :: STOP

Put in the disk  
containing the Grafwriter  
program and enter MERGE  
DSK1.GRAFWRITER. Then RUN  
the program. When it stops,  
type NEW, then MERGE DSK1.P6  
and then RUN!  
Now for a Tigercub chall-  
enge that I can't answer!  
Can one of you assembly  
programmers tell me how to  
PEEK out of Extended Basic  
for screen color and charac-  
ter set colors, so I can  
reproduce them in that  
program?

And, thanks to Jerry Glaze  
in the Southern Nevada UG  
newsletter, by way of the  
Tidewater newsletter - you  
don't need SIZE with DISPLAY  
AT - just a semicolon!  
100 DISPLAY AT(12,1):RPT\$("=
",28):: DISPLAY AT(12,1):"SE
E?";

MEMORY FULL! - Jim Peterson



HOOSIER USERS GROUP DIRECTORY

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317-631-994A

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MONTHLY MEETING LOCATION

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8240 Indy Lane
Indianapolis, IN 46224

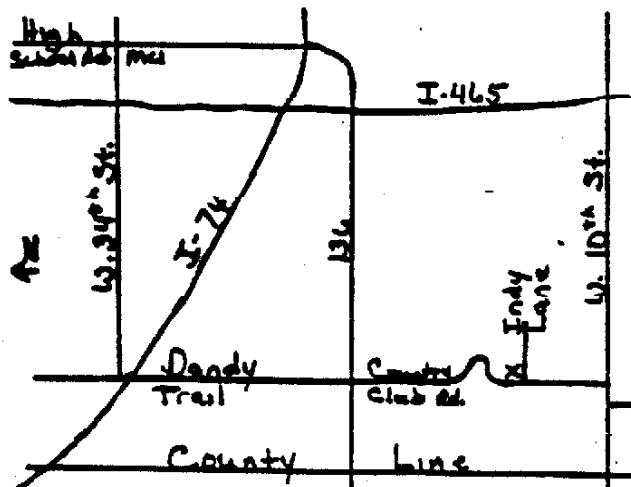
(About 1800 North Country Club Road)

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The Hoosier Users is participating in a Newsletter Exchange program with other TI Users Groups. This offer is made with the understanding that, with proper credit, your Users Group can reprint articles from the Hoosier Users Group Newsletter, and with proper credit, we can reprint articles from other TI Users Groups Newsletters.

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Back Issues purchased at the monthly meeting is \$1.00 each. Mail order price is \$1.50 per Newsletter (postage included). Orders will be filled within 3 weeks of receipt by the Documents Committee.

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There will be no charge for advertisements submitted to the HUGger Newsletter by members (for private sale only). Format for the advertisements is 45 characters wide by 10 lines long. The Ad should be typed or hand printed exactly how it is to appear in the Newsletter. Deadline for an ad to appear in next month's Newsletter is the 2nd Saturday of the month.\*

For companies who wish to advertise in the HUGger Newsletter, our rates are as follows:

- Pre-Printed Inserts (one page) \$20.00
One Full Page (one sided) Ad: \$25.00
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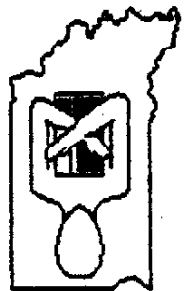
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\*NOTE: The Officers of the Hoosier Users Group reserve final approval on all advertisements submitted for the HUGger Newsletter and the HUGbbs. The Officers and the Newsletter committee are not responsible for typographical errors due to illegible advertisements. All proceeds are accepted as donations to the Hoosier Users Group.

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Make check or money order payable to **Hoosier Users Group**. Send completed application to:

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