



ISSUE #10 OCTOBER 1989

The SEPTEMBER meeting of the West Penn 99ers was one that you did not want to miss. As a matter of fact not too many did as we had more than 40 members present and a record raffle sale. Mickey called the meeting to order at about 7:22:36 PM. Immediately she asked for help for Lynn at the table in the back as the action was "hot" from the start. The recording secretary's report was accepted with a standing ovation (Dream on Fast Eddie). Financially we are in good stead so said the Treasurer's report by Lynn. Several new fairware disks were put in the library by Rob, including 2 versions of Tetris and some public domain adventure games. Check out the library!!! It's in great shape. Gene Kelly has reinstated the TIBBS and is up and running. Come to the October meeting to get the number.

Mickey had several announcements: a) club inventory is in good shape b) micropendiums will go up a quarter to \$1.50 c) the D.C. show had mostly vendors and not many user groups and entertained us with the "The Metro Story Teller". She also surveyed the group as far as the Harrisburg (Carlisle) show on October 15.

Demonstrations included calculations, conversions, and Lots of Data by Rob Ekl, Ramtest, Mission Destruct, and Graphic Editor III, by John Willforth and Propage 99, by Mike Sealy. The latter, Propage 99, (as good \$24.95) has some nice features including graphics in text, different font sizes with an additional set of 7 picture disks and 2 font disks. The show stopper, however, was Jim and Jack with Joypaint 99. It is slow but very much mimics the Macintosh-McPaint/McDraw program. Considering my 32 K versus 32,000,000 K necessary for the MAC, it really does well, (might I add, at a fraction of the cost). Demos ruled the night and we do want to thank Jack and Jill for setting up the green/ purple/ blue/ ? projection screen. You should have been there.

Unwillingly submitted,  
Scoops Bittner

PS: Scott I'll bring the pop.

PSS: Next meeting - classes start - ARE YOU READY TO ASSEMBLE?

# WEST PENN 99'ERS CLUB INFORMATION

NEXT MEETING DATE: OCTOBER 17 1989

MEETING LOCATION: ST. STEPHEN'S  
BYZANTINE CATHOLIC  
CHURCH

JUST OFF ROUTE 30  
BETHEL ROAD, NORWIN

TIME OF MEETING: 7:00 P.M.

## LIST OF WEST PENN OFFICERS FOR 1989

PRESIDENT: MICKEY 335-0163

VICE PRESIDENT: SCOTT 523-3754

TREASURER: LYNN 835-4304

RECORDING SEC: ED 864-4924

CORRESPONDING SEC: GENE 829-0469

LIBRARIAN: ROB 864-1233

NEWSLETTER EDITOR: JOHN 527-6656

## GENERAL ITINERARY OF THE CLUB'S MEETING

6:45 P.M. DOORS OPEN

7:00 P.M. GENERAL MEETING

7:45 P.M. DEMOS AND NEW INFO

8:45 P.M. HARDWARE & PRINTERS

8:45 P.M. INTRO TO ASSEMBLY

8:45 P.M. INTRO TO TI-BASE

8:45 P.M. USING YOUR CASSETTE

11:00 P.M. DOORS CLOSE

## MEETING HIGHLIGHTS FOR THIS MONTH

## NOMINATIONS FOR CLUB OFFICIERS FOR 1990

## LATEST T.I. NEWS FROM THE CARLISLE SHOW

## SPACE STATION PHETA, DEMO BY MIKE SEALY

## LIBRARY "DEMO OF THE MONTH" BY ROB EKL

## LATEST SOFTWARE DEMOS BY JOHN WILLFORTH

## RENEW YOUR MEMBERSHIP DUES!

\$15.00 PER YEAR FOR INDIVIDUAL / FAMILY

\$10.00 PER YEAR FOR JUST THE NEWSLETTER

# TREASURER'S REPORT FOR SEPT. 20, '89

## FROM LYNN GARDNER

*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
*																			*
*	9/19	CASH ON HAND		\$	50.00														*
*																			*
*		LIBRARY SALES			52.00														*
*																			*
*		MICROPENDIUMS			34.50														*
*																			*
*		DISKS & CASES			116.00														*
*																			*
*		RAFFLE			93.00														*
*					-----														*
*		TOTAL			\$345.50														*
*	9/20	DEPOSIT		-	295.50														*
*					-----														*
*	9/20	CASH ON HAND		\$	50.00														*
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
*																			*
*	8/16	BANK BALANCE		\$	1101.63														*
*																			*
*	8/26	RAFFLE PRIZES			-100.00														*
*					-----														*
*					1001.63														*
*	8/31	CHECK PRINTING		-	7.00														*
*					-----														*
*	.				994.63														*
*	9/19	POSTAGE (JOHN)		-	67.50														*
*																			*
*					927.13														*
*	9/19	LIBRARY (SCOTT)		-	9.00														*
*																			*
*					918.13														*
*	9/19	RAFFLE PRIZES			-100.00														*
*																			*
*					818.13														*
*	9/20	MICROPENDIUM		-	30.00														*
*																			*
*					788.13														*
*	9/20	DEPOSIT		+	295.50														*
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*		BALANCE			\$1083.63														*
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
*		TOTAL CASH BALANCE			\$1133.63														*
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*

ELECTION TIME NEARING...A SLATE OF OFFICERS HAS BEEN PROVIDED, BUT YOU HAVE THE CHANCE TO NOMINATE ADDITIONAL PEOPLE FOR OFFICE AT THE OCTOBER GENERAL MEETING. THE ELECTION WILL TAKE PLACE IN NOVEMBER. THOSE NOMINATED ARE THE SAME AS THOSE NOW SERVING EXCEPT FOR ROB EKL, WHO HAS DECLINED NOMINATION AS LIBRARIAN FOR 1990. COME TO THE OCTOBER MEETING AND BE COUNTED. REMEMBER, DON'T COMPLAIN IF SOMEONE IS ELECTED THAT YOU FEEL DOESN'T UPHOLD THE WEST PENN 99'ERS AS YOU WOULD LIKE. WE HAVE BEEN VERY FORTUNATE AND YOU CONTRIBUTED.

THE MYARC GENEVE 9640  
BY GARY TAYLOR  
NUMBER 2

MDOS IS AN ACRONYM FOR MYARC Disk OPERATING SYSTEM. ALL COMPUTERS MUST HAVE AN OPERATING SYSTEM. THE OPERATING SYSTEM IS SOFTWARE THAT SUPPORTS THE HARDWARE OF THE SYSTEM. THE FACT THAT MDOS IS A DISK OPERATING SYSTEM INDICATES THAT THE SOFTWARE IS DISK BASED, IE. LOADED FROM A DISKETTE, AND THAT CERTAIN OPERATING ROUTINES MAY BE CALLED INTO MEMORY FROM THE DISKETTE RATHER THAN BEING IN MEMORY ALL THE TIME. IN ACTUALITY, ALL MDOS ROUTINES ARE LOADED AT ONE TIME AND THE MDOS DISKETTE CAN BE REMOVED FROM THE DRIVE AFTER THE SYSTEM IS INITIALIZED. THIS DIFFERS FROM IBM DOS COMPUTERS WHICH DO HAVE TO GO OUT TO THE DISKETTE TO EXECUTE CERTAIN ROUTINES. BECAUSE ALL OF THE ROUTINES ARE LOADED IT IS QUITE LARGE, TAKING UP AN ENTIRE SINGLE SIDED, SINGLE DENSITY DISKETTE OR 358 SECTORS AND 90K OF THE GENEVE'S MEMORY. IT TAKES ABOUT 45 SECONDS TO LOAD IT FROM A STANDARD TI SSSD DISK DRIVE USING A TI CONTROLLER. THE TIME IT TAKES TO LOAD CAN BE REDUCED USING OTHER HARDWARE. IT CAN RESIDE ON A RAMDISK, FOR EXAMPLE, OR A HARD DISK. THIS WILL CUT THE LOAD TIME DOWN CONSIDERABLY. I AM FORTUNATE TO HAVE A HARD DISK AND IT TAKES ABOUT 5 SECOND TO LOAD. DISK ONLY SOFTWARE HAS A PRODUCT FOR SALE CALLED JUMPBOOT. THEY HAVE WRITTEN MDOS ON A SPECIALLY FORMATTED DISKETTE THAT WILL LOAD MDOS IN 4 TO 7 SECONDS. IT CAN BE ORDERED BY SENDING \$15.95 + \$2.00 S/H TO D.O.S. PO. Box 244 LORTON, VA. 22079. THIS INFORMATION CAME FROM THE MARCH, 1988 MICROPENDIUM AND MAY BE OUTDATED. A PHONE NUMBER WAS LISTED TOO 800-456-9272.

THE OPERATING SYSTEM OF THE TI-99/4A, IN COMPARISON, IS ROM BASED. IT RESIDES IN A READ ONLY MEMORY CHIP INSIDE THE CONSOLE AND IS IMMEDIATELY LOADED WHEN YOU TURN ON THE CONSOLE. THIS IS WHY THE COLOR BAR SCREEN APPEARS ON THE 4A SO QUICKLY WHEN YOU POWER IT UP.

WHEN THE GENEVE IS POWERED UP IT WILL READ A ROM CHIP WHICH INSTRUCTS

THE COMPUTER TO DISPLAY THE SWAN ON THE MONITOR AND BEGIN A MEMORY CHECK. THE SWAN WILL CONTINUE TO BE DISPLAYED ON THE MONITOR UNTIL THE MEMORY CHECK IS COMPLETED. THIS IS MUCH LIKE THE IBM COMPUTERS WHICH CHECK ALL MEMORY CHIPS AND DISPLAY A COUNTER OF THE AMOUNT OF MEMORY CURRENTLY BEING VERIFIED. IF IT DOES NOT PASS THE MEMORY CHECK THE SCREEN WILL TURN CYAN AND DISPLAY A MESSAGE "BAD MEMORY CHIP FOUND" IF THE MEMORY IS FOUND TO BE GOOD THE GENEVE WILL THEN LOOK FOR DSK1 AND READ MDOS INTO MEMORY. IF I FORGET TO PLACE THE MDOS DISKETTE IN DRIVE 1 THE GENEVE WILL TURN THE SCREEN CYAN AND DISPLAY "MDOS NOT FOUND PRESS ANY KEY TO RETRY". THE LATEST RELEASE OF MDOS IS 1.14.

NOW THAT MDOS IS LOADED INTO MEMORY I AM PROMPTED TO ENTER THE TIME AND DATE. THE GENEVE HAS A BATTERY BACKED CLOCK WHICH CAN BE ACCESSED FROM ADVANCED BASIC PROGRAMS; MORE ON THAT IN A LATER ARTICLE. IF THE TIME AND DATE HAVE BEEN PREVIOUSLY SET THESE TWO PROMPTS WILL NOT BE DISPLAYED. THE COMPUTER WILL IMMEDIATELY DISPLAY THE FAMILIAR A> PROMPT. AT THIS POINT I HAVE ACCESS TO ALL OF THE MDOS COMMANDS AND I AM IN WHAT I CALL NATIVE GENEVE MODE.

WHAT DOES MDOS DO FOR YOU? IT CONTAINS ALL THE FEATURES OF A GOOD DISK MANAGER LIKE DM-1000. YOU CAN COPY A DISK OR A FILE OR GROUP OF FILES. YOU CAN INITIALIZE A DISK, VIEW AN ASCII FILE, OR JUST CATALOG A DISK. ALL OF THESE ROUTINES ARE MEMORY RESIDENT SO THAT YOU DO NOT HAVE TO LOAD A PROGRAM TO DO ONE OF THESE FUNCTIONS. THE PROGRAMS ARE THERE READY AND WAITING FOR YOU WHENEVER YOU NEED THEM. THIS ARTICLE IS NOT A TUTORIAL ON MDOS SO I WILL NOT BE GOING IN TO ALL THE COMPLICATED COMMANDS AND ALL THE ARGUMENTS THAT CAN BE PASSED TO THEM IF NECESSARY. I JUST WANT TO LET YOU KNOW THAT A LOT OF PROGRAMS THAT HAVE TO BE LOADED INTO THE TI-99/4A ARE ALWAYS IN MEMORY AND READY TO GO IN THE GENEVE. NEXT MONTH I WILL TELL YOU ABOUT THE PROGRAMS THAT COME PACKAGED WITH THE GENEVE.



THE ARTICLE BELOW WAS HANDED TO JOE EKL AT THE GENERAL MOTORS FISHER BODY PLANT WHERE HE WORKS. THE ARTICLE WAS PHOTOCOPIED FROM A MAGAZINE, AND NO OTHER INFORMATION AVAILABLE EXCEPT THAT IT WAS THE SEPTEMBER 1989 ISSUE, PAGE 21. JOE THOUGHT THAT IT WAS IN A MODEM OR TELECOMMUNICATION PERIODICAL. IT WAS AN INTERESTING TESTIMONY OF THE TI AND IT'S USERS.

## TI-99/4A Lives On!

### *An Orphan Survives with Help of Loyal Users, Vendors*

by Joel Dreyfuss

One nightmare haunts the consciousness of computer users who skate on the cutting edge of technology: to wake up one morning and discover that the manufacturer has stopped making their beloved machine. Such abandonment may be inevitable in the fast-changing world of computers, but it doesn't soften the blow. Those who cut their teeth on CP/M-based Osbornes and Kaypros were soon cast adrift in the surging tide of MS/DOS. In turn, quite a few owners of Eagles, Victors and Columbia personal computers found themselves abandoned when those companies went bankrupt.

The most famous—and most widely used—orphan computer of all may be the Texas Instruments TI-99/4A, launched 10 years ago as the chip maker's entry into the fledgling market for personal computers. With comedian Bill Cosby as spokesman, Texas Instruments made some 3 million of the little slab-like machines during a four-year period before getting caught up in a price-cutting war it couldn't win.

In December 1983, TI announced it would stop making the TI-99/4A. For thousands of users, the nightmare had come true: They were out in the cold.

But the 99 lives! There's no better proof than the Texas Instruments Forum (GO TIFORUM), where "99" diehards share information about equipment, software and technical problems, and track user group meetings in the United States, Canada, Europe and Australia.

Since abandonment made the 99 by necessity a hacker's machine, it isn't surprising that programming languages dominate the forum's libraries: Forth, C, Assembly, BASIC, Pascal and P-system. But there also are games, utilities and music programs. The TI Forum bristles with advice for the beginner who has just dusted off an old 99, but it also will guide the expert through a complex programming problem.

No doubt, the large number of machines produced by TI created a user base large enough to assure the computer's survival and guarantee profits to the companies who service 99 users. So does the 99's sturdiness. Texas Instruments was a military contractor and the 99 was built to meet military specifications. "It could probably take two hits of a .50-caliber machine gun and survive," says Jim Horn, a Rockville, Md., resident who administers the forum. Horn, who is

retired from the military, is one of many users who first came across the 99 in a PX and fell in love with it.

The 99 was more than tough. It was an advanced machine for 1979: a 16-bit computer when Apple IIs and CP/M machines used 8-bit chips and long before the PC was a gleam in IBM's eye. Initially it was a modest machine with 16K RAM, 72K of ROM, a built-in operating system and a cartridge slot, but TI soon introduced an expansion box that gave the 99 a future. The box had eight slots and the capacity to control disk drives. Horn estimates that 80 expansion cards are now available and that users hook up everything from external hard disks to laser printers.



Dispenses expert TI advice: Beebe

Unlike the fate of most orphan computers, a number of companies still actively support the 99: Myarc, a New Jersey manufacturer, makes the Geneve card, which gives the 99 an 80-column display, extended memory and advanced graphics. Asguard, a Maryland software distributor, has introduced 25 software products for the 99: Triton, a distributor owned by software giant Ashton-Tate, carries products for the 99, including a version of Microsoft's Multiplan spreadsheet that sells for \$18. Even TI, the original maker, provides some support. According to users, the company will repair the interface box that connects the 99 to a television set.

Another reason for the 99's resilience is the constantly evolving base of new young users who turn up those strange little slabs. "We call them third-generation users," says Horn. "But the first and second generations never opened the box." To a beginning computerphile, the

99's first attraction is price; a shrink-wrapped 99 console sells for \$75; you can pick up a used 99 for about \$25 at a computer fair, and as little as \$5 at a yard sale.

Matt Beebe is one of those "third generation" users, a 15-year-old who often dispenses expert advice on the forum. Beebe, who lives in Millford, Mich., 50 miles northwest of Detroit, got his "4A" in 1980 when he was just seven. He started with games and simple programming and expanded his machine for word processing when he reached junior high school. He later added a modem and a CompuServe subscription.

Beebe, who helps out on the TI Forum, estimates that he spends 20 hours a week online writing messages and answering questions. His age has never been an issue: "On CompuServe nobody ever thinks to ask how old you are," he says.

Beebe, who takes computer classes in high school, had a big decision to make last year: Should he switch to an IBM PC? He evaluated the costs and decided to stick with the 99. "The IBM would have cost twice as much and not given me much more except—maybe—a better word processor," he concluded. He added a Geneve card and color monitor (512 by 640 resolution) and is working on some software he hopes to sell commercially. He does offer a backhanded compliment to the IBM PC he uses at school. "It's really nice," he says. "You can do just about anything you can do on the 99/4A."

His loyalty is typical of 99ers. They scrounge the junkyards for machines, travel hundreds of miles to user group meetings and fiercely defend their aging machines against the adoration of the newer and better that dominates the world of computers.

Horn has his own pet project. He wants to rescue the thousands of 99s gathering dust in closets and basements and get them into the hands of the many children who don't own their own computers. One teacher who obtained a number of 99s reported important gains when she allowed students to take their computers home, something she couldn't do with more expensive machines.

Horn tries to explain that fierce cult-like allegiance of 99ers. "We've been out on the limb since December 1983," he says. "We're a community. It's wonderful to enjoy the freedom that being an orphan gives you. Nobody's going to rescue you." For those loyal 99ers, the TI Forum on CompuServe is the lifeline to a world of support.

Joel Dreyfuss, who covers the computer industry for Fortune, has a Kaypro II in his closet.



PRINTERS #2  
by John F. Williforth  
(OCT. 1989 WP99er)

(ML=MoreLater)

Nearly everything we attempt in life needs some control or supervision. I am expected to do my job at work within the guidelines set up by Data General Corp. and the management down through the ranks. If this were not so, not one customer would be able to rely on our company. We must be consistent. I hope I can be as flexible as needed to accomplish the company's objectives. I sometimes need some direct commands to perform specific jobs, and at other times, the procedures to perform a task are already in memory. Guess what! Printers are like this.

Most printers on power-up are ready to do mundane printing in Draft Pica mode at 10 characters per inch and with a line spacing of 1/6" and is what you would expect a basic printer to know how to do on it's own. But we will never be happy with that so we ask for ELITE, CONDENSED, ITALIC, ORATOR, NLQ, CONDENSED, DOUBLE WIDTH, SUPERScript, SUBScript, BOLD, UNDERLINED, GRAPHICS, PROPORTIONAL, as well all kinds of form handling capabilities both forward and backward spacing of the forms in any imaginable increment.

The printer will need more information to do these things. The information is passed to the printer in the form of CONTROL CODES. These are special and must be sent to the printer but not be printed. Some of them cause the printer to do very strange things ( feed paper, over-print, etc. ) unless it is warned of the control character coming. The ESCape command is one that all printers recognize as the "command coming next" warning. This is represented by a "27" decimal or a "1B" in HEX. Every character that goes to the main logic board in the printer is examined first to see if it is an "ESC" character. If it is not then the printer will attempt to print it. If an "ESC" is recognized then the printer will be set to accept Control Codes. You can send several Control Codes to a printer in succession if they are legal for your printer. For example, on my Epson compatible, I can send a "27,120,49" to put it into Near Letter Quality mode. This is done by either a program or a direct keyboard command. Let's look at ways to do it.

I chose "NLQ" mode because it required three ( more than two ) elements to be sent to the printer. The ESCape ( ASCII "27" ) an ASCII "120" and an ASCII "49". These can be sent using a TI BASIC/XBASIC function called "CHR\$" or by sending the character representations of these ASCII values. The ESCape must be sent as a Character String ( CHR\$ ) "CHR\$(27)" in either case. Below are several ways to do the same job, all can be within a program ( statements ) or as you type it in ( commands ).

100 OPEN #1:"PIO"	( Opens the printer )
110 PRINT #1:CHR\$(27);CHR\$(120);CHR\$(49)	( Sends "ESC,x,1" to the printer in a
110 PRINT #1:CHR\$(27)&CHR\$(120)&CHR\$(49)	variety of ways. The ";" appends
110 PRINT #1:CHR\$(27);"x";"1"	the succeeding characters to the ESC
110 PRINT #1:CHR\$(27)&"x"&"1"	character, as does the "&" which
110 PRINT #1:CHR\$(27);"x"&"1"	says, "ESC" and "x" and "1". As you
110 PRINT #1:CHR\$(27);"x1"	can see, if you directly send the
110 PRINT #1:CHR\$(27)&"x1"	character "x" it takes less space
	than to have the computer translate
Results in printer going into NLQ mode.	a CHR\$(120) to a lower case "x".)

Controlling the printer is quite different in TI-WRITER. We can't get into it here but it should suffice to say that it is all explained in the manual.

I've just covered the NLQ mode, but you can take this form and use it to do a RESET on your printer without having to shut it off ( to clear any previous mode selected ). On the EPSON compatibles, this can usually be done as indicated:

100 OPEN #1:"PIO" ( Opens the printer)    110 PRINT #1:CHR\$(27)&"@" ( Init.)

CONTINUED ON PAGE 6

Condensed mode is on most printers and one of the few that doesn't require an ESC to be sent first. Send the CHR\$(15) by itself. Hey! What can I say?

```
100 OPEN #1:"PIO" ( Opens the Printer) 110 PRINT #1:CHR$(15) ( Condensed )
```

If your printer supports ELITE ( 12 characters per inch ) then ESC,"M" is it.

```
110 PRINT #1:CHR$(27)&"M"    ( Sets up printer for ELITE ). ( EPSON compatible)
```

There are many others that you may want to use, but they must be referenced in the manual that came with your printer. I'd recommend that you look at that manual before next month after reading this article and experiment. It would be a good idea to write a little program like the one below and "RUN" it, "BREAK" it and change line 120 to test the CONTROL CODES you insert. You may want to do a list of the program also each time so that it isn't lost.

```
100 OPEN #1:"PIO"
110 PRINT #1:CHR$(27)&"@ " (Resets printer)
120 PRINT #1:CHR$(27)&"&" "&" "&" "
130 PRINT #1:"ABCDEFGH IJKL MNOPQR"
```

I have written my own printer set-up program to run before I load TI-WRITER so that if I don't have the time to set the article up for the FORMATTER, it is at least set up for ITALICS, NLQ, and perhaps ELITE modes. Yes you can send the CONTROL CODES for each of these to the printer in succession, and it will do all three functions. Also to keep the size of the lines shorter, VARIABLES can be given the Control Code values. ESCape "CHR\$(27)" could be E\$. See both examples:

```
100 OPEN #1:"PIO"
110 E$=CHR$(27)
120 PRINT #1:E$&"4"&E$&"x1"&E$&"M"
130 PRINT #1:"This prints in Near
Letter Quality, Italics, Elite"
```

Try these out and look at your manual and I feel that you will be amazed at what you can do with the ESCape command can do for you.

There are some CONTROL CODES that will affect only the line that's printing under it's command. The printer will drop the command on the next line. DOUBLE-WIDTH is one of the commands that has both a "Valid until terminated" mode and a "Valid for only the present line" mode. Useful both ways, you must be careful to use the appropriate one for your needs.

If your printer manual does not indicate the symbols to be sent to the printer you can take the ASCII values in the printer manual and cross reference them to the characters using the USER'S REFERENCE GUIDE pages III-1, III-2. This is one of the two manuals that came with your TI Computer. The "120" will correspond to a lowercase "x", and the "49" will translate to a "1". The "27" must be entered either as a CHR\$(27) or as a Variable as described earlier.

If you are doing a lot of printing with TI-WRITER, it would be advantageous for you to learn to use the Transliterate Commands to control your printer, so you can exercise exact control over your printer.

If you are writing programs, then this article may be of assistance. I think most would like to make the new high tech. printers do things that you couldn't do with your old typewriter. It is a great satisfaction to ELONGATE the header, to DOUBLE-STRIKE the key words, To UNDERLINE certain words, to PROPORTION the text, to CONDENSE the print to 132 columns, to ITALICIZE a word, and NLQ dresses up a letter. You can learn to do this, so why not try? If you have any ideas or some neat printer programs, I'd like to see them.

By the way, most printer manuals are written for the IBM PC. It will take a little work to weed it out, but maybe this article will simplify that. M.L.

## THE RED BOOK IS HERE!

The INTERFACE STANDARD/DESIGN GUIDE FOR TI 99/4A PERIPHERALS is now available from Tony Lewis and selected vendors. This intermediate level text is over 100 pages long, and covers both hardware and software for 99/4A peripherals. Some of the topics include:

- \* PBox card electronic features
- \* Definition of all 16 peripheral spaces
- \* Definition of 2 new peripheral types
- \* Device Service Routine architecture
- \* Disassembled and commented console code for accessing peripherals
- \* and more!

The manual also comes with a disk of utility programs (disassemblers, debugger, and DSR save/load routines) to assist in developing DSRs. Perfect for the peripheral developer, or the beginner who just wants to know more about the /4A peripheral system. The cost for one manual with a DS disk is \$21.95; a manual with two SS disks is \$22.95. Prices include mailing. Check or money order LED is accepted. Users groups get a 20% discount on orders of 5 or more manuals. To order, or request more information, write:

Tony Lewis  
409 Drolmond  
Raleigh, NC 27615

\*Be sure and ask your TI vendor if they carry 'the Red Book'!

### MAJOR BLUNDER MAJOR BLUNDER MAJOR BLUNDER MAJOR BLUNDER MAJOR BLUNDER MAJOR BLUNDER MAJOR

IN THE MARCH 1989 ISSUE OF THE WEST PENN 99'ER, I PRINTED A GREAT PROGRAM BY STEVE KARASEK OF THE ST. LOUIS TI USER GROUP. IT IS CALLED "MAZE MAKER" AND DOES WORK BEAUTIFULLY IF ENTERED IN IT'S ENTIRETY. THE COLUMNIZER I USED WAS GIVING ME PROBLEMS AT THE TIME AND THIS WAS ONE OF THE PROGRAMS THAT GOT PRINTED MISSING A LINE AT THE END. IF YOU WOULD LIKE TO TRY AGAIN, ADD THIS ONE LINE: 290 ON ERROR 290 :: RETURN 160 !159

I SAW THE COPY I DID REPRINTED IN QUITE A FEW NEWSLETTERS AROUND THE COUNTRY, SO THOSE OF YOU WHO ARE NEWSLETTER EDITORS, SHOULD CHECK TO SEE IF YOU NEED TO PRINT THIS CORRECTION.

32K CHIP PRICES ARE DOWN. BUD MILLS TELLS ME THAT AT THIS VERY MINUTE, 10-7-89 @ 21:18 E.S.T. HE CAN SELL YOU A HITACHI 62256-LP CHIP FOR \$16. THOSE OF YOU WHO HAVE BEEN PUTTING OFF GETTING YOUR FIRST HRD OR UPGRADING CAPACITY OF YOUR HRD, MAY WANT TO TAKE ADVANTAGE OF THIS PRICE. THE NEW HORIZON RAM DISK COSTS \$100. FOR A KIT WITH NO DISK MEMORY. EACH CHIP WILL BE \$16. ADDITIONAL, I.E.; 90K IS ADDITIONAL 3-CHIPS OR \$48., 180K IS ADDITIONAL 6-CHIPS OR \$96. BUD MILLS SERVICES, 166 DARTMOUTH DR., TOLEDO, OH 43614 (419)385-5946 NOTE: THESE ARE THE SAME CHIPS THAT ARE USED TO PROVIDE HIGH SPEED 16-BIT EXPANSION MEMORY (REQ. 2 FOR 32K).

### EASIER, LOWER COST UPGRADE FOR ORIGINAL HORIZON RAMDISKS (USING TWO 32Kx8 STATIC RAMS).....

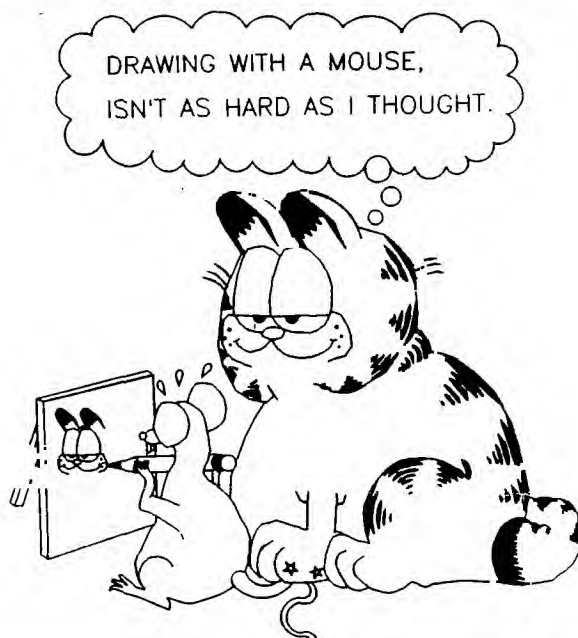
THIS UPGRADE GIVES NEARLY 270 MORE SECTORS OF ADDITIONAL RAMDISK SPACE AT A COST OF LESS THAN \$33. YOU ALSO GAIN THIS SPACE WITHOUT PIGGY-BACKING CHIPS THREE HIGH. THIS IS POSSIBLE BECAUSE YOU PIGGY-BACK THE TWO NEW 32Kx8 (42256 OR 62256) CHIPS ON U11 THE 8Kx8 ROS CHIP AND ON U17 THE ONLY OTHER 8Kx8 RAM CHIP THAT ISN'T PIGGY-BACKED. YOU WILL NEED AN ADDITIONAL 74LS138 CHIP. THIS UPGRADE IS DESCRIBED IN IT'S ENTIRETY IN THE SEPTEMBER 1989 MICROPENDIUM, PAGE 30 AND 32. GARY BISHOP IS THE AUTHOR, AND EVEN THOUGH I HAVEN'T BUILT IT, I THINK THAT HE HAS MADE A VERY BEAUTIFUL, CLEAN, EASY, AND LOW COST UPGRADE TO THE HRD. AFTER TALKING TO BUD MILLS, I FOUND THAT GARY DID NOT PUT A PULL-UP RESISTOR ON THE TWO 32Kx8 STATIC RAM CHIPS. BUD RECOMMENDS THAT A 10K 1/4 WATT RESISTOR BE PLACED ON EACH OF THE 32Kx8 STATIC RAM FROM PIN 20 TO PIN 28, THIS WOULD BE ON U11T AND U17T BY GARY'S DESIGNATIONS. I'M NOT GOING TO REPRINT IT HERE SINCE IT IS COPYRIGHTED BY GARY BISHOP. YOU'LL HAVE TO GET YOUR OWN COPY OF THE MICROPENDIUM, BUT PLEASE REALIZE THAT FOR \$33. YOU GET 64K OF HIGH-SPEED DISK!



**BILL CHAVANNE** OF **TI-TAX** FAME WILL BE AT THE **PITTSBURGH USER GROUP** TO PRESENT THE **"SIMPLICITY OF MULTI-PLAN"** AND DEMONSTRATE THE NEW FOR **1990 TEMPLATES** THAT HE PROVIDES EACH YEAR TO HELP WITH YOUR **FEDERAL INCOME TAX**. HE WILL BE AT THE **FEBRUARY, 1990 MEETING** OF THE **P.U.G.**. IT'S NEVER TOO EARLY TO PLAN SINCE YOU SHOULD FIND OUT WHAT FORMS YOU'LL NEED IN ORDER TO GET ALL THE TEMPLATES REQUIRED.

**TRIS** IS A NEW ARCADE STYLE GAME AVAILABLE FROM **ASGARD** ON CARTRIDGE FOR THE **TI-994A** OR ON DISK FOR THE **MYARC 9640** FOR \$24.95 + \$.75 S/H IN US AND CANADA. HAS BETTER SOUND AND COLOR THAN ANY VERSION PRODUCED! (FOR THE TI, I ASSUME). **ASGARD SOFTWARE**, P.O. Box 10306, ROCKVILLE MD 20850 703-255-3085 10AM TO 8PM E.S.T. MON.-SAT.

**KARATE CHALLENGE** EVIL DRAGONS HAVE TAKEN OVER THE MINDS OF THE STUDENTS AND TEACHERS AT YOUR KARATE DOJO. IN THIS FAST PACED ACTION GAME YOU MUST FIGHT YOUR FORMER FRIENDS AND TEACHERS IN ORDER TO GET A CHANCE TO DEFEAT THE DRAGONS IN MORTAL COMBAT. THE AMAZING GRAPHICS OF THIS GAME DEPICT THE MANY KICKS AND PUNCHES YOU CAN THROW AT YOUR OPPONENTS IN ORDER TO SAVE THE DAY. A CHALLENGE TO THRILL ANY KARATE FAN, AS WELL AS ANY GAME PLAYER! BY **GLEN SCHWROAK**. REQ. 32K, DISK, JOYSTICKS, EXTENDED BASIC OR EDITOR ASSEMBLER. Disk @ \$9.95 + \$.75 S/H **ASGARD**.



**ZENO BOARD BEING SHIPPED.....** ERIC ZENO RECEIVED THE FIRST 250 MANUFACTURED BOARDS ON 10-6 AND HAD WELL OVER 100 PACKAGED FOR SHIPMENT ON 10-7, SO THOSE OF YOU WHO ALREADY ORDERED ONE WILL HAVE IT BEFORE YOU CAN READ THIS. THE CLUB MEMBERS WHO HAVE REQUESTED ONE (OR MORE) CAN PICK IT UP AT THE OCTOBER MEETING OR CONTACT ERIC ABOUT DELIVERY. MANY HAVE SUGGESTED TO HIM THAT \$17.50 WAS TOO LOW A PRICE FOR THE BOARD, SINCE WITH EVERYTHING GOING WELL, HE WILL NOT EXCEED HIS COSTS AFTER SELLING ALL OF THE FIRST 250 BOARDS. YOU WHO DID NOT EXHIBIT SUPPORT FOR THIS RISKY ENDEAVOR ON ERIC'S PART, MAY NOT REAP THE BENEFIT, AND WHEN (IF) THE PRICE DOES GO UP ON THE NEXT ORDER, YOU MAY BE PAYING A MORE REASONABLE PRICE LIKE \$25. BELIEVE ME I'VE NEVER MET A GUY WHO WANTS TO GIVE YOU THE STORE, LIKE ERIC DOES. HE HAS SOLD NEARLY ALL OF THE FIRST BATCH OF 250 BOARDS, AND WILL BE NEARLY AT THE SAME POINT FINANCIALLY WHEN THEY ARE GONE AS WHEN HE STARTED. SO DON'T BE SUPRISED, OR SAY THAT YOU DIDN'T HAVE A CHANCE. I KNOW A LOT OF YOU WANT EVERYONE ELSE TO DO IT, EVERYONE ELSE TO TAKE THE CHANCE. ERIC DID, SO NOW IS THE TIME TO REAP FROM WHAT HE HAS PLANTED. ORDER FROM: **ERIC ZENO**, 414 HIGHLAND RD. PITTSBURGH, PA 15235 (412) 371-4779 EACH BOARD IS \$17.50 + \$2.50 S/H IN U.S.A.

ERIC HAS STATED THAT ALTHOUGH HE DOESN'T CARE TO, HE WILL DO THE FOLLOWING AT LISTED FEES:

- A - INTERNAL BOARD INSTALLATION IN YOUR CONSOLE, INC. RETURN SHIPMENT HARDWIRED.....\$30.
- B - NEW XBASIC INSTALLATION (ONLY WITH INTERNALBOARD INSTALLATION "A" ABOVE)..... 40.
- C - YOUR XBASIC CARTRIDGE (CHIPS REMOVED AND INSTALLED IN BOARD ONLY W/ "A")..... 30.
- D - 32K EXPANSION MEMORY ( ONLY WITH "A" ABOVE)..... 35.
- E - MBP CLOCK INSTALLED ( ONLY WITH "A" ABOVE)..... 25.
- F - YOUR SPEECH SYNTH. CHIPS INSTALLED ( ONLY WITH "A" ABOVE)..... 35.

IF YOU WANT ADDITIONAL GROM CARTRIDGES OR DISABLING/ENABLING SWITCHES/L.E.D.s INSTALLED, CONTACT ERIC BY CALLING OR WRITING.



CHICAGO TI-FAIRE..... NOVEMBER 4,1989..... HOLIDAY INN, ROLLING MEADOWS, IL  
SPONSORED BY THE CHICAGO TI-99/4A U.G.

**THIRD ANNUAL CPUG COMPUTER EXPO** OCTOBER 15TH AT THE CARLISLE FAIRGROUNDS ON CLAY STREET IN CARLISLE, PA. 7:00 AM TILL 2:00 PM. SPONSORED BY THE CENTRAL PENNSYLVANIA 99/4A U.G. AND THE CUMBERLAND COUNTY AMATURE RADIO SERVICE AND THE 6TH ANNUAL CUMBERLAND COUNTY HAMFEST. CONTACT CPUG, P.O. 14126, HARRISBURG, PA 17104-0126 OR THE WIZ/TIB BBS. (717) 657-4992 OR (717) 657-4997. THIS IS REALLY A MAJOR AFFAIR IN PENNSYLVANIA, AS WELL AS THE NORTHEAST UNITED STATES. IF YOU ARE LOOKING FOR NEW OR USED HARDWARE OR NEW SOFTWARE OR ELECTRONIC STUFF, OR HAM RADIO EQUIPMENT, THIS IS THE PLACE TO GO. I UNDERSTAND THAT YOU CAN BE THERE IN THREE TO FOUR HOURS FROM PITTSBURGH, AND YOU MIGHT JUST ENJOY IT. THERE ARE MORE DIRECT PARTICIPATION IN THIS EXPO THAN IN THE PAST BY THE PA GROUPS.

**MILWAUKEE TI-FAIRE..**NOVEMBER 5,1989... QUALITY INN, 5311 S. HOWELL AVE. MILWAUKEE, WI ACROSS FROM MITCHELL FIELD AIRPORT. 9:00 AM TO 5:00 PM FOR MORE INFORMATION WRITE: GENE HITZ, 4122 GLENWAY, MILWAUKEE, WI 53222 OR CALL (414) 535-0133.

LOOKING FOR STAND-ALONE TI DISK CONTROLLER AND SOME OTHER TI STAND-ALONE EQUIPTMENT. WRITE: MARK A. REED, 567-A WILLOW STREET, SHAW A.F.B., SC 29152

**DR. GUY-STEFAN ROMANO** HAS PASSED AWAY. HE DIED AUGUST 15TH AT HIS HOME IN SAN FRANCISCO. DR. ROMANO WAS 57. GUY WAS THE MAN WHO GENEROUSLY GAVE OF HIS TIME AND RESOURCES TO MAKE THE AMNION AND AMNION HELPLINE WELL KNOWN SUPPORT OF THE TI COMMUNITY.

SEVERAL MONTHS AGO I PRINTED A LISTING OF A PROGRAM TO DIG OUT THE NAME OF A DF-80 FILE IN ORDER THAT IT MIGHT RUN. WELL THIS IS AN EXPANSION OF THAT SAME IDEA BUT A QUITE A BIT MORE USEFUL. SOME GROUND RULES FIRST. OH! YOU SAY, WELL JUST HOLD ON A MINUTE BEFORE YOU JUDGE ME. IF ALL YOU NEEDED WAS AN E/A CARTRIDGE, SELECTED BASIC, LOADED THE PROGRAM BELOW AND TOLD IT THE DRIVE YOUR E/A OPTION #3 DISK IS IN, AND THE NAME OF THE DF-80 FILE YOU ARE STRUGGLING WITH, AND IT DOES THE REST (IN MOST CASES), YOU SHOULD BE HAPPY.

I'VE MODIFIED THE ORIGINAL PROGRAM TO DO THIS. IN OVER 70% OF THE CASES THE PROGRAM WILL BE LOADED, THE STARTING NAME GIVEN TO YOU, AND THE PROGRAM BEGINS TO RUN, AUTOMATICALLY. ALL THIS FROM THE RINKY-DINKY, ITSY-BITSY TEENY WEENY PROGRAM ON THE RIGHT. SOME IMPROVEMENTS COULD BE MADE, BUT THEN I'M NO PROGRAMMER. I'LL LEAVE THAT UP TO ONE OF YOU GURU TYPES. IN AT LEAST 25% OF THE CASES THE PROGRAM WILL RUN, BUT THE TEXT AND GRAPHICS WILL NOT BE USEABLE. BUT YOU WILL HAVE GOTTEN THE STARTING NAME. IN THE REMAINDER OF CASES ( ABOUT 5% ), THE PROGRAM WILL HAVE TWO OR THREE FILES ON THE DISK, AND IT WILL FAIL ALTOGETHER. REQUIREMENTS:

- \* SINGLE FILE DF-80 TYPE.
- \* USE E/A BASIC.

THE PROGRAM WOULD HAVE BEEN OF MUCH GREATER USE A COUPLE YEARS AGO. NOW MOST PROGRAMS THAT WERE IN DF-80 HAVE BEEN CONVERTED TO PROGRAM IMAGE TO ENABLE FASTER AND EASIER LOADING. THERE ARE STILL MANY, I'M SURE IN YOUR LIBRARY THAT CAN BE USED BECAUSE OF THIS PROGRAM. JOHN F. WILLFORTH WP99

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100 CALL CLEAR
110 INPUT "ENTER DRIVE NUMBE
R      ":"X$
120 INPUT "ENTER DF-80 FILE
NAME   ":"Z$
130 Y$=X$&"."&Z$
140 DEV$="DSK"&Y$
150 CALL INIT
160 PRINT "LOADING:"&DEV$
170 CALL LOAD(DEV$)
180 CALL PEEK(16176,A,B,C,D,
E,F)
190 N$=CHR$(A)&CHR$(B)&CHR$(
C)&CHR$(D)&CHR$(E)&CHR$(F)
200 PRINT "START NAME FOUND
: "&N$
210 FOR X=1 TO 1000
220 NEXT X
230 CALL LINK(N$)
```

ROMS AND GROMS FOR EXTENDED BASIC ARE BOTH AVAILABLE FROM TI DEALER PARTS. I HAD SOME OF YOU INQUIRE AFTER LAST MONTHS NEWSLETTER, SAYING THAT TI DENIED THERE AVAILABILITY. YOU MUST CALL THE RIGHT NUMBER, AND TALK TO THE RIGHT PERSON IT SEEMS. (806) 741-2265 AND ASK FOR JOE SANCHEZ. THE FOUR GROMS ARE 1015960-1113,-1114,-3115,-1122 ALL AT \$3.60 EACH. THE TWO ROMS ARE 1501392-0025 AT \$5.60 AND 1041016-0006 AT \$6.80. TWO MORE CHIPS, LOCALLY AVAILABLE ARE THE 74LS00 AND 74LS74, AND SHOULDN'T COST MORE THAN A DOLLAR FOR THE PAIR. THE TOTAL INVESTMENT WILL BE ABOUT \$28. PLUS WHATEVER TI CHARGES FOR S/H. I HOPE THAT THIS WILL HELP THOSE LOOKING TO REPAIR XBASIC, OR GET NEW CHIPS FOR THE ZENO BOARD. J.F.W.

# THE ADVENTURE REFERENCE GUIDE

BY MICKEY SCHMITT

The Encyclopedia of TI-99/4A and  
Geneve Adventure gaming!

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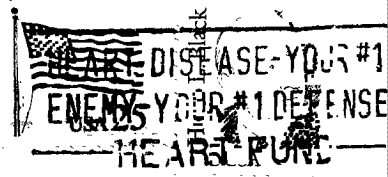
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SEE YOU THE 17th!  
DON'T FORGET THE CARLISLE EXPO THIS WEEK END. SEE P. 9