# THE GUILFORD 99'ER NEWSLETTER

VOL.4 NO.6 JUNE 1987

Mack Jones, President
Mike Garrett, Secretary/Treasurer
BBS: (919)274-5760(FIDO)

Robert Carmany, Vice President
Robert Dobo, Program Library
(919)621-2623(ROS)

The Guilford 99'er Users' Group Newsletter is free to dues paying members (One copy per family, please). Dues are $12.00 per family, per year. Send check to 3202 Canterbury Dr., Greensboro, NC 27408. The Software Library is for dues paying members only. (Herman Geschwind, Editor)

## OUR NEXT MEETING

DATE: June 2[illegible], 1987. TIME: 7:30 PM PLACE: Glenwood Recreation Center 2010 S. Chapman Street.

For our June meeting plans are for a hardware project with George McCormick as our guest speaker. At our May meeting George gave us a rather brief sample of his knowledge of TI hardware and his very own delightful style of presenting things. If his last presentation is any indication of things to come, you may not want to miss George and his June presentation!

## V-P (PRES) PEEKS

My part of the newsletter is going to be kind of awkward this month, the reason being that Herman is leaving for Germany a few days after the meeting so he asked all the contributors to have the newsletter data ready at the meeting so he can get the newsletter ready before he leaves. My family will also be leaving about the same time for Houston to a long awaited visit with our Daughter and Son in law.

This will be my second visit to the Lone Star, my first being the August of '47. A friend and I heard they were paying $25. a day room and board for combine drivers, and being both of us were well acquainted with wheat trashing , we decided to thumb out there and amass a fortune and come home in a big convertible with all the trimmings!!

Needless to say, we never found that harvest, and wound up shoveling wheat in a grainery all of a Sunday night in 117 degree heat to get us enough money to get back to Reidsville! What this has to do with computing, Lord only knows!

I received my copy of Computer Shopper yesterday and there are still quite a few places that still have surplus TI components for sale. Example.. Lolir Computer Warehouse in Texas has Power Supplies for $3.50, Keyboards for $3.50 each or 10 for $19., the Modulator sells for $3.50, (I think Tennex wants about $20. for same), and Cassette Cables for only $2.40 each. So you see that you can still find a few things. One note here on the Modulator for those of you who still use it with a TV set...not long ago I was using my "trash" model 99 out in the shop and I was having trouble with the picture. I brought the console in the house and hooked it to my monitor and it performed perfect. After going back and changing to a different Modulator, my trouble vanished. I hooked the suspect Modulator back up and sure enough, it was causing my problem. So if you

have any kind of picture problems, try a different Modulator. For anyone who is interested in the address it is: Lolir Computer Warehouse, 4403 Beltwood Parkway, Building A. Suite 300, Dallas, TX Zip 75244. If you need to call, the number is 1-214-239-3600. They don't give out any 800 number and also they ask for $3.50 shipping. That's where a lot of them get you! That would buy a keyboard. I sure am gonna look around while I am down there and see if I can pick up any goodies!! Another outfit is advertising Quiet Fans for $9. for those of you who still listen to the old whirlwind coming out of your P-box.

I read an interesting little warning poster that you can copy and put up at your computer...in case you have someone that is always putting their fingers where they don't belong. The one that came up with this is unknown.

ALLES TOURISTEN UND NOT-TECHNISCHEN LOOKEN PEEPERS! DAS MACHINE CONTROL IS NICHT FUR GERFINGERPOKEN UND MITTENGRABBEN. ODERWISE IS EASY SCHNAPPEN DER SPRINGENWERK, BLOWENFUSE UND POPPENCORKEN MIT SPITZENSPAKEN. DER MACHINE IST DIGGIN BY EXPERTEN ONLY. IS NICHT FUR GERVERKEN BY DAS DUMPKOPFEN. DAS RUBBERNECKEN SIGHTSEENEN KEEPEN DAS COTTEN PICKEN HANDS IN DAS POCKETS. SO RELAXEN UND WATCHEN DAS BLINKENLIGHTS.

If that don't keep them straight, nothing will!

Bob brought the latest version of Funnelweb by to download to SS disk. I am very fortunate to have DS/DD drives because I get to see all the new stuff from down under when Bob does his down- loading with my drives! I am using the revised version and I like it better as it now has a beep when you get to the end of the line. The word-wrap seems to work better also.

Well IRS day has come and gone. It didn't break me but it left me badly bent! I hope it didn't hurt you too much either. Until we meet again, hang in there and take care. Happy hacking. (Submitted by "Mac" Jones)

## RESIGNATION

An open letter to the Guilford 99'ers.

Dear friends,

I'm writing this letter to inform those of you not present at our May meeting, of my decision to step down from the presidency of our club, and of my reasons for so doing.

I recently decided to return to school full time and attempt to earn a degree in electro-mechanics (the computer control of hydraulic, pneumatic, and mechanical devices). In order for me to do this, it is going to be necessary for me to attend class full time in the day, and work full time at night, on second shift. As you can understand, this will leave no time for any other activities whatever. For this reason I must resign as president of the club.

I would like to express my appreciation to everyone for giving me the honor of being the club's president and my regrets at having to give up this position.

Mac Jones will be assuming the presidency as of the May meeting. Please give him and the club your full support.

Sincerely,
Joey Martin

## TI SHOPPER

There have been some interesting developments on the "fairware" market in the past month. A new version of FUNNELWEB has made its appearance. The version number remains the same but there are some improved features that make it one of the best software packages around. There have been some improvements in the interface blocks which allow a smoother access to c-99, the assembler files have been improved, and an "end of line" warning beep has been added to the editor. In addition, an assembly language file batch loader, called SCRIPTLOAD, has been added to the LOADER screen. It allows you to load up to 15 passive A/L files with the use of a text SCRIPTLOAD file. Everything is updated through April 10th!

In addition , the second half of the DISKHACKER program is partially finished. Will McGovern has finished the Myarc version of the program and, hopefully, the TI version should soon follow. DISKHACKER, you recall, is a disk read utility and

e second half of the program was to be a track copier. Originally, it was to be called BACKTRACK but Will and Tony have told me that they are going to name it something else.

There really isn't much happening in the commercial market. It seems to be rather stagnant at the moment except for some items of hardware that are being introduced. MECHATRONICS is marketing a 128K standalone with a PIO printer port that might be of interest. For those of you who are in need of a some joysticks, the PROSTICK II is still available with its 5-year warranty. Although you probably will not see that advertised in any catalogs, the manufacturer, Newport Controls, Rt. 2, Box 8, Dixon Lane, Bishop CA 93514 has them in stock and they can be ordered directly from them. They are very responsive and work quite well. Incidentally , the adapter that comes with the joysticks will allow you to use any Atari-compatible joysticks with your TI.

If you are subscriber to MICROpendium, you already know about Mack McCormick's do-it-yourself hardware projects. If you don't subscribe, you might consider it. The March issue had a simple load interrupt switch project in it and there are more planned. A DSR module with a clock and battery back-up are in the works as well as a replacement for the now-discontinued GRAM KRACKER. If you are handy with a soldering iron, you might want to try one of his hardware projects.

If you are interested in hardware projects, you might want to consider the Ryte Data newsletter. It is hardware oriented and has some excellent hardware tips and projects. The address for Ryte Data appeared on one of the back issues of our newsletter.

Well, this issue's text buffer is getting quite full so I had best save this to disk and get it off to Herman for publication. 'Til next month .

# THE 9640 FAMILY COMPUTER

MYARC, INC. of Basking Ridge, NJ, has recently introduced a new computer system based on an ill-fated TI-99/8 and accelerated TI-99/4A. According to some, the TI-99/8 was to have been almost completely incompatible with the TI-99/4A and its PAB format. So when Myarc decided to develop the computer, they had to perform a major functional and physical modification to the basic structural design of the TI-99/8. As a result, a powerful and technologically advanced computer named the "Myarc Model 9640" evolved.

The system is expected to be released in the second quarter of 1987 and sell in the area of $495. It comes complete with either a standard or professional IBM AT-style detachable keyboard with separate cursor keys and numeric key-pad and a package of six software programs including one for download cartridges to disk. As there is no cartridge port on this model, all software must be floppy based which is an easy task for the TI-99/4A.

Initially, the computer comes on a PEB card. You simply remove the flexcable interface and replace it with the "9640." It is populated with 512K of CPU memory (expandable to a full 2 megs), 128K (out of 192K) of VDP memory, and 32K (out of 256K) of ROM. The connections provided on the card include: a Microsoft-compatible mouse port, a TI-compatible joystick port, and a RGB/Composite/RF-Modulator compatible video port. The RF-Modulator will ONLY work on a Black & White television set NOT color.

The internal ROM includes 24K of low-level operating system routines and 8K of GPL interpreter. All the mouse support routines are contained on both the ROM and the 9938 AVDP chip from Yamaha and Microsoft. When the machine powers up, 16K of RAM is used for various internal tasks and you are left with about 496K of space for your programs. And remember that all the routines, screen, and graphics tables are kept in the 128K of VDP memory, so you really have quite a lot of memory to work with. If you choose to expand the RAM of the system, it will have to be done externally using 3 off-board RAM expansion banks. The current Myarc memory cards such as their 128K and 512K cards will work as memory expansion.

The machine is built around the TMS9995 microprocessor which is a more advanced version of the TMS9900 chip inside the TI-99/4A; however, it is 4-6 times faster and comparable in speed to the Motorola 68000 and Intel 80286. The TMS9995 will be running at a full 12 MHz and a 16 MHz version may be offered in the near future. With 16-bit parallel memory, the TMS9995 uses 32K (expandable to 64K) of high-speed static RAM to double memory transfer rates as compared to the TMS9900 which was a 16-bit processor running on an 8-bit bus. The machine is capable of emulating a TI-99/4A by merely changing a bit on a gate array which, when set, looks nearly identical to the TI-99/4A. This will allow you to use almost 99% The machine is built around the TMS9995 microprocessor which is a more advanced version of the TMS9900 chip inside the TI 99/4A; however, it is 4-6 times faster and comparable in speed to the Motorola 68000 and Intel 80286. The TMS9995 will be running at a full 12 MHz and

a 16 MHz version may be offered in the near future. With 16-bit parallel memory, the TMS9995 uses 32K (expandable to 64K) of high-speed static RAM to double memory transfer rates as compared to the TMS9900 which was a 16-bit processor running on an 8-bit bus. The machine is capable of emulating a TI-99/4A by merely changing a bit on a gate array which, when set, looks nearly identical to the TI-99/4A. This will allow you to use almost 99% of your old software said Myarc. The only problems that they have found are the programs that use a non-standard method to scan the keyboard. The reason for the problem is that the TI-99/4A has 48 keys and the new machine has 93 so a different KSCAN routine, obviously, had to be used. Most of these programs use their own KSCAN routine and thus do not work. Also, there will not be any immediate support for speech because there will not be an available port to use. Myarc is developing something similar to Corcomp's Triple-Tech card but with a few added surprises. And for those of you with P-Code, the system cannot support any of the TI-99/4A P-Code cards in the P.E. Box, but Myarc will provided nearly full software support.

Anyone with the P.E. Box will easily be able to use the new computer. Those without the Peripheral Expansion Box will definitely not be left-out though. A version of the new system will be developed within a new style expansion box and a lower profile.

The communication chip is the same TMS9901 that is used in the TI-99/4A running at the same speed. On the other hand, one of the most advanced graphics chips ever produced is also used in the machine. It is probably the most exciting and vigorating part of the entire system. Finally, a high-resolution TI-99/4A with 80-column capabilities and the most powerful graphics catalyst, bar NONE! Myarc is using a 9938 AVDP, a chip TI and Microsoft developed jointly and then, unfortunately, abandoned. Luckily , the processor is now being produced by the Japanese. It's fully compatible with 9918A inside the TI-99/4A but supports a few extra modes and features. Where the 9918A has 8 control registers for graphics characteristics, the 9938 has 32 which provides an incredible amount of flexibility and power.

The 9938 has two text modes. The first is identical to the text mode of the 9918A, except that you can choose the foreground and background colors from a set of 512 instead of just 16. Text mode two is an 80 x 24 or an 80 x 26 (for a status line at the bottom like an IBM) format with 6 x 8 characters and a choice of two colors from the same 512. Multicolor mode is still there as is graphics mode one. Graphics mode two allows definition of 768 different patterns and a choice of 16 colors from the 512. Graphics mode three is the same as mode two except that instead of being able to have only four sprites on a horizontal line at a time you now can have up to ten. Graphics mode four is similar to the TI-99/4A's with a 256 x 212 non-interlaced screen resolution. Graphics mode five can support up to 512 x 424 using interlacing but this mode must be displayed on an RGB or Composite monitor. Graphics mode six has 512 x 212 resolution and each individual pixel can be defined as one of 16 different colors; although, this mode requires a full 64K of VDP memory for storing the screen. And graphics mode seven has the same resolution but uses a full byte of memory to define the color for each pixel which means that each pixel can be one of 256 colors! This mode also requires additional VDP memory and Myarc has made provisions for up to 196K of VDP RAM to be put on the card. Also, one of the control bits on the 9938 allows for what Lou Phillips calls "animation tricks." This means that it can do screen swapping which essentially provides for automatic animation controlled by the 9938 chip.

The machine supports the old PAB (Peripheral Access Blocks) format in the TI-99/4A mode so that, in theory, all the peripherals manufactured to TI specifications will work. Most of Corcomp's equipment works except for the Triple-Tech card's speech capability. Also, most of the third party equipment such as the Horizon RAM-Disk work. A new PAB format is also used and nearly identical to that developed for the TI-99/8 but will reside in CPU memory for greater speed. It allows for logical record lengths of up to 4096 characters instead of the 255 on the TI-99/4A and has a full byte reserved for error codes, which means there can be 256 error codes instead of 8 as in the old PAB format. Including support for both the new and old PAB formats is one of the major changes from TI's 99/8.

Phillips said that the first two peripherals that would be released would be a card with a retrofitted hard/floppy disk controller that will do away with the Western Digital support card and allow you to connect a 20 meg. hard drive for under $500. Phillips has also said that 3.5 inch drives are going to be a standard capability if you get the new controller. And next, a card to allow speech, extended sound and MIDI control, and a few other exciting implementations. After those two cards are complete, Phillips says that the next thing he plans to work on is a card that will provide IBM compatibility. He commented that the reason for choosing the keyboard that they are using was so that it could be made into a PC compatible computer easily. The basic structure of Myarc's IBM compatability will follow two paths. The first is for people who don't want the new computer but want IBM compatibility. Lou describe a system of two PEB cards and an IBM AT-style keyboard. One card will contain the 80286 processor, 640K of DRAM, BIOS ROMS, and VDP. The other will contain the basic I/O ports and functions. The second structure will be a plug-in card designed for use with the console version of the new computer. This version will contain two internal expansions slots with one used by the IBM plug-in card. This card will only house the 80286 processor and the BIOS ROMS. The reason being the new computer already holds all the DRAM necessary and also all the I/O

orts needed. To get IBM compatibility, all you'll have to do is switch from the TMS9995 to the Intel 80286 (possibly the NEC V30 a 12 MHz replica of the 80286) and your in IBM country.

The computer comes with a very enhanced version of Extended BASIC II and in the same format as it is currently produced (floppy based). Phillips said that XB II is very similar to GW Basic from Microsoft and is somewhere between 2 and 4 times faster than IBM AT BASICA. The additions to XB II that come with the new computer include full mouse support, advanced event-driven control keys (which means that you can set your program to automatically branch to a certain line number when a given key is pressed), and support for the new PAB format. Phillips has promised to release a reference manual for the machine similar to the one released by IBM for the PC. In other words, the machine will have an open architecture and no hidden secrets like TI kept with GPL. This should help enormously in getting new software written and hardware built for the machine by third party companies which can fully utilize the incredible power of Myarc's new system. As promised, Phillips has brought the computer to market and claims that Myarc has plenty of capital to allow them to continue with extensive support for the users. Also, when asked about other languages, Phillips said that Pascal would probably not be next but that C would be. His reasoning is that C is really in vogue now and it would make new software development easier; however, Pecan Software has agreed to supply all of the UCSD language library to Myarc for an extremely low cost.

Lou Phillips and the rest of the Myarc "team" are very dedicated to their cause and I suspect the new computer will furnish many prospective buyers with an unprecedented amount of power and support. Already, many software packages are being explored and created for the new machine including everything from business and management software to basic utilities and games. I think we have a very viable source of "LIFE" for the TI-99/4A and Myarc, our "foster parent", is consistently improving our pride and joy. (Contributed by Bryan Rice, Twin TI'ers UG)

## FORTH FORUM

For all of you "game freaks" out there, here is a Forth version of an old favorite. This program is a TI-Forth version of BREAKOUT. This particular version was adapted from the original which appeared in the Wycove Forth manual. The game is not true arcade quality -- it isn't as flashy or sophisticated as a commercially produced effort but I think that you will agree that the action is fast and furious enough for almost anyone! Just type in the screens as you would any series of Forth screens and follow the instructions. Without further delay, here are the screens that comprise the program.

```
( BREAKFORTH INTRODUCTION) : BFSTART ;

CLS 14 1 GOTOXY ." BREAKFORTH" 14 2 GOTOXY ." ##########" CR CR ." Adapted to TI FORTH by Clint Pulley" CR CR ." This
game demonstrates the the speed of" CR ." TI FORTH. It is written for text mode" CR ." and uses only the RESIDENT and
SYNONYMS" CR ." vocabularies." CR CR ." To play, type BREAKFORTH then select" CR ." speed and number of balls. Press enter"
CR CR ." left arrow keys." CR 14 20 GOTOXY ." GOOD LUCK!" 0 22 GOTOXY -->

( BREAKFORTH adapted from A. Schaefer, BYTE Aug 80) : ARRAY <BUILDS 2 * ALLOT DOES> SWAP 2 * + ;
90 ARRAY BLOCKMAP 0 VARIABLE #BLOCKS 0 VARIABLE SPEED 0 VARIABLE SPVAR 0 VARIABLE SCORE 0 VARIABLE XPOS 0 VARIABLE YPOS 0
VARIABLE PPOS 1 VARIABLE XDIR 1 VARIABLE YDIR 0 VARIABLE BEST : LINE 0 SWAP GOTOXY ;
: BALLSET GOTOXY 42 EMIT ;
: PDLSET PPOS 22 GOTOXY 61 DUP DUP EMIT EMIT EMIT ;
: PDLCLR PPOS 22 GOTOXY 32 DUP DUP EMIT EMIT EMIT ;
: MOVEPDL PDLCLR 83 = IF -1 PPOS + 2 MAX PPOS ! ELSE 1 PPOS + 35 MIN PPOS ! ENDIF PDLSET ;
: PADDLE ?TERMINAL IF QUIT ENDIF ?KEY -DUP IF MOVEPDL ENDIF ;
: BEEP 52 6PLLNK ;
: BLOCKMAPINDEX -2 + 18 * SWAP 2 / + 1- ; -->

( BREAKFORTH SCREEN 2) : BLKTST YPOS 7 < IF XPOS YPOS BLOCKMAPINDEX BLOCKMAP ELSE 0 ENDIF ;
: BLKCLR OVER OVER SWAP 126 AND SWAP GOTOXY 32 EMIT 32 EMIT BLOCKMAPINDEX BLOCKMAP 0 SWAP ! ;
: BLKSET OVER OVER GOTOXY 91 EMIT 93 EMIT BLOCKMAPINDEX BLOCKMAP 1 SWAP ! ;
: WALLSET 37 2 DO I 1 AND 0= IF I 2 BLKSET I 3 BLKSET I 4 BLKSET I 5 BLKSET I 6 BLKSET ENDIF LOOP 90 #BLOCKS ! ;
: INIT CLS 0 LINE ." Speed (1-9, 1 is fastest) : " KEY DUP EMIT KEY DROP 48 - 1 MAX 9 MIN 5 * SPEED ! 0 LINE ." Number of
balls desired (1-9) : " KEY DUP EMIT KEY DROP 48 - 1 MAX 9 MIN CLS 40 0 DO I 1 GOTOXY 61 EMIT LOOP 22 1 DO 0 I GOTOXY 124 EMIT
124 EMIT 38 I GOTOXY 124 EMIT 124 EMIT LOOP -->
```

```
( BREAKFORTH SCREEN 3) WALLSET 0 SCORE ! 0 LINE 0 0 GOTOXY ." Score: 0 " 15 0 GOTOXY ." Best: " BEST ? 30 0 GOTOXY ."
Ball: " ;
: XCHK XPOS 2 < IF XDIR MINUS XDIR ! 2 XPOS ! BEEP ENDIF XPOS 37 > IF XDIR MINUS XDIR ! 37 XPOS ! BEEP ENDIF ;
: YCHK YPOS 7 < IF SPVAR 8 MIN SPVAR ! ENDIF YPOS 6 < IF SPVAR 7 MIN SPVAR ! ENDIF YPOS 5 < IF SPVAR 6 MIN SPVAR ! ENDIF
YPOS 4 < IF SPVAR 5 MIN SPVAR ! ENDIF YPOS 3 < IF SPVAR 4 MIN SPVAR ! ENDIF YPOS 2 < IF 1 YDIR ! 2 YPOS ! 2 SPVAR ! BEEP ENDIF
;
5 ARRAY PDLVEC -2 0 PDLVEC ! -1 1 PDLVEC ! 0 2 PDLVEC ! 1 3 PDLVEC ! 2 4 PDLVEC ! --> ( BREAKFORTH SCREEN 4) : PCHK 0
YPOS 21 > IF 21 YPOS ! XPOS PPOS - 1+ DUP 0< 0= OVER 5 < AND IF -1 YDIR ! BEEP PDLVEC DUP 0= IF DROP ELSE XDIR ! ENDIF ELSE
DROP 1+ ENDIF ENDIF ;
: CLR XPOS YPOS BLKCLR YPOS 27 - ABS SCORE +! 7 0 GOTOXY SCORE ? BOP YDIR MINUS YDIR ! #BLOCKS 1- #BLOCKS ! ;
: BALLCHK YDIR YPOS +! XDIR XPOS +! XCHK YCHK PCHK BLKTST IF CLR ENDIF ;
: BALL XPOS YPOS BALLCLR BALLCHK DUP 0= IF XPOS YPOS BALLSET ENDIF ;
: LAUNCH 2 RND 1 = IF 1 ELSE -1 ENDIF XDIR ! 1 YDIR ! 34 RND 3 + XPOS ! 8 YPOS ! 10 SPVAR ! ;
: GAMECHK #BLOCKS 0= IF WALLSET SPEED 5 - 5 MAX SPEED ! LAUNCH ENDIF ;
( BREAKFORTH SCREEN 5 - MAIN LOOP) : DELAY SPEED SPVAR @ 0 DO LOOP ;
: BREAKFORTH RANDOMIZE BEGIN 18 PPOS ! INIT PDLSET 0 DO 2000 SPEED / 0 DO DELAY PADDLE LOOP 36 0 GOTOXY I 1+ . LAUNCH
BEGIN 10 0 DO PADDLE DELAY LOOP BALL GAMECHK UNTIL 100 0 DO 54 GPLLNK LOOP LOOP SCORE BEST MAX BEST ! 200 0 DO DELAY LOOP 12 8
GOTOXY ." Play again? " KEY DUP EMIT KEY DROP 89 = 0= UNTIL CLS 0 0 GOTOXY ;
;
```

## MODEM TALK

FIDO (OPUS) (919-274-5760

Last month I indicated that some changes would be coming. Well, things happened faster than I expected. So, here are the details: For TI use we now have a separate section of the board (File Section 55), over which we have sysop control.

Some of you who have called FIDO since the changeover might have noticed that now a special access code is required to get to the TI file section. This is the price of progress...if you need an access code, drop me a message on either of the boards and we will fix you up with an access code.

A change which is less obvious but much more beneficial is that uploads will be available for downloading as soon as the upload is finished. No more waiting for the Sysop to check his in-file. Some of you were not too happy that in the past it took a good while for the upload to be available to others. So, this has been taken care of.

Another benefit is that we now have the capability to keep the file section current and to delete stuff that has been up there for months. One thing that we have to bear in mind that we are guests on someone else's system and that hard disk space is only so much and needs to be shared with others. Thus in the future, for every upload, something else needs to go (within reason).

Since we started the new system, I have cleaned up a good bit (though I am not yet finished) and I have consolidated things to make space. The following ground rules will apply: Programs and files which are significant and of lasting value will have the extension .TIP everything else will have the .TI file name extension. TIP files will remain on the board more or less permanently and only change when there are new versions. TI files will be deleted whenever space needs dictate or after six to eight weeks. Any suggestions are welcome.

Here is a brief run-down of new uploads:

FUN1ARC.TIP and FUN2ARC.TIP. These are the latest versions of FUNNELWEB with updates and fixes through 4/10/87. There is a set of FUNNELWEB files around which were patched together by someone and purport to be Vers. 3.5. There is no such thing as a Vers. 3.5 released by the McGoverns. Users of this patch version have experienced difficulties and system crashes. The version that we posted is authentic and will perform as documented.

CPT1ARC.TIP, CPT2ARC.TIP, CPT3ARC.TIP and CPT4ARC.TIP. These files make up the complete "c" compiler v2.1 rel 3 by Clint Pulley. The upload also includes libraries, tutorials and documentation by other "c" authors, wherever possible the latest version. CPT4 includes the latest version of the "c" code optimizer by Wible.

FTARC.TIP and MASSARC.TIP are the two mainstays of TI communications programs: FastTerm (1.16) and MassTransfer (3.4).

CATARC.TIP is Marty Kroll's disk cataloger. Still one of the best around.

STARARC.TIP is the collection of E/A subroutines to enhance Extended Basic.

SARC.TI is a contribution by Mac Jones. A real nice XB program, a State/Capital learning quiz that he not only uploaded but wrote himself!!! Many thanks Mac for the double job well done.

ROS (919)-621-2623

Dan had some problems last month. For some reason all the user files and the message base got wiped out. Fortunately the file sections were not affected, I would hate to re-upload 2,760,000 bytes of files, even at 1200 baud! At any rate, if you have not logged on lately, you will have to log in again as a new user and reconfigure your system defaults.

New uploads to the ROS board are the Funnelweb files (see Fido).

Some members have reported difficulties with files that they downloaded from ROS. Drop me a message to either board when things don't "do". I have contacted Dan about the problems and hopefully we have a solution soon. From my end I usual pack my original files (the disks that I use myself and know to be good). As added insurance I also use CRC error checking for all uploads which supposedly is 99.99999995% error free for single bit errors. If by chance more than one bit gets corrupted during transmission (both a "0" gets flipped to a "1" and in the same transmission block a "1" gets flipped to a "0") then CRC is going to report a good upload but the program will still crash. One of those things.....

Two more observations: If you notice during a session that you have a noisy line (a sure sign is to find left curly braces and other stray characters right where your cursor is supposed to be), log off and try to call back. Chances are that on the second go around you might get a better connection. I would not attempt to transfer files, even with CRC, when you see line noise while in terminal mode.

FILE NAMES: both the OPUS and the ROS system are MS-DOS machines and the file naming conventions are much more restrictive than what we have for the TI. Characters such as forward or backward slash (/ or \) have a special meaning for MS-DOS and should NOT be used as part of a file name on our boards. The length of the file name, including extension (max a period followed by three characters ) should not exceed seven characters. For all my uploads I use the convention xxxxARC.TI or xxxxARC.TIP. xxxx is the file name, ARC shows that it is a packed file and the extension as described above. (Contributed by Herman Geschwind).

## BASIC CORNER

Once more we are featuring a game program as our listing of the month. BOWLING is very well done, much along the lines of MINIGOLF which we had previously listed. Even though it is written in Console Basic, the game action and the graphics are reasonably realistic. Another proof to show what can be done with "only Console Basic".

Once more as a reminder, our listings are exactly in TI Basic screen format. This means when you come to the right margin of the listing you also should be at the end of one screen input line. If not, go back, chances are that something was not keyed in right.

When you get ready to run BOWLING, to launch the bowling ball use the keyboard "fire button" FNCT 0 (that is the letter "0" and not the QUIT key!!).

Again, this is a program that I downloaded and whoever did the upload did not include the credit to the author. Too bad, because I would like to thank the author for a well done program. (Contributed by Herman Geschwind).

```
100 GOTO 150
110 FOR I=1 TO LEN(H$)
120 CALL HCHAR(R,C+I,ASC(SEG
$(H$,I,1)))
130 NEXT I
140 RETURN
150 GOSUB 2440
160 DIM NAME$(3),SS(3),TT(3)
170 G=15
180 H=23
190 CALL CLEAR
200 CALL SCREEN(6)
210 PRINT TAB(8);"B O W L I
N G": :
220 PRINT TAB(9);"C H A M P
!": : : : : : : : : : : :
230 PRINT TAB(3);"HOW MANY P
LAYERS (1-4) ?";
240 CALL KEY(0,A,S)
250 IF S=0 THEN 240
260 IF (A<49)+(A>52)THEN 240
270 A=A-48
271 CALL CLEAR
272 INPUT "DIFFICULTY LEVEL
(1-2)?":D
280 CALL CLEAR
290 CALL SCREEN(13)
300 X$="NAMES"
310 IF A<>1 THEN 330
320 X$="NAME"
330 PRINT "TYPE IN YOUR ";X$
;":": : :
340 FOR I=0 TO A-1
350 PRINT :
360 PRINT TAB(4);"PLAYER #";
I+1;" ";
370 INPUT NAME$(I)
380 NAME$(I)=SEG$(NAME$(I),1
,8)
390 NEXT I

400 REM DRAW GAME SCREEN
410 CALL CLEAR
420 CALL SCREEN(12)
430 H$="1  2  3  4  5  6  7
 8  9  10"
440 R=1
450 C=1
460 GOSUB 110
470 R=2
480 H$="xxxxxxxxxxxxxxxxxxx
xxxxxxxxx"
490 GOSUB 110
500 FOR J=1 TO A
510 H$="  y  y  y  y  y  y
y  y  y"
520 R=2*J+1
530 GOSUB 110
540 H$="xxxxxxxxxxxxxxxxxxx
xxxxxxxxx"
550 R=2*J+2
560 GOSUB 110
570 NEXT J
580 R=13+(A>2)*2
590 FOR J=1 TO A
600 C=1-((J=2)+(J=4))*15
610 R=R-(J=3)*2
620 H$=NAME$(J-1)&":"
630 GOSUB 110
640 NEXT J

650 REM INITIALIZE SCORE STA
TE
660 FOR J=0 TO A-1
670 SS(J)-1
680 TT(J)=0
690 NEXT J

700 REM PUT DOWN ALLEY
710 CALL COLOR(13,1,1)
720 FOR J=6 TO H
730 CALL HCHAR(J,2,E,30)
740 NEXT J
750 CALL HCHAR(14,2,120,30)
760 CALL HCHAR(24,2,120,30)

770 REM MAIN LOOP
780 FOR Q=1 TO 10
790 FOR RR=0 TO A-1
800 CC=(RR+1)*3
810 IF RR<>3 THEN 830
820 CC=14
830 CALL COLOR(13,2,CC)
840 CALL COLOR(11,15,CC)
850 B1=0
860 GOSUB 1320
870 IF J1=10 THEN 900
880 B1=1
890 GOSUB 1450
900 IF Q<>10 THEN 920
910 ON S GOTO 920,1040,1040,
920,1160
920 NEXT RR
930 NEXT Q
940 R=19
950 C=7
960 H$="PLAY AGAIN (Y/N) ?"
970 GOSUB 110
980 CALL KEY(0,K,ST)
990 IF ST=0 THEN 980
1000 IF (K<>89)*(K<>78)THEN
980
1010 IF K=89 THEN 170
1020 STOP

1030 REM 10TH FRAME-EXTRA BA
LLS
1040 R=19
1050 C=2
1060 H$="TAKE 2 MORE BALLS,
"&NAME$(RR)
1070 GOSUB 110
1080 FOR I=1 TO 300
1090 NEXT I
1100 CALL HCHAR(19,2,E,29)
1110 SS(RR)=S-1
1120 B1=1
1130 GOSUB 1320
1140 IF J=10 THEN 1230
1150 GOTO 1270
1160 C=3
1170 R=19
1180 H$="TAKE 1 MORE BALL, "
&NAME$(RR)
1190 GOSUB 110
1200 FOR I=1 TO 300
1210 NEXT I
1220 CALL HCHAR(19,3,E,28)
1230 SS(RR)=1
1240 B1=2
1250 GOSUB 1320
1260 GOTO 920
1270 SS(RR)=1
1280 B1=2
1290 GOSUB 1450
1300 GOTO 920

1310 REM FIRST BALL
1320 FOR I=16 TO 22 STEP 2
1330 CALL VCHAR(I,30,112)
1340 NEXT I
1350 FOR I=17 TO 21 STEP 2
1360 CALL VCHAR(1,29,112)
1370 NEXT I
1380 CALL HCHAR(18,28,112)
1390 CALL HCHAR(20,28,112)
1400 CALL HCHAR(19,27,112)
1410 PS=-1
1420 J1=0
1430 GOTO 1460

1440 REM SECOND BALL
1450 PS=0
1460 GOSUB 1580
1470 T=TT(RR)
1480 S=SS(RR)
1490 T=T+J
1500 ON SS(RR)GOSUB 2200,225
0,2300,2340,2390
1510 TT(RR)=T
1520 SS(RR)=S
1530 R=13+(A>2)*2-(RR>1)*2
1540 C=10-((RR=1)+(RR=3))*15
1550 H$=STR$(TT(RR))
1560 GOSUB 110
1570 RETURN
1580 IF (Q=1)*(PS=-1)*(RR=0)
THEN 1650
1590 C=30
1600 FOR HH=C TO 3 STEP -1
1610 CALL HCHAR(15,HH+1,E)
1620 CALL HCHAR(15,HH,B)
1630 NEXT HH
1640 CALL HCHAR(15,HH+1,E)
1650 C=3
1658 IF D=1 THEN 1660
1659 IF D=2 THEN 1670
1660 FOR R=6 TO H
1661 CALL HCHAR(R,C,B)
1662 CALL KEY(0,K,ST)
1663 CALL HCHAR(R,C,E)
1664 IF ST=0 THEN 1667
1665 ROW=R
1666 R=H
1667 NEXT R
1668 IF ST=0 THEN 1660
1669 GOTO 1760
1670 FOR R=G TO H STEP 2
1671 CALL HCHAR(R,C,B)
1672 CALL KEY(0,K,ST)
1673 CALL HCHAR(R,C,E)
1674 IF ST=0 THEN 1677
1675 ROW=R
1676 R=H
1677 NEXT R
1678 G=15-(G=15)
1679 IF ST=0 THEN 1670
1760 R=ROW
1770 J=0
1780 FOR C=3 TO 25
1790 CALL HCHAR(R,C,E)
1800 CALL HCHAR(R,C+1,B)
1810 CALL SOUND(-1,130,2)
1820 NEXT C
1830 CALL GCHAR(R,C+1,X)
```

```
1840 IF (X<>112)#(C<>31)THEN 2020
1850 IF C=31 THEN 2060
1860 IF X<>112 THEN 2020
1870 CALL SOUND(10,-7,5)
1880 J=J+1
1890 C=C+1
1900 FOR D=-1 TO 1 STEP 2
1910 Y1=R
1920 X1=C
1930 X1=X1+1
1940 Y1=Y1+D
1950 CALL GCHAR(Y1,X1,X)
1960 IF X<>112 THEN 2010
1970 J=J+1
1980 CALL HCHAR(Y1,X1,E)
1990 CALL SOUND(10,-7,5)
2000 GOTO 1930
2010 NEXT D
2020 CALL HCHAR(R,C-1,E,2)
2030 C=C+1
2040 CALL HCHAR(R,C,B)
2050 GOTO 1830
2060 CALL HCHAR(R,C,E)
2070 J1=J1+J
2080 R=3+RR#2
2090 C=-2+3#B+B1
2100 G1=J+48
2110 IF J1<>10 THEN 2150
2120 G1=47
2130 IF PS=0 THEN 2150
2140 G1=88
2150 IF B1=0 THEN 2170
2160 G1=G1+50
2170 H$=CHR$(G1)
2180 GOSUB 110
2190 RETURN
2200 IF J1<>10 THEN 2240
2210 S=5
2220 IF PS=0 THEN 2240
2230 S=2
2240 RETURN
2250 T=T+J
2260 S=4
2270 IF J<>10 THEN 2290
2280 S=3
2290 RETURN
2300 T=T+J#2
2310 IF J=10 THEN 2330
2320 S=4
2330 RETURN
2340 T=T+J
2350 S=1
2360 IF J1<>10 THEN 2380
2370 S=5
2380 RETURN
2390 T=T+J
2400 S=1
2410 IF J<>10 THEN 2430
2420 S=2
2430 RETURN
2440 FOR I=97 TO 107
2450 READ C$
2460 CALL CHAR(I,C$)
2470 NEXT I
2480 FOR I=112 TO 128 STEP 8
2490 READ C$
2500 CALL CHAR(I,C$)
2510 NEXT I
2520 CALL CHAR(121,"00101010
10101000")
2530 CALL CHAR(138,"FFBBBBD7
EFD7BBBB")
2540 E=129
2550 CALL CHAR(129,"")
2560 B=128
2570 RETURN
2580 DATA FFFFFBF7EFDFBFFF,F
FC7BBBBBBBBBBC7,FFEFCFEFEFEF
EFC7,FFC7BBFBF7EFDF83
2590 DATA FFC7BBFBE7FBBBC7,F
FF7E7D7B783F7F7,FF83BF87FBFB
BBC7
2600 DATA FFE7DFBF87BBBBC7,F
F83FBF7EFDFDFDF,FFC7BBBBC7BB
BBC7
2610 DATA FFC7BBBBC3FBF7CF
2620 DATA 1C1C081C3E3E3E1C,0
00000FF00000000,003C7E7E7E7E
7E3C
```