

ISSUE #8 AUG 1988

FOR THE RECORD

by Frank N. Zic  
(Acting Secretary)

The July meeting of the West Penn 99'ers was finally started with the sanction of Vice President Mickey Schmitt, after a little verbal horseplay, John recovered nicely and proceeded at full tilt, which he usually does. We appreciate it, John. This unusual start was because Scott had some closing business on his new home and would not attend the meeting until later. There is a VCR tape available of the Lima Faire, you should borrow it and check out the many interesting happenings. Minutes of the last meeting were approved. Jan gave a treasurers report with a balance of \$1095.58. A new member joined our club, Norma Lodico of Pittsburgh-welcome. Old business revealed that the library contains 17 new Max-Rle pictures. A catalog listing of the Lima groups library is on hand, as is a copy of Ernie & Bert and the best of the UK. Scoops kept coming in and then going out of the meeting but finally returned with only diet Pepsi. Could he be trying to tell us something?

New business included a list of the up coming Faires, see the listing in the News letter. Thanks to Judy & Dave for providing the information. It was mentioned that the PUG BBS is now handling 300/1200/2400 baud with their newest program. Mickey stated that all are invited to attend the Aug. Adventure class. It will go, start-to-finish, on a new adventure you will be helping to develop. A raffle was held with several prizes. Paul Brock mentioned that a free public announcement, for new members, can be placed in the Appolo newspaper. A ROM chip can be changed in the Super Extended Basic to increase the modules capacity to include: Editor Assembler, TI-Writer and Disk Manager III. With this chip change you can go back and forth between each of the programs. Look for the ads in the Triton catalog.

Gary Taylor demoed a diskette showing the features that are presented in Jim Peterson's Nuts & Bolts 1,2 & 3. A discussion followed on the virtues of Funnelweb Ver 4.1. The customary interesting discussion on general electronics problems was held by John Wilforth. Attendance at this slow time of the year was down but we still had 25 members brave the heat of the evening. The long distance members from Ohio seem to always make it..congratulations. Eric mentioned that the library holds: Funnelweb 4.1, and the 4.1 Utilities, Central Westchester 99'ers program and Tom Maniers's program. Short on notes and you know I just hate to ramble so, May the good 4's be with you.

TREASURER'S REPORT FOR WEST PENN 99ERS JULY 1988 FROM JAN TRAYERS, TREASURER

7/19	CASH ON HAND	\$ 50.00	7/19	BANK BALANCE	\$1095.58
7/19	LIBRARY SALES	21.00	7/19	POSTAGE	-65.00
"	MICROPENDIUMS	35.00	7/30	MICROPENDIUMS	-33.00
"	WRITERS MANUALS	4.00	7/30	TO BUG FOR RAFFLE	- 5.00
"	DISK SALES	40.00	7/29	DEPOSIT	+ 144.50
"	RAFFLE	17.00		BALANCE.....	\$1137.08
"	DUES	27.50			
	TOTAL.....	\$194.50		TOTAL CASH BALANCE.....	\$1187.08
7/29	DEPOSIT	-144.50		I'D LIKE TO USE THIS LITTLE SPACE TO	
"	CASH ON HAND	\$ 50.00		THANK JAN FOR HER CONTINUED DEDICATION	
				AND ACCURACY AS TREASURER OF WP99ERS. JW	

HAMFESTS COMING UP IN THE WESTERN PENNSYLVANIA AREA:

31ST ANNUAL WARREN HAMEFEST, SUNDAY AUGUST 21, 1988, 6:00 AM TO 2, TRUMBULL BRANCH OF KENT STATE UNIVERSITY, WARREN, OHIO... STATE RT. 5 BYPASS & STATE RT. 45. REGISTRATION \$3. ADVANCE \$2.50. UNDER 12 FREE. WARREN HAMEFEST P.O. BOX 809 WARREN, OH 44482

BUTLER HAMEFEST, SUNDAY SEPT. 11, 1988, 9:00 AM TO 4:00 PM, AT THE BUTLER FARM SHOW GROUNDS AT ROE AIRPORT. \$1.00 DONATION FOR ADMISSION. UNDER 12- FREE. CONTACT ED HAPOLETAN, WB3LKO 445 MORTON AV., BUTLER, PA 16001.

SWAP & SHOP HAMEFEST, SUNDAY SEPT. 18, 1988, 9:00 AM TO 4:30 PM AT THE CLUB GROUNDS ON TURKEY RIDGE RD., NEW KENSINGTON, PA. ADMISSION \$2. PER PERSON, 3 TICKETS FOR \$5.

HAMEFEST/COMPUTER/ELECTRONICS/FLEA MARKET, SUNDAY SEPT. 18, 1988 AT THE JOINT VOCATIONAL SCHOOL CANFIELD, OHIO ADMISSION \$2.00 9:00 AM TO 4:00 PM.

NOTES FROM THE JULY MICROPENDIUM.....

JOHN BIRDWELL HAS BEGUN HIS SERIES ON ASSEMBLY. IF YOU DON'T ALREADY GET MICROPENDIUM, NOW WOULD BE A GOOD TIME TO START SINCE MR. BIRDWELL IS WELL KNOWN FOR HIS ABILITIES IN THIS AREA. HE WILL BEGIN AT THE POINT (MORE OR LESS) WHERE MACK McCORMIC LEFT OFF. HE'LL SET OUT TO DEVELOP A WORD PROCESSOR AND WE'LL WATCH AND LEARN AS HE GOES ABOUT IT'S DEVELOPMENT. THIS WILL INCORPORATE SOME OF THE "WOULDN'T IT BE NICE IF ONLY I COULD DO THIS WITH TI-WRITER" IDEAS YOU'VE HAD. SEND IN YOUR SUGGESTIONS, AND YOU MAY SEE THEM IN THIS NEW PROGRAM WHICH JOHN WILL CALL "MICRO-WORD". SEND YOUR SUGGESTIONS TO: MICROPENDIUM, ATTN: JOHN BIRDWELL, P.O. Box 1343, Round Rock, TX. 78680. PLEASE HELP SUPPORT THIS EFFORT.

MIKE McCANN OF McCANN SOFTWARE IS NOW PRODUCING HIS 5 MIPS (MILLION INSTRUCTIONS PER SECOND) AVANTI-99 FORTH CARD FOR THE 99/4A AND THE GENEVE. MIKE'S INTEREST IS IN THE AREA OF CAD/CAM AND I BELIEVE YOU WILL SEE PROGRAMS COME OUT FOR THIS CARD THAT WILL MAKE THE TI-99/4A A MAJOR COMPONENT IN A "SUPER PACKAGE" THAT WILL PERFORM BETTER, FASTER, AND IN THE END, MORE SPECTACULARLY THAN THE "AMIGA", "ST", "-MAC", "AT", AND "PS-2". I KNOW YOU THINK WILLFORTH IS WACKO, BUT I BELIEVE THAT MIKE KNOWS WHAT HE'S DOING, AND IS CAPABLE, EVIDENCED BY WHAT HE HAS DONE SO FAR. MIKE AND HIS COMPANY McCANN SOFTWARE IS DEDICATED TO THE TI COMMUNITY AND IS PUTTING MUCH ON THE LINE. WITH LIMITED RESOURCES, AND IN A VERY SHORT TIME HE HAS BROUGHT AN IDEA FROM IT'S INFANCY TO A COMPLETELY MATURE FUNCTIONING MACHINE, THAT BY ITSELF CANNOT BE MATCHED IN SPEED BY ANY OF THE ABOVE MENTIONED MACHINES! YOU HEAR 20 OR 25 MEGA HERTZ AS THE SPEED FOR A 80386, BUT THAT CHIP ALONE COSTS WHAT THE WHOLE AVANTI-99 CARD COSTS, AND IT'S SPEED CONVERTED TO MIPS IS IN THE RANGE OF 5 OR 6 AT BEST. WE'RE TALKING 7 MIPS! THIS NUMBER IS EVEN MORE IMPRESSIVE WHEN YOU REALIZE THAT THE AVANTI-99 FORTH CARD IS RUNNING IN IT'S NATIVE TONGUE, "FORTH" WITH NO INTERPRETER INVOLVED. IF THERE ARE ANY OF YOU OUT THERE WHO ARE WAITING FOR SOME "PROMISED" HARDWARE, THAT WILL TAKE YOU UP A STEP IN SPEED AND POTENTIAL, WELL THIS MAY TAKE YOU ENTIRELY INTO ANOTHER DIMENSION, AND FOR VERY LITTLE MORE, \$ 595.00. FOR MORE ON THIS CARD, CONTACT: McCANN SOFTWARE, P.O. Box 34160, OMAHA, NE 68134

MICROPENDIUMS ARE AVAILABLE AT EACH MEETING OF THE WEST PENN 99ERS, SO COME TO THE AUGUST MEETING AT THE FIRST PRESBYTERIAN CHURCH OF THE COVENANT, 4TH AND OAK STREETS, IRWIN, PA

The next topic I would like to talk about is printing out with a program to a printer. The programming process is similar to the disk reads and writes.

Below is a program that will print out to a printer.  
Program Print(input,output,p);

```
Var
  p:Interactive;
Begin
  Reset(p,'Printer:');
  Writeln(p,'This line will go the the printer');
  Writeln('This line will go to the screen');
  Page(output);{This will clear the screen}
  Page(p);{This will cause the printer to form feed}
  Close(p);
End.
```

In the "Var" section "p" is identified as an Interactive file. An interactive file is in U.C.S.D. only, it is for hardware such as disk drives, printers and modems.

The printer file is opened with a "Reset(p,'Printer:');" statement and those lines that you want to go to the printer are "Writeln(p,-----);". Naturally we could have variables in place of the the strings and the values of the variables would print out.

This entire discussion is prefaced on the fact that the RS232 is modified for parallel output in order to access a parallel printer. This would have to be done before any program is run using a parallel printer.

When you are done with the printer, its file should be closed. You do not have to use the term "Lock" in this case. This is good programming practice because if you did not close the file in a regular program and then came back to the printer file and reopened it the operating system would give you an error message and stop the program.

I have some room in this issue so I would like to discuss a programming technique that is crucial. If you look at the disk program in the last issue you will see in the Diskmake procedure a For..Do loop. That loop has a Begin..End pair. This is very common in Pascal, Begin..End pairs group statement lines together. You can also have nested Begin..End pairs and it is important that for every Begin there is an End. Further the Begin..End of one pair cannot cross another Begin..End pair.

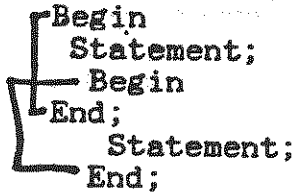
For example;  
Correct

```
For N:=1 to 10 Do
  Begin
    Statement;
    Statement;
    Begin
      Statement;
      Statement;
    End;
  End;
```

```
*****
**
** RAY KAZMER WROTE A SUPER INTERESTING ARTICLE FOR
** THE JULY ISSUE OF MICROPENDIUM ABOUT ANIMATION
** WITH THE "COMIC SHOW EDITOR" AND DESCRIBES HOW
** WE CAN CREATE HIGH-SPEED, FULL SCREEN, PC-STYLE
** ANIMATION WITH OUR TI-99/4A COMPUTER! RAY GIVES
** US A VERY EXTENSIVE DESCRIPTION OF ANIMATION AND
** IT'S HISTORY AS WELL AS THE NEW TOOL FROM WEST
** GERMANY CREATED BY THOMAS OPHEY, "COMIC SHOW
** EDITOR". I'VE NOT HAD TIME TO GO OVER THE DISK
** I RECEIVED WHICH INCLUDES SEVERAL OF THE DEMOS
** IN THE ARTICLE, BUT THE ENGLISH VERSION OF THE
** EDITOR IS INCLUDED. COME TO THE MEETING AND SEE!
**
** *****
```

Incorrect

For N:=1 to 10 Do



Also notice that there are no semicolons after the Do loops nor after the Begins.

When I write a program out longhand I keep track of the Begin..End pairs with lines like I have drawn above. This is one of the reasons Pascal source codes are indented, so as to keep track of Begin..End pairs.

More next time.

### TWO-WAY COMMUNICATION FOR X-BASIC

BY DR. ROY T. TAMASHIRO

Have you ever tried to use BASIC or Extended BASIC to communicate with another computer? If so, you soon discover that you can send and receive data (using PRINT # and INPUT # or LINPUT # instructions), but there are no instructions which allow simultaneous two-way communications. This "chat" mode is not available in the ordinary BASICs because you may not interrupt the PRINT # and (L)INPUT # instructions which are waiting for carriage returns. This is like having a walkie-talkie conversation in which each person must say "OVER" and release a switch before the other person can talk.

The "COMMUNICATIONS TERMINAL" program (See listing below and footnote) allows simultaneous two-way interaction. To use the program, you must have Extended BASIC, 32-K Memory Expansion, and an RS-232 Interface connected to a modem and phone line or direct wire to another computer. Type the program and SAVE it to your disk or cassette.

When you RUN the program, the screen clears, and whatever you type appears on your screen and is sent to the remote computer at 300 Baud. Whatever the remote computer sends to your computer appears on your screen also. When you or the remote computer sends a carriage return i.e. [Enter], a new line begins. The [left-arrow] key (CHR\$(8)) acts as a Backspace on the screen.

To exit the routine, press [FCTN-9]. The remote computer can also allow you to exit the terminal send a [Control-O] or CHR\$(15). To return to the terminal, type CALL LINK("START") and press [Enter].

```

100 !!!!!!!!!!!!!!!!!!!!!
110 !# COMMUNICATIONS #
120 !# TERMINAL #
130 !!!!!!!!!!!!!!!!!!!!!
140 !AUTHOR:ROY TAMASHIRO
150 !FEBRUARY 1987,X-BASIC,
    MEMORY EXPANSION & RS232
160 CALL INIT :: CALL LOAD(8
    196,63,248):: CALL LOAD(1637
    6,83,84,65,82,84,32,48,0)
170 CALL LOAD(12288,2,224,50
    ,114,4,192,2,1,96,0,4,32,32,
    32,5,128,2,128,3,0,22,250,2,
    0)
180 CALL LOAD(12312,15,128,2
    ,1,50,96,2,2,0,16,4,32,32,36
    ,2,6,15,137,200,6,131,86,4,3
    2)
190 CALL LOAD(12336,49,118,0
    ,8,4,192,2,12,19,64,31,21,22
    ,14,4,32,48,174,192,32,50,14
    6,152,32)
200 CALL LOAD(12360,50,178,5
    0,181,22,6,4,224,131,124,2,2
    24,131,224,4,96,0,112,4,196,
    216,4,131,124)
210 CALL LOAD(12384,4,32,32,
    28,216,32,131,124,131,124,19
    ,229,208,96,131,117,152,1,50
    ,181,19,236,6,160)
220 CALL LOAD(12408,48,206,1
    93,0,2,0,16,0,4,32,32,32,2,0
    ,15,128,2,1,3,0,4,32,32,32)
230 CALL LOAD(12432,2,0,15,1
    33,2,1,1,0,4,22,32,32,2,6,15
    ,137,200,6,131,86,4,32,49,11
    8)
240 CALL LOAD(12456,0,8,192,
    4,16,214,50,146,48,178,192,3
    2,50,114,2,12,19,64,31,21,22
    ,252,54,32)
250 CALL LOAD(12480,50,178,2
    08,96,50,178,29,18,6,160,48,

```

```

206,3,128,152,1,50,180,22,5,
    2,64,255,224)
260 CALL LOAD(12504,2,32,0,3
    2,16,17,152,1,50,183,22,5,2,
    128,0,0,19,37,6,0,16,35,216,
    1)
270 CALL LOAD(12528,50,182,2
    ,33,96,0,4,32,32,208,96,5
    0,182,5,128,2,128,3,0,17,23,
    2,0)
280 CALL LOAD(12552,0,32,2,1
    ,50,184,2,2,2,224,4,32,32,44
    ,4,192,4,32,32,36,2,0,2,224)
290 CALL LOAD(12576,2,1,96,0
    ,4,32,32,32,5,128,2,128,3,0,
    22,250,2,0,2,224,4,91,0,0)
300 CALL LOAD(12600,0,0,0,0,
    0,0,0,0,0,0,0,0,0,0,0,0,0,0,
    0,0,0,0,0)
310 CALL LOAD(12624,0,0,0,0,
    0,0,0,0,0,0,0,0,0,0,0,0,0,
    0)
320 CALL LOAD(12648,0,0,0,0,
    0,0,0,0,0,100,32,0,46,170,49
    ,68,49,122,193,126,83,224,49
    114)
330 CALL LOAD(12672,192,32,1
    31,86,194,64,2,41,255,248,4,
    32,32,40,208,193,9,131,7,4,2
    2,49,100)
340 CALL LOAD(12696,5,128,5,
    132,128,196,19,6,4,32,32,40,
    220,129,152,1,49,116,22,246,
    193,4,19,82)
350 CALL LOAD(12720,2,132,0,
    7,21,79,4,224,131,208,200,4,
    131,94,200,4,49,62,5,132,168
    ,4,131,86)
360 CALL LOAD(12744,200,32,1
    31,86,49,64,2,224,131,224,4,
    193,2,12,15,0,195,12,19,1,30
    ,0,2,44)
370 CALL LOAD(12768,1,0,4,22
    4,131,208,2,140,32,0,19,50,2
    00,12,131,208,29,0,2,2,64,0,
    152,18)
380 CALL LOAD(12792,49,117,2
    2,238,160,160,49,78,16,3,192
    ,160,131,210,29,0,192,146,19
    ,230,200,2,131,210)
390 CALL LOAD(12816,5,194,19
    4,114,209,96,131,86,19,9,156

```

```

,133,22,242,9,133,2,6,49,100
,156,182,22,237)
400 CALL LOAD(12840,6,5,22,2
    52,5,129,200,1,49,66,200,9,4
    9,60,200,12,49,58,6,153,16,2
    26,30,0)
410 CALL LOAD(12864,2,224,49
    ,68,192,9,4,32,32,40,9,209,2
    2,4,3,128,2,224,49,68,4,193,
    6,193)
420 CALL LOAD(12888,215,65,2
    43,224,49,114,3,128,0,0,16,0
    ,40,0,0,0,0,6,82,83,50,51,50
    ,46)
430 CALL LOAD(12912,50,46,47
    ,188,5,136,152,56,53,30,19,6
    ,6,8,16,4,4,224,47,186,2,9,5
    5,6)
440 CALL LOAD(12936,7,32,47,
    184,2,12,41,172,200,12,52,16
    ,168,12,52,10,2,12,41,252,13
    1,32,52,10)
450 CALL LOAD(12960,17,5,200
    ,32,52,16,52,10,5,160,47,174
    ,6,12,200,12,52,14,0,0,13,15
    0,8)
460 CALL LOAD(12984,19,52,6,
    8,152,56,47,182,19,13,6,8,6,
    160,53,44,195,76,5,141,6,8,1
    52,56)
470 CALL LINK("START")
480 END

```

If your line out of the RS-232 interface has a Y-cable and you are using port 2, insert the following line to run the program via RS232/2:

```

465 CALL LOAD(12321,18):: CA
LL LOAD(12345,128):: CALL LO
AD(12905,8):: CALL LOAD(1291
1,47):: CALL LOAD(12473,129)

```

NOTE: The program is adapted from notes published by Texas Instruments Inc. on "9902 Asynchronous Communications Controller" and "DSRLNK Routine for XB".

"TI EXPLOITS #1"  
by Ed Hall

I'm the kind of individual that likes to tear into things. There are also lots of things to tear into. One of my favorites is my TI-99/4A computer. So along the way, I have modified the keyboard so it doesn't interfere with the joystick port, made a supercart with dual banks of ram, made a 12 volt DC console and connected the system to amateur radio equipment. The last two go hand-in-hand.

PLEASE NOTE THAT I CAN TAKE NO RESPONSIBILITY FOR DAMAGE YOU MAY INFLICT IN TRYING TO DUPLICATE ANY OF MY EXPLOITS! FURTHER: CERTAIN CLASS LICENSES FOR AMATEUR RADIO ARE REQUIRED FOR TRANSMISSION OF RADIO SIGNALS IN THE AMATEUR BANDS AS WELL AS OTHER FCC LICENSES FOR OTHER BANDS.

The credit for the keyboard modification will have to go to Mack McCormick and MICROpendium. In the February 1987 issue he discussed the wiring of a diode into the keyboard that would keep the ALPHA LOCK from interfering with the joysticks. I found that on the first of my two consoles the task was so simple it only involved replacing a jumper on the board with the diode. The second console was a bit more involved. It did not have any jumpers so I had to break a trace to insert the diode. Both worked exactly as prescribed.

The credit for the Supercart exploit will have to go to John Clulow and Randy Gries of New Horizons Users Group of Ohio as well as Jim McCulloch for his additions. There is an article out that suggests using an HM6116LP chip instead of the HM6264LP chip originally recommended. The basis behind this is that the 6264 is a 64k chip and the 6116 is a 16k chip. The author states that since there is only a need for 8k, the 16k chip should work. The fallacy to this is that the 6116 chip is actually a 16k "BIT" chip which means it only has 2k "BYTES" while the 6264 chip has 64k "BITS" which equates to 8k "BYTES". Unfortunately for me, I tried the 6116 chips before I researched out the bits and bytes. The cartridge did not work properly.

I did make one major change when adding

the second RAM chip. In the article by Jim McCulloch on adding the second chip, he mentioned that adding the second chip piggyback to the first made the stack too high to fit without cutting a hole in the case. This also prevented the use of the cartridge directly with the console. Not liking the idea of cutting up the cartridge nor of HAVING to use the widget, I approached the situation differently. I bent the pins of the second chip upward just above the area where the width of the pins narrows down. I then soldered the second chip under the board to the pins of the first and made the other appropriate connections including the mounting of an SPDT switch with center OFF position in the label edge of the cartridge. Now my module is still fully usable directly in the console.

As for the 12VDC console, I have to thank Radio Shack. They carry a replacement power supply for the TI-99/4A with the cat no. 277-1016. This power supply has been referenced on occasion in BBS messages. The power supply is a switching style power supply that is meant to be fed 18VAC. In turn from this 18VAC; 12VDC, 5VDC and -5VDC are provided. The input to this power supply is a full wave bridge which means that a DC voltage will be accepted at the input. If 12VDC is supplied to the power supply, you will get the 5VDC, -5VDC and 12VDC. Note: If you test the power supply with no load you will only see about 7.5 volts at the 12 volt lead. With a load you will get 12 volts. There has been one letter in MICROpendium from someone who said they had a power supply from Radio Shack which had an unacceptable ripple on the outputs. I have not had this problem. I use it both on the original TI power pack and off of 12VDC. I also use the system from the cigarette lighter of a car, however I don't run the car because of the spikes caused by the alternator and a mechanical relay.

Now on to amateur radio. I would like to spend some time first with how computers are fitting into the amateur world. Computers are used for a variety of reasons ranging from radio teletype, managing satellite tracking, through packet radio and beyond. Packet radio was the basic drive for making the 12VDC console. Packet radio is similar to the modem links that are set up on phone lines

except the communication links are set up over the air waves. I use my packet exclusively in the VHF band which is between 144MHZ and 148MHZ for amateurs and I use FM modulation, although packet is used in other bands and with other modes. The Modem in Packet is called a Terminal Node Controller (TNC). It has the job of communicating to the computer or terminal at a prescribed baud rate, "Packetizing" the information and sending it out through the airwaves at an independent baud rate (normally 1200 on VHF). Communications links can be set up between individuals or with Packet Bulletin Boards (PBBS). PBBSs function much the same way as phone line BBSs with up and downloads and files and messages, but there are some interesting extra features. You can send a message across the country by loading it onto a local PBBS and giving it a forwarding address. The PBBSs also have "BEACONS" which transmit every few minutes and give a list of those call signs for which mail is being held. You can let your system monitor the frequency and see if any of the boards list your call sign or you can let it monitor and send the information to a log file to check later. You'll be able to tell if you have mail without even calling up the board.

The components of my system are: 4A console set up for 12VDC; a stand-alone RS232 made by Condor which is normally powered by a 9VDC wall transformer but works from 12VDC as well; a stand-alone 32K memory expansion made by Ultracomp which is powered from the console; The TNC (explained earlier) made by MFJ; and an amateur radio transceiver made by ICOM. The TNC and transceiver both run from 12VDC. I originally used the TI Terminal Emulator II cartridge but the cartridge will only handle up to 300 baud. I recently acquired a copy the supercart version of Paul Charlton's Fast Term. This allows me to communicate between the TNC and computer at 9600 baud which is the limit of the TNC. So far the supercart Fast Term has worked well, and I expect it will continue to meet all my needs for the system.

The last area of exploits also involves amateur radio experimentation, but is not related to Packet in any way. The joystick port of the computer is considered an input port. It is used to sense the switches in a joystick or

similar device. What is not thought of as often is that in sensing signals the pins of the console actually change state or in other words they change voltage levels. These changes can be used as an output to devices in several manners. In the June and July 1983 issues of 99'er Paul Urbanus gave us a circuit and MINIMEM program to actually run a serial printer from the joystick port. I did build one and with some minor design modifications it worked surprisingly well. What I have been working with lately though is a basic use of the same principle. If you were to use a logic probe and monitor pin 2 of the joystick port while you sent the command CALL JOYST(2,X,Y) in basic, you would note one distinct negative pulse. I have taken this pulse out and applied it to the input of a TTL J K flip-flop. This gives me an output which changes and holds alternately one of two states with each pulse it receives. Now we have a way to turn things on and off. How do we use it? Amateur radio (and the commercial radio services) use repeaters extensively. A repeater is a receiver/transmitter pair which picks up weaker signals and gives them a boost so that they can cover a greater area. For instance a walkie talkie is able to cover the entire Metropolitan D.C. area through the use of a single repeater. The repeaters are governed electronically by a CONTROLLER. This unit does several functions such as giving identification information and providing a timeout system to prevent the transmitter from operating indefinitely. Since we know we can use the joystick port to input signals and now we can output also we could use the computer as a controller. Many modern controllers incorporate synthesized voices for the identification and allow messages to also be sent such as meeting schedules. With the use of the Terminal Emulator II's text-to-speech system and the flip-flop circuit, I was able to turn on my amateur radio transceiver, channel the audio out to the microphone and transmit synthesized speech. The events which took place were: (1) OPEN SPEECH FILE (2) INPUT SPEECH STRING, (3) CALL JOYST 2 [keys transmitter], (4) speak string, (5) CALL JOYST 2 [unkeys transmitter], (6) CLOSE SPEECH FILE.

I've rambled on for quite a few lines now so let me close out this set of exploits. I hope I've provided some interesting and

THANKS KEN FOR THE CORRECTIONS BELOW.....

TI-ARTIST to TI-WRITER  
Conversion Program

In the Dec 1987 issue of our WF99's newsletter there appeared on page 7 the above program listing reprinted from a Sep 1987 newsletter of the SMAUG/99 user group from Mobile, AL by David Dhein and Paul Berg. It contained numerous errors, most due to reproduction problems. The program will run OK if the following corrections are made.

- Line 200 Last concatenation should be &"\_I"
- Line 260 Change 92 to 94
- Line 520 Change &N1 to &N1\$
- Line 530 Change 92's to 94's
- Line 540 Add quotation marks at end of line
- line 560 Add quotation marks at end of line

Note that print-outs of converted files must be done with the TI-Writer Formatter using PIO.CR. Serial printers will probably also work using the .CR command.

Submitted by Ken Farr



\*\*\*\*\*ANNOUNCING\*\*\*\*\*

THE PENN-OHIO USERS GROUP RAFFLE  
 PRIZE: AVATEX 2400 HC MODEM  
 300/1200/2400 BAUD  
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 500 TICKETS TO BE SOLD.  
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 STRUTHERS, OH 44471  
 OR CHRIS PRATT MAY HAVE THEM AT THE  
 AUGUST MEETING OF THE WEST PENN 99ERS.

WINNER NEED NOT BE PRESENT.

**ATTENTION**

ALL USER GROUPS, NEWSLETTER EDITORS,  
AND CASSETTE USERS.

GETTING THE MOST  
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BY MICKEY SCHMITT

IS NOW AVAILABLE ON DISK OR PRINTED PAGES  
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CONT. FROM P. 6.....

informative materials that some readers will find of use. If anyone would like to make comments and criticisms please feel free to leave me a message on Bob and Bill's Bulletin Board in Clinton, Maryland (301) 292-1482, PC PURSUIT #: 202 292 1482. My user number is 50. Or HAMS may send me packet mail at the following: KAZFWJ at WA3TAI. Or I can be reached the way that has worked since the days of the Pony Express: Edwin C. Hall, 3494B Scott Circle, Bolling AFB, DC 20336.

IF YOU ATTEND THE AUGUST MEETING OF THE WEST PENN 99ERS, YOU WILL SEE SOME NEW AND EXCITING SOFTWARE (AS MUCH AS TIERS CAN GET EXCITED SINCE WE'RE USED TO THESE THINGS). FRANK ZIC WILL DEMONSTRATE THE "COMIC SHOW EDITOR" AND SOME OF THE ANIMATION WORK DONE BY RAY KAZMER. THE TWO FREWARE DISKS WILL BE GIVEN TO THE LIBRARIAN.

I'VE SEEN A LOT OF SUPER STUFF COMING DOWN THE PIKE (OR GENERALLY OVER THE SEA) LATELY. THE INDICATIONS ARE THAT THE WAVE STARTED BY TI WITH THEIR CONTROVERSIAL 99 /4A IS CONTINUING AROUND THE WORLD. THIS IS NOT JUST A RIPPLE, BUT MORE LIKE A TIDAL WAVE!

I RECIEVED A DISKETTE WHICH HAS SOME OF THE MOST UNBELIEVABLY ENGROSSING EXTENDED BASIC PROGRAMS (GAMES) THAT I'VE EVER SEEN WRITTEN FOR THE TI. MUCH OF THE ACTION IS AS AMAZING AS ASSEMBLY.

THERE IS A "LEAN AND HUNGRY" GROUP OF USERS AND WRITERS OF SOFTWARE OUT THERE, AND THE WAVE HAS NOT ENTIRELY LEFT US DRY HERE IN THE U.S. I'M NOT EVEN GOING TO BEGIN TO ATTEMPT TO NAME THEM, THERE ARE TOO MANY. NO ONE CAN PREDICT HOW LONG THE TI-99/4A WILL BE SUPPORTED, BUT AS I SEE IT WE LOSE SOME (CONTRIBUTORS), AND WE WIN SOME (NEW CONTRIBUTORS). YOU CAN QUOTE ME ON THIS, "WE'LL ALWAYS HAVE USERS!", AND AS LONG AS THIS IS TRUE SOMEONE WILL FIND A NEW WAY TO DO SOMETHING, A NEW USE TO PUT THE COMPUTER TO, A NEW PIECE OF HARDWARE TO HOOK UP TO THE TI, OR "MAKE IT DO WHAT THE PC WILL DO!". THERE ARE USERS OUT THERE FOR ALMOST EVERY COMPUTER EVER BUILT, AND MOST OF THEM WERE NEVER PRODUCED IN THE NUMBERS THAT THE TI WERE, WERE NOT AS USER FRIENDLY AS THE TI, WERE NOT AS FLEXABLE AS THE TI, AND WERE NOT SUPPORTED BY MANUFACTURERS AS LONG AS THE TI IS, SO TAKE HEART, IF YOU MUST USE A PC AT WORK, THAT'S OK, BUT FOR REALLY SATISFYING YOUR PERSONAL NEEDS TO HAVE SOMEONE TO TALK TO, JUST TURN ON THE OLE 99.

JFW

\*\*\*\*\*  
TI-BASE  
Report Card

Performance.....A+  
Ease of Use.....B+  
Documentation.....A  
Value.....A+  
Final Grade.....A

Cost \$24.95 + 1.50 Postage and  
Handling  
Manufacturer: INSCEBOT Inc.,  
P.O. Box 291610, Pt. Orange, FL 32029

Requirements: Disk system, 32 K,  
Extended Basic, Editor-Assembler or  
Mini-memory. Printer optional. A  
RamDisk is optimum storage.

Shipped with 2 SSSD disks, manual and  
overlay strip.  
\*\*\*\*\*

TI-BASE ver 1.01

A review by,  
Barry Long, CPUG  
Harrisburg, PA

Recently our Users Group was  
contacted by INSCEBOT with an inquiry  
as to whether we might be interested in  
demonstrating their newly released  
TI-BASE. As the Secretary for the  
CPUG, I replied back that yes, we  
would. To my surprise, Dennis Faherty  
responded almost immediately by return  
mail with ver 1.0 of TI-BASE. (That's  
plus #1)

I have used or tried many of the  
'other' TI related Data-bases over the  
years since I purchased my machine, and  
I was a little skeptical when I read  
the letter, but, I am always on the  
look-out for the "perfect" Data-base,  
boy was I surprised!

The program comes with a very good  
documented manual, as manuals go. It  
comes with two disks. The first is the  
actual program disk while the second is  
a TUTOR disk.

I read the "Start-up" introductions  
and proceeded to load the main program  
disk. It did seem to take awhile to  
load, but, I guess all good things are  
worth the wait.

The first item is a Title Screen  
after which the program prompts you for  
the date. Once the date is entered, it  
loads the first command file called  
"Setup". This displays your system  
parameters. If you have only one disk  
drive, or a serial printer, you will

have to MODIFY the Setup to work  
properly.

The manual instructed me to load the  
"TUTOR" disk and follow along with the  
program. This lasts about 20 minutes  
or so, depending if you want to 'Pause'  
or not. Pause is controlled by  
depressing the 'Space Bar'. Resume is  
done by pressing the 'S' key. The  
TUTOR program is well done and it shows  
the author spent some time on it.  
After the TUTOR is finished, you will  
be sent back to the main program.

TI-BASE is a very complex,  
inter-relational data-base. That's  
right, I said "inter-relational". You  
can open up to 5 different data files  
at one time and move from one to the  
other with the "SELECT" command. This  
allows you to scan different data-files  
for common related data and print or  
display it as you so choose.

This alone was impressive! But,  
there's more! (That's plus #2)

You have the ability to create a  
"COMMAND" file with a DVBO text editor.  
The "COMMAND" file will "run" and  
operate your data base for you. (up to  
a point). Similar to the "batch" files  
on the "other" system. (That's plus  
#3)

You "CREATE" your own data-fields.  
The prompts let you know how much space  
is available for the field title, etc.  
You may have up to 17 fields, and 255  
characters in each field. The optimum  
storage will allow 16,129 records in  
one data-base. Note Ver 1.01 will only  
hold 8,192 records. (Only, gee!)

You can SORT on any field (this can  
be slow if the Data-base is large),  
FIND any item in the Data-base in rapid  
time. You have 12 mathematical  
functions available, including SQR,  
LOG, SIN and ATAN to name a few. You  
can Contenate the characters, TRIM  
trailing blanks, 5 BOOLEAN commands as  
well as several LOGICAL commands. The  
DATE is preset for Month, Day and Year.  
ie: 06/21/88. This is handy for  
entering dates in your assigned field  
(if you create one). (Plus #4)

You can MOVE data from one slot to  
another at your will. EDITING is fast  
and you can EDIT either by record or by  
Paging forward and backwards. Or,  
using the FIND command to locate a  
particular file. You may DELETE an  
individual record or the entire  
Data-base with one keystroke (warning,  
it is FAST).

Continued next page.



The APPEND mode allows you to input data and will add the data into the file as quickly as you can hit either Enter after the last field or F-8 (EXECUTE). F-9 (ESCAPE) will ignore your last input and return you to the master command prompt. You may MODIFY your fields as you choose, but, like any good data-base, you could lose data if your field length is different than originally created. A warning prompt will respond if this can happen, and the decision will be up to you to proceed. (Plus #5)

My demonstration of this unique and exciting new program appeared to go well with our Users Group and I did place several orders with INSCEBOT for the package.

In closing, I must state that TI-BASE is definitely not for the 'Novice' TI user. You must have 32K, RamDisk (optional), several disk drives (preferred), with a printer (optional). It will work out of Extended Basic, Editor-Assembler or Mini-Memory.

Some of the drawbacks are:

1. Slow loading
2. Slow sorting
3. Manual could be improved both in content and choice of print.
4. A sample data-base included with the program might help to illustrate the various features in actual use. The TUTOR file is nice, but an actual hands-on file would be better.

The pluses are:

1. Speed of the actual search and commands.
2. The ability to sort on any field.
3. The ability to find your particular data FAST!

3. Automatic saving of your data prior to quitting.

4. The large (extremely) storage capacity.

5. The interaction between up to 5 data-bases at once.

6. The large mathematical capabilities. (CFS is the closest).

7. The inter-relational capabilities.

This is the first I have ever seen for the TI. (ACORN 99) was too complex and slow. TI-BASE is FAST!

For the small investment that INSCBOT is asking, \$24.95 + SH, I would highly recommend it to anyone who needs a GOOD Data-Base. If Texas Instruments would have introduced this back in the beginning, there would not have been a 'Black Friday'. This has anything that I have seen on the '64' put to shame.

The service that I received from Dennis Faherty has been superb. I discovered a mild 'bug' in ver 1.0. I called INSCEBOT the following morning and Dennis returned my call that evening. Version 1.01 was shipped out the very next day. I talked to INSCEBOT today (6/21), placing my order and giving him my gripes and pleasures. He indicated my suggestions were very welcomed. I like dealing with INSCEBOT and would recommend them to any and all.

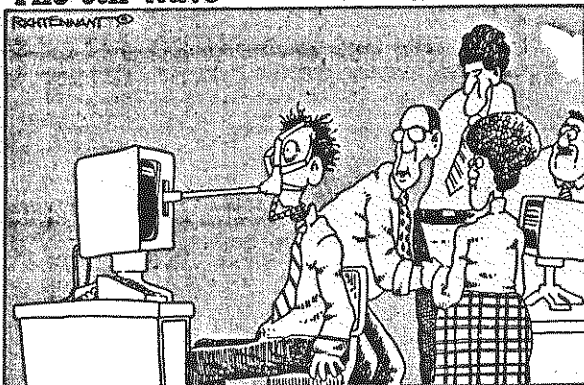
Now, if only the authors of FIRSTBASE would respond to my earlier request, I could make a fair comparison.

Respectfully yours,

Barry Long  
Central PA 99/4A Users Group  
P.O. Box 14126  
Harrisburg, PA 17104-0126

## The 5th Wave

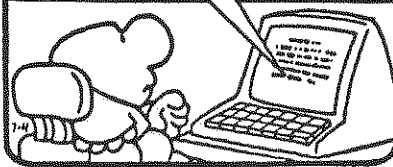
Richard Tennant



\*ALRIGHT, STEADY EVERYONE. MARGO, GO OVER TO TOM'S COMPUTER AND PRESS 'ESCAPE' ...VERY CAREFULLY!"

## ZIGGY

\* JUST MY LUCK! I'M A 512K, RANDOM-ACCESS MEMORY, DUAL FLOPPY... DISK-DRIVE, STATE-OF-THE-ART COMPUTER ... AND THE MOST CHALLENGING THING YOU'VE GIVEN ME TO DO IS FILING YOUR BEAN DIP RECIPE!



TI-TRIS IS NOW AVAILABLE FOR THE TI-99/4A HOME COMPUTER

This is deceptively simple, yet challenging, frustrating, and maddeningly addictive game. It was originally programmed by two Soviet programmers at the Computer Center of the Academy of Science in Moscow.

This was recently translated for the TI by Gene Hitz of the Milwaukee Area 99/4 Users Group, and will be the featured program in the Game Contest at the upcoming 1988 Milwaukee/Wisconsin TI-FAIRE.

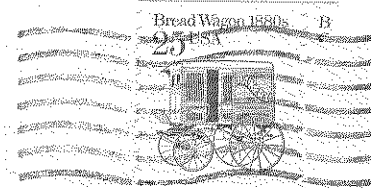
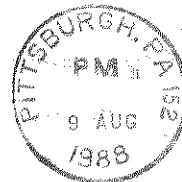
The program is available on cassette or disk with extended basic only, no expansion memory needed for \$4.95. Order from: Program Innovators  
4122 Glenway Street, Wauwatosa, WI 53222 (414) 535-0133

SUPER EXTENDED BASIC OWNERS!

"Looking for something different? Want to really put some pizzazz in the old 99/4A? How about MASTER MENU for starters? MASTER MENU is designed exclusively for disk owners who use the TRITON/MG SXB module. It is an attractive inverse video menuing system that will display up to 18 items per menu, of up to 28 characters per line. As many as 99 menus may be designed for a DS/SD disk or 50 menus for a SS/SD one. MASTER MENU comes complete with two separate versions for 16K or 32K owners. The MENU program includes options to delete files, catalog disks, load assembly object files (32K version of course), load other menus and more, \$15.00 plus \$2.00 S/H. PRK DataBasics, Box 2642 Grand Junction, CO 81502"

WEST PENN 99'ERS

\* JOHN F. WILLFORTH  
R.D. #1 BOX 73A  
JEANNETTE, PA  
15644



AUGUST 1988 ISSUE

NEXT MEETING AUGUST 16th

MICKEY SCHMITT  
196 BROADWAY AVE.  
LOWER BURRELL PA 15068