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CEDAR RAPIDS/MARION

Supporting the TI-99/4A and Geneve 9640 in Eastern Iowa

NEXT MEETING: 6:30 PM JANUARY 12, 1993

WEST MUSIC, COLLINS ROAD SQUARE

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Notice to members: Please remember to renew your membership, if you haven't already done so. We value your participation, and we want to continue to send you this newsletter. For those that haven't yet sent in their dues, this is the last newsletter we can mail to you. Thanks.
-Editor

Recently received newsletters:

- Newsletter 99er, Nov 92, rcvd 12/1
- Micropendium, Nov 92, rcvd 12/1
- Hocus, Milwaukee Area 99ers, Sept, Oct, Nov 92, all received 12/5
- K-Town 99er, Dec 92, rcvd 12/5
- Cleveland Area User Groups, Dec 92, rcvd 12/18
- LA Topics, Dec 92, rcvd 12/20

MINUTES OF USER GROUP MEETING OF 12-08-92

PRESENT: John Johnson, Bill Paeth, Jeff Craft, Bob Hiederstadt, Ray Novey, Bob Wahlstrom, Dave Askelson, Wayne Betts, Ed Edwards, and Gary Bishop. Pres. Johnson announced that DM 1000 v6.0 is in the library.

Old Business: 2 paragraphs were omitted from the last news letter. The author was assured it would be in the next issue. "Super Juice" is coming yet this evening with the treasurer and it did. Pres. Johnson shared that 2 disks of Clearinghouse information was available for review. He also distributed written samples of what is on the system and asked for any special requests or comments. He noted the Xmodem was slow.

New Business: (not a clear distinction) Milwaukee user group wants to exchange news letters and the Southern Nevada group has not exchanged. Financial difficulty was indicated. ANNOUNCEMENT: Commohawk 10th Annual Eastern Iowa Computer Fair IBEW Hall, Cedar Rapids, March 6, 1993, 8:00am - 6:00pm. Sister Pat had sent a letter that was circulated to the membership. Dave Askelson noted he had a friend with a system for sale. Ed Edwards made available numerous items from Sister Pat that were excess for sale. That resulted in some cash exchange. The treasurer arrived with the Super Juice and application was started. Disk copying was done from the library and the meeting closed.

Submitted by the Iowa City connection: Dave Askelson, conscript scribe.

DSK3 WHERE ARE YOU?

Let me preface this with a few remarks. I am not an electronics type. Wiring a 3 way switch with a predrawn schematic is the extent of my ventures into the world of Ready Kilowatt. Having been the frustrated owner of a SSSD disk system in a PEB, I was excited when I was practically given a DSSD drive. With encouragement I was able to replace my old drive. That worked well but I wanted more. With discussion with those who had gone before, I attempted the cannibalization of a computer for its power supply (I always thought that was the wall outlet or that other black box that plugged into the wall). WELL, the power supply is that 4x4 in circuit board with the switch IN the console. The black box is just transformer. I was told the disk drives each needed a power supply and transformer. The male plug on the drives had a +12v on one end and the opposite had a +5v and middle two were grounds. Now I had to figure out which was which. (Had I looked real closely at the 3 drives I was working on, then I would have saved much time and anxiety.) Back to the power supply: for I needed to define which output goes where. Gary said there would be a +12, +5, ground, and -5. and the last I could ignore. Armed with my Radio Shack meter, I tried; but as we all know the error is not in the machine but in the operator. You should not read or use the AC scale when working with DC output. Confidence renewed, I was able to define the outputs accurately. I also purchased 3 34 contact edge connectors and a 36 wire ribbon cable. Should this be in parallel (sophisticated electronic term)? E-mail to Gary was reassuring, but there were those terminal resistors (Well, aren't we all) and those Jumpers where 2 is really 1 and 3 is 2 and 4 defines 3. No wonder they are called jumpers.

(Continued on Page 9)

Comment on last month's article: Person to Person Download.

There is one small correction that needs to be made to the above referenced article. Near the end, Jeff states that YModem should be about 8 times as fast as XModem because YModem transfers 1024 bytes at a time, while XModem transmits only 128 bytes at a time. The byte transfer amounts are correct, but the increased block size doesn't translate directly into a proportionate increase in transfer speed. In either case, the transfer rate is still fixed, either at 1200 or 2400 baud as stated in the article. Changing the transfer block size has no affect upon the baud rate. The claim of YModem being about 3 times as fast as XModem bears scrutiny.

The overhead associated with transferring a single block of data, whether YModem or XModem, is fixed. To transmit 1K of data using XModem, 8 blocks of data and 8 associated overhead groups are required. For YModem, this is only one data block and one overhead group. YModem therefore saves the time it would have taken to transmit 7 overhead groups from XModem. In actual practice, I have found YModem to be only 10 to 20% faster than XModem on a quiet line. On a noisy line, XModem (or any protocol with a shorter block length) is superior to YModem. The reason? The odds of a long block being corrupted by noise is much greater than that of a shorter block. If noise occurs every 500 bytes or so on the average, many longer blocks will have to be retried before a single "perfect" one makes it through. Shorter blocks can punch through during the noise free times, with only a few blocks needing retransmission.

Typically, the phone lines are not as noisy as my scenario above, so YModem generally is attractive. For exceptionally noisy environments, such as packet radio on the short wave bands, data block lengths of only 30 or so bytes are used. There are other reasons why such a short block length is used besides noise. The problems encountered on short wave, but not present on phone lines, are interference from other signals, fading, long-delay echoes, and frequency shifts. Oh well, those are items we don't have to deal with using normal telephone modems. Aren't we lucky? -Gary Bishop

(Editor's note: The following two paragraphs were inadvertently left out of Bob Wahlstrom's article last month of "MY TI ADVENTURE.")

The latest, most enjoyable addition has been the Midi-Master 99 used for playing songs from the TI to a Midi key board. I don't know what will be getting added in the future. I am kind of at a dead end road by expanding as I did, without going to the large expansion box. It looks like most of the new products are being made to fit into that type system. If nothing is added from where I am right now, it is still a mighty fun and useful little computer.

I have two boys and they each have an IBM compatible computer, so as you might imagine, I get a bit of a ribbing at times for sticking with the TI. Bob Wahlstrom.

ORDER OF OPERATIONS IN XBASIC

Why Does This Happen?

A Bug In Extended Basic?
.....

Type in the following statement
and press <ENTER>
A\$="X"::B\$="X"::C\$=A&B\$

Now type in:
PRINT A\$:B\$:C\$
and you will get:

X
X
XX

Now that makes sense,
it's perfectly logical.

So now type in:
PRINT A\$="X"::B\$="X"::
C\$="XX"::A\$=B\$

and you get:

-1
-1
-1
-1

which means they are all true.
Now that makes sense,
it's also perfectly logical.

So now type in:
PRINT A\$="Y"::B\$=C\$::C\$=A\$
and you get:

0
0
0

which means they are all false.
Now that makes sense,
it's also perfectly logical.

So now type in:
PRINT C\$=A\$&B\$
and you get:

STRING-NUMBER MISMATCH

which just does not make sense,
it's perfectly illogical.

I got the same results with:
PRINT A\$&B\$="XX"
PRINT C\$="X"&"X"
PRINT A\$&B\$="X"&"X"

I ran this routine on the TI
and Geneve in X-Basic.

.. same results
I ran this routine in TI-BASIC.
.. same results

Why does it do that? Is this
another one of those infamous
undocumented bugs?

??? I don't know ???

The article to the left was in a newsletter exchange, and posed the query if Extended Basic was displaying some sort of bug. I will come to the defense of Extended Basic, and argue that the language is acting consistently, and with strict adherence to its rules. The problem with the article lies with XB issuing the message "STRING-NUMBER MISMATCH". The offending line is PRINT A\$&B\$+"XX". (Boy, I hope that made it through the formatter!) From the XB manual, page 41, an order of precedence is described, albeit incompletely. The proper order of operations is:

1. Paranthesis, including functions
2. Exponentiation
3. Multiplication (*), division (/), unary + or -
4. Addition (+) and subtraction (-)
5. Relational operators
6. String concatenation

As the supposedly buggy line is processed, the highest order operation is relational, which asks: is B\$="XX"? for which the answer is false. The TI only has two fundamental data types: strings, and numbers. For matters of convenience, true and false are stored as the integers -1 and 0, respectively. After making the relational determination, the line now reads: PRINT A\$&0 Well, the character string A\$ can't be concatenated with the integer zero, and thus the error. All of the other examples to the left follow this same argument and pattern. This is also the reason why something like PRINT 7-8=3 produces 0. The true and false values, which are the results of relational operators, can be treated as if they were integers. Try PRINT (5=5)+(7=7). The result of each relation is true, represented by the number -1. The result produced is the same as PRINT (-1)+(-1), or -2.

Back to the article: The intent of the author was to compare two strings. The proper operation to produce the result he expected is: PRINT C\$=(A\$&B\$). This prints the hoped for -1.

As an aside, any real or integer number other than zero is considered true. An example program would be:
 1 INPUT A :: IF A THEN PRINT "TRUE" ELSE PRINT "FALSE"
 2 GOTO 1

Try entering decimals, whole numbers, numbers with E notations, characters, etc. just to see how the program reacts. The only thing that will produce a false is a zero of some format, such as 0.0 or 0 or 0e+00.

Another thing some people have been confused about is the null string when using the VAL() function. A comparison is usually used in response to some keyboard input, as a test to see if anything was pressed. The function will produce an error if the string being converted is empty. The following two examples will demonstrate:

```
1 A$=""
2 PRINT LEN(A$)
3 PRINT VAL(A$)
```

This will print the correct length of zero, and then produce an error, because there is no character to attempt the conversion upon. Compare that to:

```
1 A$=CHR$(0)
2 PRINT LEN(A$)
3 PRINT VAL(A$)
```

This will dutifully print the length as 1, and the converted number as a zero. I believe the confusion arises between the use of "null" in both the null character and a null string. The first example of A\$="" is a null string, which is defined as a storage space for a string, but has nothing in it yet, and thus has zero length. A null character is just like any other ASCII value, it just happens to have the value of zero.

The moral of this story is whenever there is a chance that a null string will be evaluated by the VAL() function, you may wish to consider preceding the function with a length call, such as:

```
100 IF NOT LEN(A$) THEN GOTO {SOMEPLACE ELSE TO GET ANOTHER A$ VALUE
or simply bypass the next line}
110 PRINT VAL(A$)
```

The explanation of why this works combines all of the above discussion with the NOT logical function. NOT turns a true into a false, and vice versa. So if the length of A\$ is zero, this is the same as a false value. The NOT changes the false into a true, and the proper branch is selected to retrieve another value, or bypass the VAL function. If the A\$ string had something in it, the length is some positive number, which from the above discussion, is considered a true. The NOT turns this true into a false, and the next statement, the VAL function, is evaluated.

WHAT'S HOT WITH NOT.

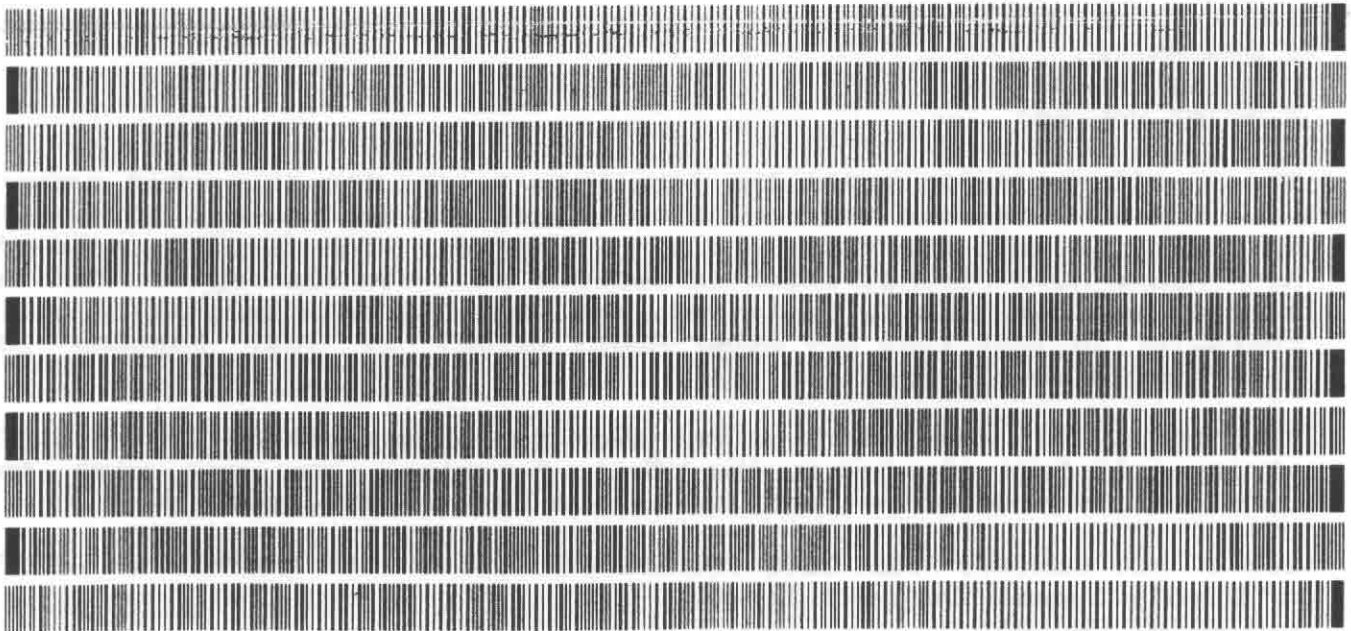
The NOT logical expression can be used on numbers as well as true and false values. NOT produces an inversion of each bit in an integer. See page 44 in the XB reference manual for a slight hint at what is going on. Until then, try:

```
1 INPUT A
2 PRINT A, NOT A
3 GOTO 1
```

Can you guess why the programs produces an error if you enter a number larger than 32767? Try negative numbers also, and even exponent notation, such as 1E3. -GARY BISHOP

BAR CODE STUFF

Come to the next meeting, and watch the Databar OSCAR read in the following program. A timed test between hand entry and scanned entry will be held.



CORCOMP TRIPLE TECH CARD ASSISTANCE REQUEST

I recently acquired a Corcomp Triple Tech card that appears to operate properly, but I don't have any documentation or software for it. I am particularly looking for the addresses for the real time clock. If you have any info for me, send it to me c/o the club address, or call me at 319-377-9574 evenings and weekends. Ham radio packet can reach me at: NQ0VW@RJT, or Internet e-mail at gdbishop@crems.cr.rockwell.com. Thanks. Gary Bishop.

SUPER JUICE INITIAL REPORTS

The contact healing juice has been applied to several computers, and so far, the results have been mixed. Some improvement has occurred, others are not impressed. I haven't tried it yet, the console I use to produce this newsletter hasn't locked up since I started using it many, many months ago. It will lock up when I do something foolish in assembly or FORTH, but that is to be expected. I have more trouble with keyboards than anything else!

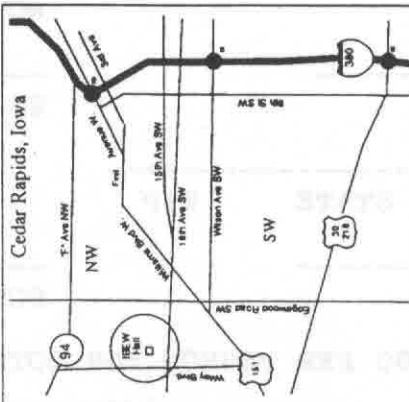
If it seems like I have written most of this newsletter this month, you are right. Fresh inputs would be most welcome. The only sure sign of a club that is surviving (much less thriving) is the production of a regular newsletter that is serving the club members. I'll step down off the soap box now. -Editor.

(This space could be filled up by your article for the newsletter. How about it?)

Eastern Iowa Computer Fair

Saturday March 6, 1992
8:00 AM - 6:00 PM

IBEW Hall
1211 Wiley Blvd SW
Cedar Rapids, Iowa



All Computer
Enthusiasts
Welcome



Computer Demonstrations
Midwest and Local Retailers
Hourly Door Prizes
Grand Prize: HP550C Printer
Commodore
Amiga

Sponsored by:
Commo-Hawk Users Group
PO Box 2724
Cedar Rapids, Iowa 52406-2724
(319) 366-2347

\$2 Admission
Donation will
be requested of
those older
than 14 years



TI FEST WEST "NORTH" '93 COMMITTEE
1396 Lincoln Avenue, Apt B
Ogden, Utah 84404

TI FEST WEST "NORTH" '93, hosted by Utah will be TI Computers' gathering of the minds. This will show everyone that the TI 99 4/A is alive and well and getting better all the time. Come and see what the best of the best have to offer.

TI FEST WEST "NORTH" '93 will be held at the Howard Johnson Hotel in Salt Lake City, Utah, 12-14 February 1993. We have a block of 40 rooms set aside for your convenience. Call in your reservation early 1-800-654-2000, advise them you are attending 'FEST WEST' for the confirmed price of \$55.00 single and double and \$62.50 for quad rooms.

Please let all your members know of this event. We would like to have you include this bulletin in your newsletter. If there are members of your users group that haven't been around for a while, call them, let them know of the TI FEST WEST "NORTH" '93. This is a good chance to tell them you have missed seeing them at your meetings lately. It is a good way to get reacquainted.

This is a good time for a great vacation for a family to visit Salt Lake City, and if you are a skier, this is the middle of the season, so bring them with you and have the time of your life. There are so many things to do and see in Salt Lake, such as the Salt Lake Hockey team meets Peoria at 7 on the 10th and 12th. There will be a Utah Boat, Sports and Travel show at the Salt Palace etc. With all the Mall shopping and visiting the downtown sights, while you are browsing the vendors or attending a seminar, your family will also be enjoying something new and you can still see more in the evenings. If there is any way we can be of help, do not hesitate to write to the address listed above or call us on the SALT FLATS BBS, (801) 394-0064 for more information.

Pre-registration form is on the bottom of this letter. We have included a list of hotels etc. in case Howard Johnson is filled, plus a tentative schedule.

REGISTRATION FOR 'FEST WEST' NORTH '93

NAME

NUMBER AND NAMES IN GROUP

ADDRESS

TI USERS GROUP NAME

CITY

STATE

ZIP

TELEPHONE NUMBER

HOTEL (If known)

REGISTRATION FEE IS \$5.00 PER PERSON FOR BOTH DAYS

(DSK3 Where are you, continued from page 2)

You must save your terminal resistor for possible later use. Gary said the first jumper sockets are for the motor. Well jumpers around in all the drives doesn't work.

The terminal drive needs the motor jumped like Gary said. Back to my ribbon cable. It looked a little narrow so I counted them. Despite being jumpy I could still count. 25 WHAT? The package said 36, but NO WAY! Back to the store with a determined step and 2 stores later a true 36 wire ribbon. Cable assembled, disk drive defined as 3 with a jury rigged power supply and Funnelweb loaded, I had drive moving and intermittent lights on. Finally with adjusting my connections I was reading and writing data to DSK3! Many thanks to the group and especially Gary Bishop for his knowledge and patience. -Dave Askelson

How I got started on my TI, by Gary Bishop

I purchased my first console just after TI announced it was pulling out of the home computer business in October, 1983. The price of \$48 at Ardan's in the Town and Country shopping center was just too low to pass up. I had been looking at computers for several months, but the prices of the IBM PC and the newly introduced XT were simply outrageous for home use. A friend had a KIM, and it was a good learning tool, just like the AIM was. It would be too hostile for anyone else in my family to operate. and it was very limited.

While at Ardan's, I saw a notice of an area TI group meeting at the JA building. I attended my first meeting November, 1983, along with many other new TI owners.

A few months later, I purchased 6 modules for \$120 at Penney's so I could receive a free speech synthesizer from TI. Four modules were educational, two were games. Both my sons spent time on the modules, and those modules I accumulated later. Looking back, I was not disappointed in my purchases. TI and their third party software houses put a lot of thought and effort into those modules, and it shows. By today's standards, they are clunky and uninspiring. This is due only to TI's relatively poor video graphics when compared to SVGA and other neat stuff.

I limped along with the basic console and cassette for about two years. This configuration served my growing family adequately, and my quest for computer knowledge was being satisfied by my involvement at work. I finally purchased a used Extended Basic cartridge, and what a difference that made. The cartridge cost as much as I paid for the whole console, but it was worth it, just for the increase in speed. Of course, the added capabilities of XB were welcome, also. John Johnson put me onto an entire P-Box for \$50 in a local shopper magazine, and that's what got me going into the heavy hardware stuff. Just before that purchase, I was considering dropping the TI, and going to IBM or clones. The TI still serves me adequately for ham radio, word processing, and simple programming use. It will for quite a while to come. Imagine, I've been a TI'er for nearly 10 years!

NEXT REGULAR MEETING: Tuesday

January 12, 1993 6:30 PM

**WEST MUSIC COMPANY
COLLINS RD. SQUARE, MARION
NORTH OF LINDALE MALL**

Send To:

GARY BISHOP
124-222
3270 28TH AVE
MARION, IA 52302

FIRST CLASS