YESTERDAY'S NEWS

30 Years Ago...

Historical Information taken from Bill Gaskills TIMELINE

February 1989:

Both Asgard Software and Myarc Inc. announce that they will no longer give release dates on new products.

From PeKin, IL User Group Newsletter...Kind of summarizes the issues that all user groups face.
"I am getting really tired of doing damn near everything to Keep this user's group going. Especially concerning this newsletter. Some of us are on the national info networks and/or call bulletin boards on a regular basis. I don't see why you can't download a textfile or two for the newsletter. And I also don't see why ANYONE can't write a few words about a new program or peripheral they just got (or even had for a while). Nobody expects you to write like John Steinbeck (just look at any newsletter for proof of that). I am getting very burnt out being President, newsletter editor, host for our meetings, resident hardware and software answer man and everything else. I don't mind doing my part, but this is getting old. I do not mean to discount the contributions of those who have and do help (like Malcolm and Brian), but this is a user GROUP . Note the word GROUP. It means more than one. So let's start acting like a group and all contribute something besides excuses. By the way, George, I appreciate the great job you are doing as treasurer!" -- Mike Christianson

Mike Dodd quits as Geneve columnist at MICROpendium.

TexComp begins selling TI-99/4A t-shirts and sweatshirts.

Asgard Software announces the release of Typewriter 99 by Jim Reiss and Cassette Labeler.

Fest-West '89 taKes place on February 18-19 at the Clarion Hotel, 2223 El Cajon Blvd. San Diego, California.

The Game of Wit, formerly marKeted by TEXware Associates of Wellington, Illinois, is placed into the public domain.

Milton Bradley releases Honey Hunt, an MBX game, into the public domain.

Ray Kazmer releases Maze of Grog, a sequel of sorts to his 1987 Woodstock Christmas card that was a smash hit in the 4A community.

Art Green, author of Macro Assembler, releases TI-Writer v4.2.

The Bunyard Group, publishers of the Bunyard Hardware Manual for the 99/4A, moves from LubbocK, Texas to Colorado Springs, Colorado.

Jim Peterson begins offering disKettes filled with public domain software. Over 200 SS/SD disKs are initially available, organized by type of program.

Word leaKs out to the TI Community that a TI-Artist v2.0 is in the works. (Western New YorK Interface Feb 89, p.6)
—YN
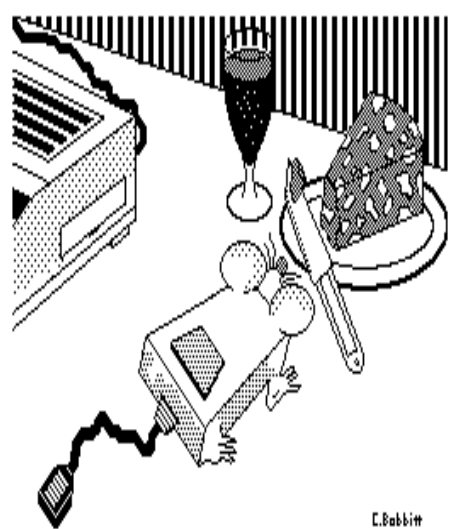
C.Babbitt

ELEMENTS OF BASIC

By Dave Howell

Courtesy of the Erie 99'ers   Part 16

FUNCTIONS - continued

In last month's column, two typo errors appeared. In the last line of the paragraph discussing the TAB function, the "15" should read "18". In the paragraph describing the SGN function, the "(SCN)" should read "(SGN)". Sorry about that!

String Functions

Before exploring the string functions, it will be helpful for the reader to understand how most computers process strings of characters.

It was explained in a previous article in this series that all data are converted to numbers. Certain information, however, are treated as strings, or groups of characters. PRINT 4+4 causes the computer to print 8, but PRINT "4+4" causes the computer to print 4+4. The computer is told to treat "4+4" as a string of characters by enclosing the characters in quotes and ending the variable name with the string character "$" like this: LET A$="4+4" or simply:- A$="4+4". String expressions within quotes may contain letters, numbers and other Keyboard symbols and may be up to 255 characters in length.

Furthermore, since computers execute all operations using binary numbers (explained in Part 7 of this series), all characters including decimal numbers must eventually be coverted to the binary system. As the initial step in this conversion process, each character on the TI Keyboard has been assigned an ASCII code number (pronounced "asKey"). This is a predetermined number that the computer equates with each Keyboard character. As each Key is depressed, the corresponding ASCII number displays the character represented. The Keyboard characters and their corresponding ASCII code numbers are shown on page 2, Figure 1.

The ASCII codes uses the number 0 and 255 inclusive. The Keyboard characters themselves occupy the numbers 32 through 127. For instance, the numeric code for capital E is 69; the code for an exclamation marK is 33; the code for a blanK is 32 (a blanK is a character just as the letters and numbers).

To associate these codes with the characters seen on the video screen, the computer has to Know two more things about each of them: A graphic representation that describes how the character is supposed to appear on the screen, and a Key assigment that indicates what Key or combination of Keys must be depressed to obtain the character. For example, the character string "HELLO THERE!" involves the following Key assignments and codes shown on page 2, Figure 2.

Normally, characters are entered by pressing the Keys while responding to an INPUT statement or while typing in a program. Depressing a Key produces a numeric code which is then acted upon by the computer. There are times when the serious programmer will need to worK with these numbers.

ASC and CHR$

The ASC and CHR$ functions permit the manipulation of the ASCII numbers and their corresponding characters. The ASC function will produce the ASCII code number of the first character in its string argument. Example:

```
PRINT ASC("TI99/4A")

 5 LET A$="COMPUTER"
10 PRINT ASC(A$)
```

The printout of the first example will be 84, the ASCII code for "T". The reresults of the second example will be 67, the ASCII code for "C". RUN the following program to find the ASCII code of any character:

```
100 PRINT "WHAT CHARACTER";
110 INPUT C$
120 PRINT "ASCII CODE=";ASC(C$)
130 GOTO 100
```

The CHR$ function performs the opposite of the ASC function. It will provide the character for ASCII code number. Examples:

```
PRINT CHR$(42)
*
PRINT CHR$(66)
B
PRINT CHR$(65+4)
E
```

If the argument is not a whole number, it is rounded to an integer automatically. Use this program to enter values and obtain their character equivalents:

```
10 PRINT "ENTER A NUMBER FROM 32 TO 126
20 INPUT N
30 PRINT "CHARACTER=";CHR$(N)
40 GOTO 10
```

COMMAND 4A DOS

Review by John Clulow   MICROPENDIUM June 1987

4A DOS, written by Monty Schmidt, is a sophisticated utility program which contains many of the commands found in MS-DOS, Microsoft's Disk Operating System for IBM compatibles. 4A DOS allows convenient access to file management functions, but some special features of the program make it highly flexible and very easy to use.

The BATCH command, for example, allows you to execute DOS commands from a text file you have saved on disk. In effect, this makes 4A DOS programmable: You can customize sequences of commands to fit your system and your application. Batch files can even be made to execute automatically upon selection of the program, just like AUTOEXEC files in MS-DOS.

You can also use 4A DOS to load assembly language programs and link to them, making the program expandable. On the disk I was given to test, for example, there were routines to check, compare and format disks as well as one to load TI-Writer so that when you leave it you're back in DOS. This gives 4A DOS its own built in text editor!

4A DOS works like a command module. When you power up the system, the last menu selection is 4A DOS, and you select it just as you would any other command module. The program loads into command module memory space, so in order to use it you need a device that has battery-backed command module RAM memory. You can use a Super-Cart or Super Multi-cart, Super Space, GRAM Kracker, Maximem or other such device. Depending upon the market for the program, the company may eventually make it available as a command module with the program on an EPROM.

4A DOS commands used with files include COPY, DELete, ERASE, PROTECT. RENAME and UNPROTECT. TYPE allows you to display VAR and FIX 80 files to the screen, and you can use CTRL-S and CTRL-Q to stop and start the display. There are commands to set up your printer specification and to direct output to the printer when desired.

Commands like DIRectory and DISKNAME pertain to the entire disk. You can also link to assembly language files like CHKDSK, COPYDISK, CMPDSK and FORMAT.

Certain commands are used primarily in BATCH files. They include CLS (clear screen), ECHO ON/OFF (can suppress display of batch commands to the screen), REMark, WAIT (a press any Key to continue prompt), BEEP, HONK and ONKEY. ONKEY allows the BATCH program to accept a single Key input for menu selection of batch file functions.

Another group of commands allows direct access to the

Figure 1

ASCII Char	Decimal	ASCII Char	Decimal	ASCII Char	Decimal
(space)	32	@	64	`	96
!	33	A	65	a	97
"	34	B	66	b	98
#	35	C	67	c	99
$	36	D	68	d	100
%	37	E	69	e	101
&	38	F	70	f	102
'	39	G	71	g	103
(	40	H	72	h	104
)	41	I	73	i	105
*	42	J	74	j	106
+	43	K	75	k	107
,	44	L	76	l	108
-	45	M	77	m	109
.	46	N	78	n	110
/	47	O	79	o	111
0	48	P	80	p	112
1	49	Q	81	q	113
2	50	R	82	r	114
3	51	S	83	s	115
4	52	T	84	t	116
5	53	U	85	u	117
6	54	V	86	v	118
7	55	W	87	w	119
8	56	X	88	x	120
9	57	Y	89	y	121
:	58	Z	90	z	122
;	59	[	91	{	123
<	60	\	92	!	124
=	61	]	93	}	125
>	62	^	94	~	126
?	63	_	95	(DEL)	127

Figure 2

Graphic representation:

H	E	L	L	O	

Numeric code:

72	69	76	76	79	32

T	H	E	R	E	!
84	72	69	82	69	33

Key assignment:

H Key	E Key	L Key	L Key	O Key	space bar

T Key	H Key	E Key	R Key	E Key	shift & 1 Keys

computer's memory. DUMP gives a hexadecimal display of the number of bytes specified. INIT sets up the low 8K like the Editor/Assembler module would for execution of DIS/FIX 80 files.

While working in 4A DOS, the disk drives are considered volumes: DSK1, DSK2, etc. You can change the default drive specification with VOL. Another useful command is MORE which allows you to have the screen display stop every 24 lines until a Key is pressed.

The BATCH feature of 4A DOS is an important aspect of the program. Here is an example that illustrates it use. When preparing a new system disk, you'll want to copy the system files onto it. The easy way to do this is to create a BATCH file that you can use any time you want to make a new system disk. Using a text editor like TI-Writer, you could write the BATCH file:

```
ECHO OFF
CLS
REM
REM       SYSTEM-BAT
REM
REM This BATCH file copies all
REM system files. Use DSK2 as
REM the target drive.
REM
WAIT
CLS
REM Copying files...
ECHO ON
COPY CHARA1 DSK2.CHARA1
COPY CHKDSK DSK2.DISKCOPY
COPY EDIT40 DSK2.EDIT40
COPY EDITA1 DSK2.EDITA1
COPY EDITA2 DISK2.EDITA2
COPY FORMAT DSK2.FORMAT
ECHO OFF
CLS
REM New system disk is done.
DIR DSK2.
REM To return to 4A DOS...
WAIT
CLS
```

This BATCH file would be saved with the -BAT extension attached; for example SYSTEM-BAT. To execute all of the commands in the file, all you have to do is enter SYSTEM from 4A DOS. SYSTEM could also be called from another BATCH file: BATCH files can be chained together!

Briefly, SYSTEM shuts off the command echo, displays the name of the BATCH routine and then executes a WAIT. The WAIT displays the message, Press any Key to continue (This would give the user a chance to put a formatted disk in DSK2.) Following a Key press, the screen is cleared and the message Copying files... is displayed. Then ECHO is turned on so that each of the COPY commands will be displayed as it is executing. When all system files have been copied, the screen is cleared and a message is displayed followed by the directory for DSK2. The user is then prompted to press any Key to return to 4A DOS. When a BATCH file reaches the end of its commands, control is automatically returned to 4A DOS. (Unless, of course, a BATCH command has linked to an assembly language program or chained to another BATCH file.)

Remember that any DOS commands can be used within a BATCH file, and that the ONKEY command allows single Key input as a BATCH file is executing, and you'll begin to see some of the extraordinary flexibility 4A DOS offers.

If you have the Mechatronics 80 column display card, the command WIDTH 40/80 is used to toggle between the two modes. An 80 column TI-Writer Editor will be sold separately.

Those who had a chance to see 4-A DOS at our local users group meeting were really impressed. Some people, who had not seen a real use for the Super-Cart before, got busy and built one just for use with 4A DOS. There is so much crammed into 4A DOS that it does take some time to become familiar with all the possibilities. But if you take the time to learn how to use it, I'm sure that, like me, you won't want to be without it.

TRIPLE TECH

CC CorComp Inc.

Review by John Koloen
MICROPENDIUM Dec. 1985

REPORT CARD

PERFORMANCE	A
EASE OF USE	B+
DOCUMENTATION	B-
VALUE	B+
FINAL GRADE	A

I'm not sure that a clock/calendar, print spooler or internal speech synthesizer connection would be any great shakes taken separately, but taken together they offer a useful line-up of functions that may be of value to many users.

Of the three functions, I find the print spooling feature to be the most useful-I use a printer a lot. The clock/calendar I've found little use for, though it is an interesting novelty. The fact that Triple Tech has permitted me to remove the bulky speech synthesizer from its former home at the side of my console is a luxury that may have very practical consequences. For one thing, I'm no longer inadvertently disconnecting the speech synthesizer from the console and, hence, the PEB cable which plugs into the synthesizer.

Performance: The Triple Tech comes without the familiar clamshell enclosure. The board is populated with 64K of RAM for the print spooler, firmware and a replaceable battery for the clock/calendar and a slot for plugging in

the speech synthesizer circuit board. The card includes a parallel connector for a printer. Triple Tech does not support a serial printer.

Once installed, placing it between two clamshell cards is recommended, there is little else for the user to do. Accessing the print spooler is as simple as entering PIO as a printer command. The spooler offers 64K of buffering, which means that you can dump the longest document you can create with any word-processing program for the TI and be able to continue editing or accessing disk drives while the spooler feeds the printer your document.

If there is a drawback to the spooler it is that once you've sent a document or program to the printer, it is not easy to stop it. There are two microswitches mounted on the card, one that can be pressed to wipe out the 64K buffer, thus stopping it from sending more data to the printer. This stops the print function, but the switch is difficult to get at, particularly if your PEB is placed against a wall with a monitor on top of it. Other options are to turn off the printer, which wipes out the data that is in the printer's buffer. However, when you turn it on again the spooler will continue to send data to the printer until it reaches the end of the document or program. Turning off the PEB clears the spooler memory, but this makes the task of dumping documents time-consuming, a problem meant to be solved by the spooler. A better approach would be to wire an extension cable to the microswitch so that the user may position it in a more convenient location.

I mentioned there are two microswitches. The second one, when pressed, will print a copy of the document being printed. This seems to be of limited value since most word processors allow the user to make multiple copies. Certainly, when listing a program, it is easier to enter LIST PIO than it is to reach behind the PEB, locate the correct microswitch and press it for a second copy.

If you have a speech synthesizer, you may remove the case, lift out the speech synthesizer circuit and plug it into the Triple Tech board (Triple Tech does not come with a speech synthesizer circuit board). Having done this, you access the synthesizer in exactly the same way as you used to. I could discern no difference in the quality of sound between the synthesizer when it was plugged into the console and the synthesizer board when it was plugged into Triple Tech. One thing I am certain of now is that when I have a problem with the PEB it is not due to a poor connection with the speech synthesizer. Not much of a consolation, to be sure, but when your computer goes on the fritz eliminating even the smallest potential problem can save a lot of time in trouble-shooting.

I have not found a use for the clock/calendar feature, though I suspect some bright programmer will one day write

a disk cataloger that includes the time and date files and programs were last written to disk. (The clock/calendar is accessed via an OPEN statement, similar to accessing any device.) To tell the truth, after entering the time and date and running a little program to display it, I haven't bothered to use the clock/calendar feature again.

The clock/calendar provides the day of the week, the month, date and year, hour, minute and second. Once entered, using a program supplied with the documentation, the time and date are updated automatically, even with the computer turned off. A battery in the card keeps the clock ticking, so to speak. (CorComp describes the power cell as a 3-volt, CR2032 lithium battery.) CorComp says the battery will last six months, even if the computer is never turned on. The clock/calendar is driven by a crystal controlled oscillator that CorComp says is accurate to within .002 percent. The clock/calendar is accessed through BASIC or Extended BASIC programming.

Ease of Use: Installing the Triple Tech card is a snap. Instructions for removing the circuit board from the speech synthesizer are easy to follow. The reason I didn't give it an A in this category is the location of the microswitch to stop the spooler function after it starts. I'm sure there are better ways of doing this, but it will probably be up to the user to find them. The print spooler includes a self-test that is activated using the microswitches.

Documentation: The manual that comes with Triple Tech consists of eight book-sized pages and a one-page addendum that includes listings of a program to change the settings on the clock/calendar (it is set at the factory to begin with) and to output the time and date to the screen. The addendum corrects an error that appears in the manual. The manual is prepunched with three holes for inclusion in a loose-leaf binder, a thoughtful touch. I gave it a B primarily because I expected more instruction on how to use the clock/calendar in programming. (Providing a program listing of its use in a disk catalog program would have raised the grade to an A.

Value: The value of Triple Tech is in the eyes of the beholder. Anyone who uses a printer a lot will appreciate the spooler. Being able to run the printer without tying up the computer console is a real advantage. Being able to relocate the speech synthesizer out of sight and out of mind is a convenience, and the clock/calendar is at this point an interesting novelty that a single piece of software yet available could turn into a virtual necessity.

—YN

Review by Jack Sughrue

Floppy-Copy
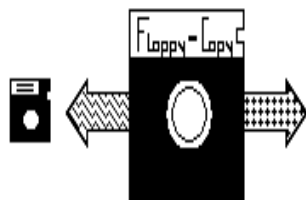
Written by Chris Faherty

Sold by SOFTSPOT

It is 3:30 in the morning. You can't sleep. You try counting spreadsheets, but nothing seems to work. One way to cure insomnia is to get a pile of, say, 15 disks full of games and utilities and tutorials and generic stuff. Then get a pile of blank disks (Keep all these things on hand for those nights of insomnia.) and copy the full pile onto the blank file. You'll finally have those backups you've been wanting in case something Dreadful happens to Guess My Number and Loan Amortization and other impossible to live without files.

Anyway, shove in your Disk Manager and start initializing all those 15 disks. This, alone, may put you to sleep, but if that fails, copying the disks – file by file – is sure to do it. Great for insomniacs; not great for making backups.

So, if sleep's your reason for making copies, stay with Disk Manager.

If getting the stuff copied is your reason for making copies, try Floppy Copy ($24.95 plus $2 S&H) from Softspot or from mail-order houses for maybe less.

Floppy Copy copies quickly. With 2 drives it is capable of copying some disks completely in 24 seconds. It will copy ALL disks within 3 passes at 138 sectors a sweep.

FC can be loaded with any of the following: Mini-Memory, Extended BASIC, or Editor/Assembler modules. (M-M & E/A load 24 seconds; XB takes 50 seconds.)

If all FC could do is make backup copies super fast, it would be worth the price. But that is not all it can do.

It catalogs: displaying the complete status of the disk, including disk name and file index.

It validates the duplicating process. Error messages will appear if the disk is not transferring data.

It initializes. And it does that faster than Disk Manager, too.

It has REDO functions (great for initializing or duplicating a number of disks).

It has an immediate menu. Ease of back-and-forthing among the functions is just right.

Within the larger functions, there are other menus: you can take just files for a quicker copy, or you can copy the entire disk (including the blank sectors), for an example.

You can copy SSSD or any other configuration established by the DM or by CorComp.

So far I've found that FC will copy everything but itself.

FC comes with a single page of documentation. But you can choose some rather lengthy on-screen directions if you so choose. Once you've gone through the four sets, you really don't need to bother again. FC operates smoothly and with great ease.

Even I got it working within a minute or two.

One night I initialized 22 blank disks for a club swap. I stopped for a beer and a telephone call and returned to the task of copying the club's 22 disks. I did it with dread, in spite of the fact I really wanted to give Floppy a real test.

I did all 22 disks before I went to bed. A piece of cake, thanks to Floppy Copy.

The next night I did all kinds of things to check out its default system. I put in initialized disks. Floppy told me and gave its name.

I put in damaged disks. Floppy gave me an error message. I put in disks with only 5 sectors used. Floppy read in 1 second, wrote in 2.

FC always behaved and always protected me (and my disks) from myself.

I'd highly recommend this fast, versatile tool to anyone with a disk system.

BANKROLL

By Not-Polyoptics

Review by John Koloen MICROPENDIUM Aug 1985

REPORT CARD	
PERFORMANCE	A
EASE OF USE	B
DOCUMENTATION	B
VALUE	B+
FINAL GRADE	B+

Not-Polyoptics Bankroll, subtitled The Investment Game, is an interesting diversion for two to four players who would like to play the stock market but lack the funds to do so. (It is not sophisticated enough to be a learning tool for those who invest in securities.)

Bankroll, written by Arthur P. Jacoby, was first

distributed in 1982 under Not-Polyoptic's author co-op program.

Performance: BanKroll uses up most of the available memory in a TI99/4A console and lacKs sophisticated graphics or sound effects. In fact, sound is not used at all, which is unfortunate. Except for a rather spare introductory screen, no use of graphics is made, though none is required since this is a strategy not an arcade game.

The object of the game is to maKe as much money in the stocK marKet as you can. After the number of players (1-4) is entered, each player enters his name. Then the program prompts for the amount of money it will taKe to declare a winner. The amount may be anything up to $999,999 (sorry, you cannot become a millionaire).

The entry screen is the same for each player, except that the screen is a different color for each player. Each player's name also appears when it is his turn. Each round consists of each player buying and selling securities. At the end of each round, a tally screen appears listing the results of the years's trading (a round is equal to one year) for each player. The next round then begins when any Key is pressed.

The data entry screen provides a listing of the 10 investments, the current price and the previous price. The screen also displays the dividend value and the tax shelter value of each investment. Also displayed on the screen are the current interest rate for funds that are not invested, total assets of the player, the amount of capital gain that goes to taxes when investments are sold, the amount of income tax that will be taKen, the amount of cash on hand and the broKerage commission, which is equal to one percent or more of the price of any buy or sell order.

A typical round would involve each player buying and selling any number of investments. To buy, a player first presses the B Key. (The S Key is used to sell securities.) Then he presses the first initial of the investment he wants to buy. Then he enters the number of units he wants to buy. The minumum number of units that can be bought or sold is 10. The player can purchase as many units as he wants, up to 1,000 at a time. The player may alternate buying or selling and may maKe as many investment decisions as he wants during his turn. When he has finished, he presses the space bar and another player maKes his investments. When all players have finished the round, the program displays the annual tally screen. The following information is displayed for each player: capital gains, interest income, dividends, tax shelter value, untaxable gains, taxable income, amount of tax, cash on hand and total value of assets.

To maKe the game more than just a head-to-head competition between players, the game provides a linK to real world conditions that affect investments. Through the appearance of headlines, players must factor into their investment decisions such occurrences as war, assassinations, etc. These headlines appear randomly, and not at every round. Players may increase the frequency the headlines appear by pressing the M Key or decrease the frequency by pressing the F Key. This feature adds a dimension to the game that enhances the competition going on between players. It introduces a measure of randomness that nonetheless calls for measured responses by each player.

Although the game is enjoyable to play, Keyboard input is on the slow side. Players must hold the Keys down for a second to maKe sure responses are registered by the program. It would have been useful if the program would allow players to enter buy and sell orders for several investments at a time.

Ease of Use: The mechanics of BanKroll are quite easy to picK up, though the strategy may present a challenge. This game is definitely not for the very young. Those who enjoy playing Monopoly would probably enjoy BanKroll.

Documentation: The manual consists of six pages of information detailing the how-tos of the game as well as suggestions for winning strategies. It s adequate to the tasK.

Value: BanKroll is an interesting stocK marKet game. It's well-conceived and operates in a logical fashion. What randomness there is the headlines affects all players equally. UnliKe similar board games, the computer is the banKer in this one, which allows everyone to concentrate on winning rather than watching the banKer. It's a nice breaK from family games of Monopoly.

YN

1READ A Oneliner DV/80 file reader program

Prompts you with "DSK". With this program, type in the drive number and the filename that you wish to read. the program will display your file on screen in 28 column format. If you wish to pause the display, simply press the ENTER Key. Pressing it again will continue. If you type in a bad filename or have a bad disK etc, this program will prompt you once again. Exit the program with FCTN-4.

```
1 ON ERROR 1 :: IF F THEN IF
 EOF(F)THEN RUN ELSE LINPUT
#F:X$ :: PRINT X$ :: CALL KE
Y(W,K,S):: IF K=13 THEN ACCE
PT VALIDATE(CHR$(13)):D$ ::
GOTO 1 ELSE 1 ELSE PRINT : :
 :"Filename: ";:: INPUT "DSK
":D$ :: DISPLAY ERASE ALL ::
 F=1 :: OPEN #F:"DSK"&D$,INP
UT :: GOTO 1 !BY JOHN MARTIN
```

INTERNATIONAL FUN & GAMES
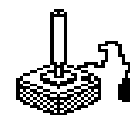
GAME TITLE	SCORE	JOYSTICK JOCKEY	TI CLUB	DATE
BACKSTEINE	155900	STEVEN JAKABFY	OSHTI UG	09/95
BIGFOOT	290500	DAVID HANDLE	OZARK 99	01/95
BLASTO	44880	MIKE CENDROWSKI	W/PENN 99	11/94
BREAKTHROUGH	1850	RAY FRANTZ	VAST	11/93
BURGER BUILDR	1000000	ELEANOR ZIC	W/PENN 99	03/94
BURGERTIME	82600	MICKEY CENDROWSKI	W/PENN 99	09/85
CAR WARS	6050	JIM WAYNE	VAST	11/93
CENTIPEDE	301930	MICKEY CENDROWSKI	W/PENN 99	01/87
COLORS	1000000	HARRY HOFFMAN	CLEVELAND	03/95
DIG DUG	262460	FRANK ZIC	W/PENN 99	03/94
ENTRAPMENT	3668	FRANK ZIC	W/PENN 99	11/93
HOPPER	4031826	TOM BEERSMAN	OZARK 99	06/94
HUSTLE	WON 52	ELEANOR ZIC	W/PENN 99	03/94
JAWBREAKER	15025	JIM WAYNE	VAST	11/93
JUMPY	131900	ELEANOR ZIC	W/PENN 99	03/94
MICRO PINBALL	1776500	NORM ROKKE	W/PENN 99	05/87
MIDNITE MASON	27100	FRANK ZIC	W/PENN 99	11/93
MINEFIELD (A)	0:00:01	NORM ROKKE	W/PENN 99	08/94
MINEFIELD (B)	0:00:05	NORM ROKKE	W/PENN 99	08/94
MINEFIELD (C)	0:00:12	NORM ROKKE	W/PENN 99	08/94
MINEFIELD (D)	0:00:31	NORM ROKKE	W/PENN 99	08/94
MINEFIELD (E)	0:00:47	NORM ROKKE	W/PENN 99	08/94
MINEFIELD (F)	0:01:27	NORM ROKKE	W/PENN 99	08/94
MINEFIELD (G)	0:02:26	NORM ROKKE	W/PENN 99	08/94
MINEFIELD (H)	0:02:36	NORM ROKKE	W/PENN 99	08/94
MINEFIELD (I)	0:03:56	NORM ROKKE	W/PENN 99	08/94
MINEFIELD (J)	0:04:27	NORM ROKKE	W/PENN 99	08/94
MOON PATROL	73150	MIKE SEALY	W/PENN 99	03/94
MUNCHMAN	202170	PAUL BROCK SR.	W/PENN 99	09/87
PACMAN	153000	GARY TAYLOR	W/PENN 99	09/87
PARSEC	47300	MICKEY CENDROWSKI	W/PENN 99	09/87
PKR SOLITAIRE	3790	JACKIE REMENSKI	VAST	11/93
POLE POSITION	57700	MICKEY CENDROWSKI	W/PENN 99	12/94
SUPER YAHTZEE	615	JACKIE REES	VAST	11/93
THE ATTACK	31800	JIM WAYNE	VAST	11/93
TI INVADERS	15930	PAUL BROCK SR.	W/PENN 99	09/87
TI TRIS	2208	FRANK ZIC	W/PENN 99	11/93
TOMBSTNE CITY	154400	DANNY MCGUIRE	OZARK 99	11/94
TRN SOLITAIRE	351	CAROL HOFFMAN	CLEVELAND	03/95
TREASURE ISLE	37800	MIKE CENDROWSKI	W/PENN 99	10/94
TRIS (ASGARD)	8393	MICKEY CENDROWSKI	W/PENN 99	12/94
YOUR GAME	0000000	YOUR NAME	GROUP?	00/00
YOUR GAME	0000000	YOUR HANDLE	STATE?	00/00
YOUR GAME	0000000	YOUR NAME	COUNTRY?	00/00
YOUR GAME	0000000	YOUR HANDLE	GROUP?	00/00
YOUR GAME	0000000	YOUR NAME	STATE?	00/00
YOUR GAME	0000000	YOUR HANDLE	COUNTRY	00/00
YOUR GAME	0000000	YOUR NAME	GROUP	00/00

Please submit all scores to SPARKDRUMMER via
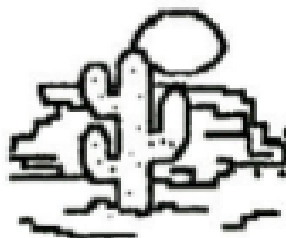private message on the ATARIAGE TI-99/4A forum.
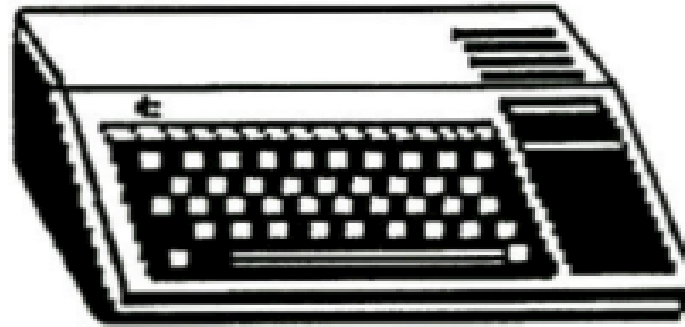
REMEMBER THIS?

TI-99/4A

GET IT OUT OF THE CLOSET! LEARN TO USE IT!
LEARN TO LOVE IT!

LOOK

...WORD PROCESSING...SPREAD SHEET MANAGEMENT...GAMES
:::DESKTOP PUBLISHING...DATA BASE MANAGEMENT...MUSIC
:::MUCH...MUCH MORE!   WANT MORE INFO?...

CONTACT US!   WE ARE HERE TO HELP!   WE ARE THE...

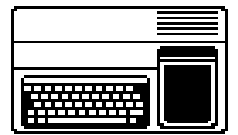# VAST USER GROUP

MEETING AT
THE PYLE RECREATION CENTER
SOUTHERN & RURAL RD.
TEMPE, AZ.
FOR INFO CALL

481-1552   272-4315

Yesterday's News Information

Yesterday's News is a labor of love offered as a source of pleasure & information for users of the TI-99/4A and Myarc 9640 computers.

TI-99/4A HARDWARE
TI99/4A COMPUTER
MODIFIED PEB
WHT SCSI AND SCSI2SD
MYARC DSQD FDC
MYARC 512K MEMORY
HORIZON 1.5 MEG HRD
TI RS232
CORCOMP TRIPLE TECH
1 360K 5.25 DRIVE
1 360K 3.50 DRIVE
1 720K 5.25 DRIVE
1 720K 3.50 DRIVE

TI-99/4A SOFTWARE
PAGEPRO 99
PAGEPRO COMPOSER
PAGEPRO FX
PAGEPRO HEADLINER
PAGEPRO GOFER
PAGEPRO FLIPPER
PAGEPRO ROTATION
PIXPRO
PICASSO PUBLISHER
BIG TYPE
TI ARTIST PLUS
GIF MANIA

PC HARDWARE
COMPAQ ARMADA 7800
COMPAQ ARMADASTATION
SAMSUNG SYNCMASTER

PC SOFTWARE
DEAD WINDOWS 98SE
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Yesterday's News is composed entirely using a TI-99/4A computer system. It consists of 11 PagePro pages which are "printed" via RS232 to PC to be published as a PDF file.

NOW PLAYING

Hey pilgrim, The ONLY computer to have is a Texas Instruments TI-99/4A!
                                                    -Duke

Texas Instruments   color monitor