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0 t a b i t s

PRESIDENT'S BIT

In case you haven't already heard the news Bert Jones (X President) has deserted us by moving to Washington state leaving me with the job of President and Rick Glisson became Vice-President through an election at the last meeting filling my previous office. As President I hope to carry out the office to the best of my ability with some new ideas one of which is to reorganize our monthly classes which seem to have died down somewhat. I have had some suggestions to have a TI-Writer and BASIC programming class at the main meetings which I plan to start up at this coming meeting. Do not forget the Saturday meeting though where you can get help with any problems you may be having. The new place for Saturday meeting is really nice with plenty of room! I would like to thank Pierre Lamontange (library chairman) who has been doing a great job reorganizing the library with over 400 programs now available with more coming! As always any suggestions are welcome.

Gary Cox-President

VICE-PRESIDENT'S BIT

Thanks for the dubious honor of being elected Vice-President. I will strive to uphold the high standards of this office as set forth by our previous vice-Presidents, Bert Jones and Gary Cox, if I can figure out what the standards are. I enjoyed my tenure as program chairman. It was a challenge to come up with an interesting program each month, some months I was interested and others...just kidding. I've also enjoyed working with our original officers-people with skills and talents far exceeding mine. What an opportunity to learn and have fun while doing it. Some people bowl, play tennis, bingo, cards, golf, etc..., and some of us enjoy the thrill of computer games, spread sheets, file managers, word processors and just learning how the computer works. This is our hobby and we are proud of it. Now we have new officers, new goals, new ideas, and fresh enthusiasm leading our club. Our main goal continues to be bringing together TI99 owners for fun, fellowship and education. We don't want you to park your computer on a shelf or sell it. We want you to enjoy it as a hobby and as a way of understanding where our future is headed. The TI is alive and well.

Rick Glisson-Vice President

SPELL-CHECK UPDATE

Dragonslayer American Software Co. has issued Version 1.1 of its popular 99/4A Auto Spell-Check program. The proofreading, spelling checker program operates with TI-Writer. Thomas W. Kirk, author of the program, says Version 1.1 is considerably faster than Version 1.0. While Version 1.0 checked a 100-sector document in about 21 minutes, Version 1.1 checks the same document in about 6.5 minutes. Purchasers of Version 1.0 may obtain Version 1.1 for \$3 by returning their distribution diskette A to Dragonslayer. Dragonslayer will return the diskette with the update. For more information or to obtain the update contact Dragonslayer at 2606 Ponderosa Dr., Omaha, NE 68123.

From MICROpendium February 1985 issue.

NEW RAM DISK?

A California company, Sci Tech, is reportedly working on a RAM disk for the TI 99/4A FEB. The card is expected to be expandable from 64K to 256K. An optional 32K may be plugged in for those who do not already have a memory expansion. Preliminary information indicates that the card will hold up to 127 files or programs at one time. A disk manager will be included with the card to format it. According to Miller's Graphics of San Dimas, California, the card will include a CALL DIR command which will allow users to generate a catalog of any disk without losing the program or data in memory. Pricing and release date are not known at this time.

From MICROpendium Feb 1985 issue.

TI BASIC

Here is a neat demonstration of some graphics in TI BASIC.

```
10 CALL CLEAR
20 CALL SCREEN(2)
30 CALL CHAR(96,"FFFFFFF")
40 CALL CHAR(104,"00000000FFFFFFF")
50 CALL COLOR(9,8,1)
60 CALL COLOR(10,7,1)
70 FOR I=1 TO 18
80 PRINT TAB(I);"*****hhhhh"
90 NEXT I
100 FOR I=18 TO 1 STEP -1
110 PRINT TAB(I);"hhhhh*****"
120 NEXT I
130 GOTO 70
```

Danny Cox

micro pal

CarComp Inc



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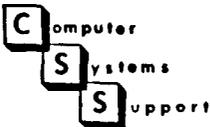
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EQUIPMENT NEWS

Radio Shack has some replacement parts for your TI! First they have the power supply (cat #277-1016) that I believe is used inside the console. Input is 24VAC, output 12VAC at 400Ma, +5VDC at 1.1 amp and -5 VDC at 200Ma for \$4.95. Then they have the keyboard (just the keys on a circuit board cat #277-1017) for \$2.95! It could be used as a replacement if some of your keys go out, or you can just play with it or use it on some device that you design. I have also heard that they have the TI video modulator for something like \$9.00. But hurry, they are going fast.

One word on an article I wrote in the last newsletter about how to have an almost unlimited buffer for telephone communications using a phone recording device. Well, I had a suggestion from Larry Purifoy (one of our members) to use a pillow speaker (Radio Shack cat #33-206A) to play back the sound into the acoustic modem. I tried it and it works great, it eliminates the noise that you have to listen too from just playing the sound out loud as well as some of the noise that the modem picks up in the room. Just place the pillow speaker over the receive piece of your acoustic modem instead of just playing back the sounds over the recorder speaker.

Gary Cox
President

MAGAZINE NEWS

Home Computer Magazine (formerly 99er magazine) seems to be getting back on it's feet by getting out some pretty good issues the last couple of months. According to the editor of the magazine they plan to publish the magazine 10 times a year.

Compute Magazine still has some TI related stuff in it but they seem have less and less TI related articles in every issue.

Another magazine is out that many people may not be aware of is MICROpendium magazine. It is exclusively for TI owners and is published monthly. They started up about a year ago and have been growing ever since. They are not as large as most magazines but they have many interesting articles and small program listings. You may have noticed that some of our newsletter articles come from MICROpendium.

Home Computer Magazine may be purchased at most bookstores as well as Compute. MICROpendium is by subscription only. If you wish to subscribe (for one year) to MICROpendium send \$15 for third class mail or \$18.50 for first class mail to MICROpendium, P.O. Box 1343, Round Rock, Tx: 78680.

Gary Cox

TI BASIC MUSIC

Part of this article was in the last newsletter but all that was printed was the instructions and somehow the program was left off so here it is again. The program comes from Michael Christianson of Pekin, Illinois in which he won first prize in a Software Improvement Contest in MICROpendium magazine. Entrants were asked to make improvements to a brief program that simulates an organ in BASIC. Entries were limited to 1,500 bytes. The program uses the left side of the keyboard to represent the natural notes and the right side to represent the sharps and flats. The program includes a screen depicting a piano-like keyboard with white and black keys. When a key on the console is pressed, a musical note appears on the screen keyboard to indicate the location of the key. Also, a red musical note symbol is placed on the screen in a random position. Each time a key is pressed, another note symbol is added to the display. Also two keys may be pressed at the same time.

```
100 REM BY M. CHRISTANSON WITH JIM BOWMAN KIBITZING DEC
110 CALL CLEAR
120 CALL SCREEN(15)
130 CALL CHAR(65,"FF81818181818181")
140 CALL CHAR(66,"8181818181818181")
150 CALL CHAR(67,"81818181818181FF")
160 CALL CHAR(80,"FF")
170 CALL CHAR(81,"FF81818181818181")
180 CALL CHAR(133,"040605061D3C3C18")
190 CALL COLOR(5,2,16)
200 CALL COLOR(8,2,2)
210 PRINT " @FFFFFFFFFFFFFFFFFFFFFQ"
220 PRINT " Q@ sTienway 99/4a &Q"
230 PRINT " ZZZZZZZZZZZZZZZZZZZZZZ"
240 PRINT " ZAAAAAAAAAAAAAAAAAAAAAZ"
250 PRINT " ZBBBBBBBBBBBBBBBBBBBZ"
260 PRINT " ZCCCCCCCCCCCCCCCCCCCZ"
270 PRINT " Zabcdefghijklmnopqrsz"
280 PRINT " ZBBBBBBBBBBBBBBBBBBBZ"
290 PRINT " ZBBBBBBBBBBBBBBBBBBBZ"
300 PRINT " ZCCCCCCCCCCCCCCCCCCCZ"
310 CALL COLOR(5,2,16)
320 OPTION BASE 0
330 DIM NO(20),N(20)
340 FOR A=0 TO 20
350 READ NO(A),N(A)
360 NEXT A
370 DATA 4000,30,247,2,349,6,392,7,440,8,659,12,690,13,784,14
,1175,18,1319,19,1397,20,880,15,494,9
380 DATA 294,4,262,3,220,1,330,5,523,10,587,11,908,16
390 CALL KEY(1,F1,S)
400 CALL KEY(2,F2,S)
410 F1=F1+1
420 F2=F2+1
430 CALL HCHAR(19,7,67,20)
440 CALL HCHAR(23,7,67,20)
450 CALL COLOR(5,2,16)
460 CALL SOUND(-4250,NO(F1)*.5,0,NO(F2),0,N(F1) (200, 30)
```

```

470 GOSUB 490
480 GOTO 390
490 IF K1=0 THEN 510
500 CALL HCHAR(23,N(K1)+6,133)
510 IF K2=0 THEN 580
520 CALL HCHAR(19,N(K2)+6,133)
530 RANDOMIZE
540 A=INT(RND)+1
550 B=INT(RND)+1
560 CALL HCHAR(A,B,133)
570 CALL COLOR(13,7,1)
580 RETURN

```

From MICROpendium January 1985 issue.

COMMUNICATIONS

Now that we're wired...how do we communicate?

When last we saw our fearless communicators, they had learned the magic of the wirey RS232-C. Having determined the DTE and CTE relationship, our heroes and heroines (and our readers) must now try to make some sense out of the bits coming over those wires. They've set up for a full duplex link and they've memorized the ASCII character set. They have been able to determine the speed at which the bits are appearing and they have the baud set correctly; but they suddenly hear a voice saying, "Are you going to use XON/XOFF, XModem, or Line Transmit?" What do they do now?

Not to worry (where have I heard that before?), the answers are fairly simple. What the voice is talking about is "protocol". According to my handy-dandy pocket dictionary, protocol means "the established ceremonial forms in official dealings". That's even pretty close to how the term is used in relation to computers. A protocol, in computerese, is an agreed upon set of procedures for communicating between two or more devices. (You'll notice that I didn't say anything about a protocol being just for modems...the way your computer talks to the printer is a protocol and so is the way the keyboard talks to the computer!) So, let's take those protocols one at a time.

Perhaps the easiest one to understand is the Line Transmit protocol. This protocol consists of a "line" of data and a carriage-return (CR) being transmitted from the sending unit and a line-feed (LF) being transmitted by the receiving unit. (For fairly obvious reasons, this protocol is also referred to as a CR/LF protocol.) The transmitting unit sends the data and the CR and then pauses until the LF is received. There are some pretty obvious limitations with this protocol but, due to its simplicity, it is frequently encountered. One of the ways you can tell that it is in use is the instructions for connecting to a BBS (or whatever) will say "Hit the ENTER key several times until the login message appears on your screen." That usually means the protocol is line transmit.

The next easiest protocol to understand (and implement) is the XON/XOFF. The first clue to this one is the "X". "X" is an old abbreviation for "trans"...it came from "trans" being almost

synonymous with "across" which is pretty much like "a cross" which, when you let it fall over to one side, looks like an "X". So you get abbreviations like "xmit" for "transmit" and "xfer" (or "xfr") for "transfer". What does this have to do with "XON/XOFF"? Well, the "XON" part is an abbreviated form of "Xfr ON" which stands for "Transfer ON" which means that it's okay to transmit. You guessed it, "XOFF" stands for "Transmit OFF" which stands for it's not okay to transmit. Now you're probably wondering what determines whether or not "it's okay to transmit", right? This protocol uses something referred to as "buffered I/O". Buffered I/O means that all of the data being sent or received is processed out of or into a predetermined piece of the computer's memory to avoid having the transmission depend on the rate of I/O of the human (or some other relatively slow processor). During the data reception, the characters are "buffered" fairly quickly into memory...usually faster than the output to the screen, diskette, or whatever...and then, when the buffer is almost full, a character (usually a hexadecimal 13) is sent to the transmitting unit telling it to stop the transmission. When the buffer has been emptied...to the screen, printer, or a diskette...another character (usually a hexadecimal 11) is sent telling the transmitting unit to turn on the transmission again. This technique shows some obvious improvements over the CR/LF, but there are still some possible problem areas.

You've probably heard of the "XModem" protocol (it's also referred to as the CFMUG or the Christiansen Xmodem protocol). Back in the days when the only way to have a microcomputer was to buy each of the chips, etch a Printed Circuit board (that's really what a PC is!), solder and/or wirewrap the ~~###~~ thing, build a power supply, and then hook it up to a KSR-33 teletype, there were actually a few wierd techies who did all of that in order to get a 256 byte (notice I said byte not "K") computer running. These same people did a lot of sharing of ideas, chips, techniques, and tools. Some of the tools they shared were in the form of programs which were said to be "in the Public Domain" which meant that, although someone might have it copyrighted, anyone could make as many copies as they wished so long as they didn't try to make a profit from selling copies. In fact a magazine called "Dr. Dobbs Journal of Computer Calisthenics" (which is another interesting story) was, and is, dedicated to futhering this sharing and published the XModem protocol for the first time several years ago as a proposal for a means of CP/M systems to communicate with each other in spite of any differences in hardware.

Xmodem is receiver driven which means that the transmission depends upon the receiving unit providing some form of acknowledgement of the successful transmission of the data. The transmitting unit sends a block of data and then waits for the receiving unit to send an ACK (short for "acknowledge") which would indicate that the data was received. The transmitter usually waits for some period of time (say 60 seconds) and then retransmits if an ACK has not been received. After several (maybe 10) retries, the transmitter assumes that the other unit or the line (or something) has stopped functioning and the transmission is aborted. When an ACK is received, the next block of data is sent. (If the receiving unit gets a garbled block of data, it can send a "NAK", which stands for "Negative Acknowledge", and the

transmitter is obliged to retransmit the block.) When the last of the data has been transmitted, the transmitting unit will send an "EOT" ("End Of Transmission") and the receiving unit then knows that that is all there is. In case either unit wants to abort the transmission, a "CAN" ("CANcel") character is defined which, when transmitted, will result in the other unit terminating its transmission or reception activity. As you can see, this protocol takes care of a lot more of the potential problems than do the other two...but then what else would you expect from true, dyed-in-the-wool techies.

By the way, the CR, LF, ACK, NAK, EOT, and CAN characters used in these protocols are usually the ones defined in the standard ASCII tables (the lower valued hex characters). There are a lot of other such characters defined there and most of them find uses in one protocol or another.

Oh, yes. Remember our Heroes and Heroines! Which protocol would you use? I'll give you a chance to consider the options and then we'll take a look at each protocol for traps.

Ralph Wilson

LIBRARY BIT

The latest programs to arrive in the library are "NEATLIST", "SCREEN DUMP", "WEATHER FORECASTER", and on the way is a program that will allow those with Extended BASIC, 32K and disk drive to load the language called TI-FORTH instead of having to use the Editor/Assembler cartridge. TI-FORTH is also available free for members through our library. Also we have not forgotten those with just TI BASIC or Extended BASIC as we have a lot of TI BASIC and Extended BASIC programs in our library also! Our library just does not have games but educational and utility programs as well. Take a look at our library listing at the meeting to see a description of what we have. Be sure to bring a cassette tape or disk to put the program on when you come.

Gary Cox - President

BOARD MEETING MINUTES

February 24, 1985

The treasurer's report was not available because Tara was not able to attend the meeting due to illness. There was considerable discussion about the number of members who have not renewed their dues. It seems that members are being dropped from the membership membership roll, unaware that the \$'s means that their dues are past due. It was decided that the club would send one notice to the members advising that their dues are due before they are deleted from the roll. The disk drives for the bulletin board have been ordered and will hopefully be here by the meeting and the TIBBS should go up soon thereafter. Gary Cox will send an information letter to prospective members as well as contact the local media that list "local meetings" so we can find new prospective members...

Yvonne Morgan - Secretary


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## DISCLAIMER

The Mid-South 99 Users Group is not affiliated with or sponsored by Texas Instruments and has no relationship with them, implied or otherwise. Any mention of a company or product is not an endorsement of either the company or the product.

## ANNOUNCEMENT

The TidBits newsletter is available in LARGE PRINT for the visually impaired. Contact Brenda Watson for copies.

## FREE NEWSLETTERS

When you come to a meeting as a visitor for the first time and become registered on our files by filling out a "User Profile" sheet (does not obligate you to join), you will automatically receive three issues of our newsletter, **TidBits**. If you have not joined our club within three months, you will notice three pound signs (###) on your mailing label. That means this is the last free newsletter you will receive. You must pay the annual membership dues to continue receiving **TidBits** afterwards. Watch your newsletter label and pay your dues to ensure that you keep receiving the newsletter.

## CALENDAR

MEETINGS: February 14, March 14, April 11, May 9.

WORKSHOPS: February 16, March 16, April 20, May 18.

## OFFICERS

|                   |                     |          |
|-------------------|---------------------|----------|
| Gary Cox          | President           | 358-0667 |
| Rick Glisson      | Vice-President      | 386-1159 |
| Yvonne Morgan     | Secretary           | 372-7002 |
| Tara Kirby        | Treasurer           | 388-1104 |
| Pierre LaMontagne | Chairman - Library  | 353-3067 |
| Howard Watson     | Editor - Newsletter | 755-4859 |

## GROUP MAILING ADDRESS

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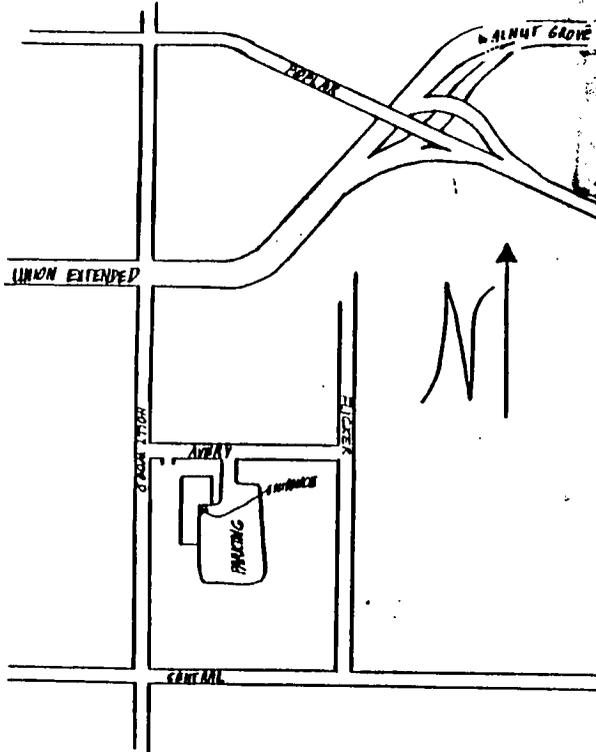
**NOTICES**

**MEETING**

7:00 P.M.  
 Thursday, March 14  
 Auditorium  
 Memphis Board of Education  
 2597 AVERY  
 (Parking and entrance in the rear)

**WORKSHOP**

9:00 - 12:00  
 Saturday, March 16  
 Fellowship Hall  
 Park Av. Cumberland  
 Presbyterian Church  
 3261 Park Av. at Greer



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