

MUG 1991 - Lima Ohio
Saturday, May 18

A Report by Steve Mickelson, ST9 Users Group

Compuserve 76545.1255: Delphi SMICKELSON: GENIE S. MICKELSON

MUG Conference:

The Multi User's Group Conference is an annual event held at the Ohio State University campus at Lima, Ohio. This year's event, though my first, was well attended by members of at least ten TI Users Groups, including several Canadian groups. Six ST9ers attended the fair, including Randy, Ralph, John, Gary, Andy and myself. I think it was Ralph who said that you can tell the Canuks, they are the one's with the camcorders, as the editors of North Bay, Oshawa and Toronto newsletters captured the event on video.

I have digitized some of the images for the newsletter and wouldn't be surprised if North Bay's newsletter had some pic's as well! As the Lima group sells tapes of the event to users groups, as a fundraiser, I avoided taping any of the seminar's, with the exception of the second given by Mike Maksimik on the MIDI interface for the 99/4A and Geneve.

The schedule of events was, as follows:

7:00 AM Doors open, display set-up time.

8:30-9:00 Charles Good previews Funnelweb V4.32, showing the DISK REVIEW management of file comments.

9:00-10:00 Mike Sealy with the latest software from MS EXPRESS.

10:00-11:00 Eunice Spooner and Christopher Bedard of The Oakland Computer Club, discuss an elementary school users group.

10:30-11:00 Barry Traver showing programs that write other Assembly and XB language programs.

11:00-NOON Irwin Hott on current status of the newsletter clearing house.

11:30-12:30 Chris Bobbitt on software and hardware from Asgard.

NOON-1:00 Multi user group conference, informal discussions among user group officers.

12:30-1:30 Latest hardware from Bud Mills Services.

1:00-2:00 Mike Wright with bits and pieces from the history of the TI 99/4A.

1:30-2:30 Barry Traver on GENIE and Genial.

2:00-3:00 Gary Bowser on hardware and software from OPA.

2:30-3:30 Joe Ross on C-SHELL 99.

3:00-4:00 Beery Miller on 9640 NEWS and 99/4A NEWS.

4:00-5:00 Chris Bobbitt on more Asgard products.

5:00-6:00 E.M. Smith shows Art Gibson's NEWSLETTER PRINTER and revised TI Writer Formatter.

The conference ended at 6:00 PM and was followed by an informal gathering at the local Holiday Inn.

MIDI Magic:

While I am not musician, both my wife, Sophie, and daughter, Athena, are local musicians, I appreciate music enough to appreciate Mike Maksimik's MIDI interface for the TI. There are two versions, a TI and Geneve version, respectively.

MIDI Master consists of a hardware interface between an electronic instrument, (typically a keyboard with a MIDI connector), along with sequencer software which permits the user to "record" and "playback" music, at the same time modifying and manipulating the music.

Using an \$80.00(US) Casio keyboard, Maksimik demonstrated the MIDI's ability to play four-part and six-part harmonies. The Casio, (I believe he said it was a model MT240), has the ability to play one of a number instruments, using a 210 tone bank. MIDI Master expands the Casio's capabilities to around 5,000 tones.

The current version of MIDI Master, (V2.21, release dated 5/7/91), uses 2 bytes of RAM memory per note, so that a 180 measure song, such as "The Dwelling Place", uses only about 8K of RAM or roughly one third of the available memory space.

The next version of MIDI Master software, dubbed as the "Cakewalk Version", (V 3.0, which will be released free automatically to all V2.21 users), will use 6 bytes per note, but will allow direct "recording" from the keyboard, simultaneous record and playback, recording of MIDI signals from another, (non-TI), computer's MIDI output, plus possibly note velocity manipulation. Note velocity is controlling the individual volume of each note, as is found on more expensive, (\$1,000US and up), keyboards. Also, the Cakewalk MIDI Master will eliminate the need to use PC Transfer to port IBM MIDI Cakewalk files to a TI.

Currently, MIDI Master allows for up to 127 instruments, and when used in a system which has four RS-232 ports, (using two TI serial cards), with four levels of devices, for a maximum of sixteen MIDI devices. This makes possible the establishment of a MIDI network, all linked by and communicating through the MIDI language interface.

For software writers, Maksimik has written a number of Extended BASIC programmer routines. This would allow a program to teach music or chords on a TI or Geneve, equipped with a MIDI Master interface.

Because of the greater memory required for the six-byte-per-note, a decision may have to be made as to which memory expansion device to support, (eg GRAM Kracker, Supercart, RAMBO version of the Horizon RAM disk, etc.). Work is underway to convert these routines to Myarc Advanced BASIC, which will automatically give the user more program memory space.

For the musician, MIDI Master at \$50.00 US. is a bargain.

Also at the MUG Conference:

I was treated to a demo and given a copy of an article, by Harold C. Hoyt Jr. of a modification to the TI console to make access of the Function and Control switches, through single switch actuation, of a toggle switch added to the console.

At the L. L. Conner table, I was shown a German "GROM (sic)" device, which can even dump and load MBX carts, except for baseball. Gary bought this device at the end of the day.

Also shown by Conner, was an Australian diagnostic device, that permits checking and recording all RAM, ROM and/or GROM and then use the recorded data as a baseline for comparison, so that a defective console or cartridge is compared to the data of a good reference. The user will be told what RAM, ROM or GROM should be replaced.

Another device was HAMSOF for the TI-99, which can read CW from a short wave receiver, and translate the code to ASCII for display on the screen or to a printer. I bought one of the two of these devices AKA as RF DATA Communications Modem. I hope to give a demo of the HAMSOF unit.

I also bought an incomplete MBX system, which was missing the rotate pot on the joystick, as well as the microphone and power supply.

New Digitizer for 9640:

I spoke with Beery Miller, who said he is working on a 9640 digitizer, which will piggyback onto the Geneve's 9938 Video Processor Chip a 9958 and circuit.

Asgard's Reflections:

Due to an untimely demise of Chris Bobbit's NEC Laser Printer, Asgard's product and news magazine was put on hold. Chris told me he plans to soon bring his readership up-to-date, with the next issue.

LOGO Tutorial Package:

Eunice Spooner was kind enough to make available her LOGO Tutorial Package for only \$10.00. The price pays for a VHS Tape with six one-hour lessons, which covers the Turtle commands, variables, plus music, (on TI LOGO II), and sprites. Also included, was a disk of LOGO procedures shown on the tape. I hope to add this to our library, as well.

(CONTINUED ON PAGE 5)

a little BIT of math
by: Dan Eicher

editor's note: A BIT is made from the words: Binary digIT. Binary is the 1s & 0s representation of Hexadecimal numbers. You will see the "greater than" sign used in TI documents to denote Hexidecimal numbers. ie: >0A The digits 1 thru 9 are the same in Hexidecimal or decimal numbers.

A decimal number from 0 to 15 is encoded into 1 byte, (4 bits) in this form:

The DECIMAL value of bits in a byte is 8421
so the bit value of Hex 0 or

and	>0 = 0000 (no bit on at all)	= 00 dec.
"	>1 = 0001 (1 bit only)	= 01 "
"	>2 = 0010 (2 bit only)	= 02 "
"	>3 = 0011 (1 bit & 2 bit added)	= 03 "
"	>4 = 0100 (4 bit only)	= 04 "
"	>5 = 0101 (4 bit & 1 bit added)	= 05 "
"	>6 = 0110 (4 bit & 2 bit added)	= 06 "
"	>7 = 0111 (4, 2, & 1 bit added)	= 07 "
"	>8 = 1000 (8 bit only)	= 08 "
"	>9 = 1001 (8 bit & 1 bit added)	= 09 "
"	>A = 1010 (8 bit & 2 bit added)	= 10 "
"	>B = 1011 (8, 2, & 1 bit added)	= 11 "
"	>C = 1100 (8 bit & 4 bit added)	= 12 "
"	>D = 1101 (8, 4, & 1 bit added)	= 13 "
"	>E = 1110 (8, 4, & 2 bit added)	= 14 "
"	>F = 1111 (8, 4, 2, & 1 bit added)	= 15 dec.

To really understand how computers work the first key element that must understood is Boolean Algebra. An easier way of thinking of this is as TRUTH tables.

And Table	Or Table	Exclusive or (XOR)	Not Or (NOR)	Not)
1 and 1 = 1	1 or 1 = 1	0 XOR 0 = 0	0 NOR 0 = 1	0 NA
1 and 0 = 0	0 or 1 = 1	1 XOR 0 = 1	1 NOR 0 = 0	1 NA
0 and 1 = 0	1 or 0 = 1	0 XOR 1 = 1	0 NOR 1 = 0	0 NA
0 and 0 = 0	0 or 0 = 0	1 XOR 1 = 0	1 NOR 1 = 0	1 NA

Examples:

00111010	00111010	00111010	00111010	0011
01011100	01011100	01011100	01011100	0101
00011000	01111110	01100110	10000000	1110

For the sake of terminology, lets say a 1 is true or positive and 0 is negative or false. This is how the chips in our computers determine what is going on ... a negative voltage level means a negative bit and a positive voltage level means a positive bit.

Remember 8 bits make a byte, 2 bytes make a word. The ability of a single assembly instruction to operate on 16 bits (a word) at a time is what makes our machine a true 16 bit computer. This separates it from earlier technology like the 6502 or the Z-80, these cpu's moved data around the computer 8 bits (a byte) at a time.

The last two logical operators Nor and Nand are used far more commonly in electrical engineering than in programming.

At this point you are probable wondering "Ya.. So whats the big deal, how is this going to help me write better programs?"

Well one of the major uses for this type of instructions are in setting "flags". A flag is an indicator to your program of a condition that can be true or false. Some possable uses would be to save the configuration of the machine your program is running on in a single byte instead of wasting memory.

In one byte you could hold all the following information:

- (bit) 1 If = 1 then color monitor, else adjust colors for black and white.
- (bit) 2 If = 1 then disk system, else assume cassette and do not try to save high score.
- (bit) 3 If = 1 then system has a printer, give option to output to printer else prepare all output for screen only.
- (bit) 4 If = 1 then speech synthesizer is attached, use speech

If think you get the idea how, then the use of flags can save an enormous amount memory if used properly. This is especially important in a machine like ours. In a day when most computers are counting memory by the Megabyte (thats thousands of Kilobytes which is, in turn thousands of bytes).

1 Meg = 1000K = 10,000 Bytes

One last bit of arcane knowledge that you should at least have a passing knowledge of is how to get the "Twos Compliment" of a number.

Basically the twos compliment of a number is how a computer distinguishes between a positive and a negative number, the computer must to do this internally before subtracting two numbers, here is how it is done.

(editors note: Computers do NOT subtract, but add the COMPLIMENT of the subtrahend to find the difference.)

Lets say you have the number 53 thats 00110101 in binary (>35 = 53 dec) and you want to subtract 26 thats 00011010 in binary. (>1A = 26 dec)

First the computer must compliment 26 and heres how its done:

first you take the number 26 =====>	00011010 (1A hex = 26 dec)
change all 0 to 1 and all 1 to 0=====>	11100101 (E5 hex)
add 1 (trust me here)----->	1
the complimented number is =====>	11100110 (E6 hex)

NOW to "subtract" the computers:

Take 53----->	00110101 (35 hex = 53 dec)
ADD 26's compliment----->	11100110 (E6 hex)
The answer is ----->	100011011 (1B hex = 27 dec)

Since this is BYTE arithmetic, the 9th digit goes in the bit bucket leaving only 00011011. Thats 27 decimal, which is the result if one subtracts 26 from 53.

(CONTINUED FROM PAGE 3)

Conclusions:

The MUG Conference succeeds, because of the uncounted hours of planning and preparation on the part of Charles Good and the rest of the Lima users group. It gives a platform for various TI groups to openly exchange thoughts and ideas on our system. Though commercial vendors are present, the Conference's appeal is that it concentrates on the user group and the group's influence upon the community. Group problems are discussed, software and hardware needs are addressed, in a casual atmosphere, which belies the avid devotion to the most famous orphan, since Annie. Every Tier should make at least one pilgrimage to this Mecca of the 99/4A.

-Steve Mickelson
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15 Kersdale Ave.
Toronto, Ont., M6M 1C9
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The RAVE PS/2 Expansion Box:
A RAVE Review (sorry, couldn't resist)
by
Dave Ratcliffe, Harrisburg, Pa.
=====

At the 1990 TICOFF show, lots of people crowded around the RAVE99 table to get a 'first' look at the proposed RAVE PE/2 expansion box for the TI-99 and Geneve computers. What we saw was a prototype, set up to run a TI-99 and what a wonderful sight it was. NO console, (Rave Keyboard Interface and computer mounted INSIDE the box), hard drive (Myarc HFDC) AND quiet! Several people ordered then and my order was submitted in April. Even though I did NOT receive the unit till January 1991, I am still VERY satisfied. Why? Because every step of the way, Rave's owner, John McDevitt, kept me informed of progress and setbacks. I knew going in that I was buying an as yet unfinished product and the manufacturers openness through the whole process was both refreshing and welcomed. This is the second product I've purchased from Rave (keyboard interface was the first) and I have yet to be disappointed. Now on to the 'official' review..

There are 2 versions of the RAVE PS/2, the A and the B series. I purchased the A series, designed for the Geneve computer. The B version allows the use of both the TI/99 AND Geneve computers IN THE SAME BOX, or just the TI alone. Since mine is for a Geneve, the following description is of the PS/2-A version except where noted:

The cabinet is made by Magitronics and contains a 200 watt fully regulated power supply. There is room for 3 5.25" 1/2-height drives and 1 3.5" floppy drive all in externally accessible drive bays. The 3.5 floppy space is NOT available if the Rave keyboard interface is used (PS/2-B version). The 5.25" area CAN hold 1 full height and 1 1/2 height if desired. Additionally, there is internal space for a vertically mounted 3.5" hard drive behind the front panel and adjacent to the 5.25" bay. Let me assure you, the power

supply is fully capable of running ALL of these devices as well as the CPU and all related cards. While the power supply contains a cooling fan, RAVE saw fit to install a second fan in front of the card rack that moves air directly across the expansion cards providing extra cooling capacity.

The card rack is a well designed unit and even includes a removable section to make room for the internal 3.5" hard drive. The backplane shows good design and workmanship and all jumpers are laid out well with easy access. 1 bad note here, while the documentation refers to numbered pins at the jumper selection points, NO numbers are printed on the board. After a quick call to John I found out that the pin closest to the front at ALL jumper locations is pin #1. For the Geneve, there is a small wiring harness that requires a bit of soldering to install. It will connect the front panel reset switch to the Geneve card to provide a HARD reset when needed. An additional connection provides fo use of the front panel KEYLOCK switch.

The backplane comes with 5 16 bit slots (#'s 1, 2, 6, 7 and 8) and 3 8 bit slots (#'s 3, 4 and 5). There is a reason for this. You have the option of removing your cards from the clamshells or leaving them in. If you choose the latter, you'll need to use slots 3, 4 and 5 since the clamshells have no opening for the extra connectors in the other positions. those 3 positions CAN be made into 16 bit if desired. I purchased the extra connectors with my unit but have not installed them yet. One note here. At present, there exists no hardware to utilize the full 16 bit backplane. This is provided as a possible expansion route for the future.

The front panel contains 2 push button switches, 1 keylock switch and 3 LEDs. The 2 buttons are RESET (obvious purpose) and TURBO (inactive with the Geneve, used to PAUSE the CPU in the TI version). The keyswitch is used to disable the system when locked. 2

keys are provided with the unit. The TURBO LED (yellow) indicates bus activity. Since all cards are in the BACK of the box, there is no way to see their respective activity lights. This LED is a suitable replacement. The HDD LED (red) indicates hard drive activity. A pigtail with plug is provided to connect this to your hard drive. The POWER LED (green) serves an obvious purpose. The power switch is at the lower right front corner of the box.

The rear apron contains the openings for the card rack, a jack for the AC line, a jack for running power to a monitor, a 110/220 VAC selector switch, the power supply cooling fan and 2 knockouts for DB-25 and DB-9 connectors (not used).

With the exception of the front panel, the ENTIRE box is heavy gauge steel and VERY rugged. there are 4 rubber feet attached to the bottom. Dimensions of the entire unit are 7" H x 15" W x 16 1/4" D.

Many existing expansion cards will have to be modified for use in the RAVE expansion box but the mod is VERY simple and requires only 2 solder joints per card and a bit of wire. Here's the explanation. The TI Pbox was a power monster. It put out WELL over the 12 volts needed by the cards. In order to keep the cards from self-destructing, the manufacturers installed voltage regulators on their cards to hold the incoming voltage at 12. The excess voltage was bled off as heat. The RAVE box uses a tightly regulated supply that requires no such extra regulation. Extra regulators can, in fact, cause minor problems. So, a jumper is installed across the existing regulator to take it 'out-of-circuit'. Cards modified this way CANNOT BE USED IN A TI PBOX UNTIL THE MOD IS REMOVED! Removal, however, is as simple as cutting a wire. The manual contains adequate descriptions of how to do the mod and what to look for as well as a list of cards that DO require the change.

Now comes the critique. Internally,

the unit is well laid out with plenty of room for running cables and maneuvering. Airflow is adequate for keeping things cool. The box, while a bit large compared to the TI Pbox, is attractive. My documentation for the unit is admittedly preliminary and John tells me it will be improved so I'll skip over that.

I have only one nit to pick with RAVE. The manual recommends the removal of the clamshells around cards to help them remain cool. Unfortunately, the clamshells are also used to hold the cards in place in the card rack. Without the clamshell, the cards tend to wobble in the edge connectors. With nothing inside the cover to hold the cards in place and nothing to keep them from moving sideways, it is possible for a card to come partially out of the socket with disastrous results. This is more of a danger to cards with cables connecting them to the outside world, like Geneves and serial cards. My solution was to glue 2 strips of resilient foam inside the cabinet cover, OVER the edge connectors and perpendicular to the cards. This effectively HOLDS the cards in their sockets and keeps them from moving sideways as well. Since I set my PBox up in a 'Tower' configuration, this modification was doubly necessary. I sent John a sample of the material I used in hopes that he will add it to future versions.

I have been asked how much I paid. My answer is that it is no longer a valid price. I paid for the unit in April of '90. SEVERAL modifications and upgrades have since been made to the initial design that have changed the price upwards. Those of us who pre-paid were locked in with no further charges. For an accurate CURRENT price, contact:

RAVE99 Co.
112 Rambling Road,
Vernon Ct 06066

or Call John McDevitt AFTER 7pm at
(203)871-7824

Finally, the grade. I can't grade the

(CONTINUED ON PAGE 9)

From the Pittsburgh User's Group, Gary Taylor writes...

Texas Instruments still cares! Texas Instruments still provides a great service to the TI-99/4A user by providing repair service for our computers: I called Texas Instruments at 1-800-TI-CARES (1-800-842-2737) and asked about their repair service. I was told that they still repair all the equipment manufactured by them for fixed prices and if it could not be fixed they would replace it with on hand stock. The following is the prices that I received today, March 15, 1991 to repair the equipment:

EQUIPMENT	PRICE	S&H
TI-99/4A console	45.00	6
Peripheral Expansion Box	70.00	6
RS232 card	33.00	6
32K card	44.00	1
Disk controller card	44.00	6
Flex cable (fire hose)	25.95	5
SSSD disk drive	80.00	6
P-code card	33.00	6
Speech Synthesizer	30.00	5
TV modulator	12.95	4
Joy Sticks	9.75	3
Power transformer	10.00	3

They also require state sales tax for whichever state you are ordering from. They accept Master Charge, Visa, and personal checks. You can send your broken equipment with the payment to: Texas Instruments

ATTN: Repair Center
2305 North University Ave.
Lubbock, Texas 79408

They will also repair CC-40 equipment at the following rates:

EQUIPMENT	PRICE	S&H
CC-40	60.00	6
Printer/plotter	55.00	6
Printer 80	55.00	6
RS232	33.00	6
Modem	33.00	6

WP♦

Reprint From WEST PENN 99'ER CLUB

Magazines! --

Wow, you can pick up a computer magazine on the newsstand that carries the TI! Vulcan's computer Monthly, which sells for \$1.95 at the newsstand, or \$15.95 subscription rate for 12 issues, has been carrying the TI for about six to eight months. Berry Traver has a column in the Classic Computer section dedicated to the TI Computer. It is an excellent source of information about the TI community. The magazine also carries ads similar to the Computer Shopper...so you may find some "best

buys" in there too. They also have a computer BBS: 1-205-655-4059 or 1-205-655-4063.

Reprint From Kawartha 99'ers

EXPENSIVE MODEMS

Are modems going up in price??? Hayes won a patent case against Everex Systems, Omnitel and VenTel. Three hundred other companies may have to pay royalty fees to Hayes. Everex, Omnitel and VenTel are expected to appeal.

John Baal

(CONTINUED FROM PAGE 7)

documentation properly since what I received was VERY preliminary. On that basis, I'd say:

Documentation - B+

On the FS/2-A, taking into account workmanship and functionality, I'll say:

Product - A

On RAVE's customer relations, counting willingness to communicate, honesty and willingness to listen, a definite:

Customer Relations - A+

Do I like what I got? Yes
Would I recommend it to others? Yes
Was it worth the wait? YES!

*>> Dave <<<

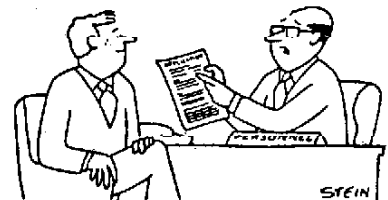
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This newsletter is brought to you through the efforts of the officers and members of the HOOSIER USERS GROUP. Every member is encouraged to submit articles.

If you have an article you would like to share with the other members mail it to:

Bryant Pedigo
6461 N. Sherman Drive
Indianapolis, IN 46220

Opinions expressed are those of the author and not necessarily those of the HOOSIER USERS GROUP.



"There must be some mistake. Where it says 'zip,' you've written 'plenty.'"

LITTLE TIPS AND TRICKS FROM THE TI EXPRESS

Funnelwebs Editor-

1. To Change screen color hit control and J at the same time.
2. Control and . changes the letter under the cursor to lower case.
3. Control and ; changes the letter under the cursor to UPPER CASE. 4. Control and A move screen down one screen.
5. Control and B moves screen bak one screen.
6. Control U and then Shift J puts in a linefeed. Control U return to original mode.
7. Control M can be used for a carriage return
8. Control C return you to top prompt line.
9. Control E S D I H J also act as arrow keys.
10. Control Z acts as the Tab.
11. Control T acts as a back tab.
- 12 Control G places a blank line above the line you are on.
13. Control L places cursor in the top left corner of screen.
14. Control P places a new page mark.
15. When using Show Directory using the arrow keys moves the little lines up and down 1 file hitting the space bar places a carat besides the and marks it. Then just hit enter and LF for load file the name you will now appear.

Formatter Tips

16. When at the prompt for a file name hit Function 7 for a disk directory. Then proceed as above (except no carat) Control = brings you back to the Formatter now hit Function D and the marked file will appear.

Just a Tip

17. When at the TI Writer menu or E/A menu Function 9 allows you to exit Funnelweb in a grace ful manner. The error checking allows you to be sure that htis is what you want to do.

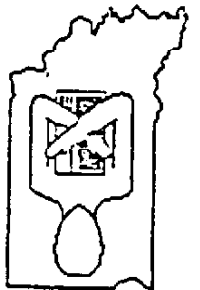
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JULY 1991
TIME DATED

Dan H. Eicher
P.O. Box 605
Mooreville, IN 46158

May 1992

Forwarding and Address
Correction Requested

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APPLICATION FOR MEMBERSHIP

Below you will find an application for membership to the Hoosier Users Group. Active membership entitles you to the Newsletter, up and download on the HUGbbs, attendance and voting rights at regular club meetings, access to the HUGger Library of Programs, special club activities and special guest speakers for one year.

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