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THE HUGgers
HOOSIER USERS GROUP
People Helping People

OFFICER'S CORNER

For those of you that missed the September meeting, you really missed "A" meeting. We had one of the largest meetings we have had in at least two years. Bud Mills demonstrated all of his wares, they include the Horizon (both for the TI Geneve), the P-Gram+ and the Memex. Bud talked and answered questions for a solid 3 hours! Bud even managed to fix one members Horizon ram disk just by looking at it! Our next meeting should feature well known hardware hacker Jeff White, giving a talk on the topic of his choice.

I forgot to mention the club picnic this summer. This was also one of best. We held this years picnic at Bryant Pedigo's house as a combined picnic/goodbye party for Carl Clark, hopefully by the time you read this Carl will be settled in his new home in Alaska. Carl plans on starting the first Alaskan TI users group. Carl should have little problem with this since he can run a family and was our vice president for several years. Go get 'em Carl!!!

Other TI things:

The TI console has 3 major hardware weak points, they are:

1. The 9901 chip has to work to hard and it is directly connected to the joystick port so it is very vulnerable to damage.
2. The I/O port, there are really just to many signals, being driven to far to have a great deal of reliability, except under the best of conditions (ie. A clean, tight, stable connections).
3. The Grom port, this unit has the same problem as the I/O port, except the chances of it developing a problem our even higher than I/O port because of the amount of mechanical wear and useage.

You can not really do much about problems one and two above, but number three is fixable. You can buy a new grom port connector from TI, but it is the same tin plated connector as you already have. You can buy a gold plated connector, with double leafs, and install it (you must do some soldering) in your console. I did this with one of my consoles and random lock ups stoped. If you would be interested in ordering one of these connectors, see me at the meeting, they will be four dollars a piece. If there is enough interest we can have a meeting were we all work together and UPGRADE our consoles with this little device.

One of the neat programs that is available for the Geneve is HyperCopy. This utility will allow you to set the skew and interlace of a disk. By setting the skew and interlace you can create a disk the is optimised for your system. There are two ways to look at optimization, one is the disk is formatted in a way that allows the best mean average on read and writes or you can optimize a disk for just read or write operations. Having a disk that is optimized for reads only can be very handy. Wouldn't you like to have your boot or Funnelweb disk load up twice as fast or for that matter any program disk, after all don't you usually store your data on a seperate disk. The good news for TI owners is: Even if you don't have a Geneve you can use a disk that has been optimized, all you have to do is have a Geneve owner initialize the disk for you!

I hope to see YOU at the next meeting. Please remember our motto...People Helping People. None of us is as smart as all of us.

Thanks, dan

GENEVE COMMENTARY

BY ROGER PRICE



I KEEP READING ABOUT THOSE DISASTER PRONE GENEVE'S. FOR ME THE GENEVE IS A STEP UP FROM THE TI/4A. LET ME LIST SOME OF THE REASONS WHY I SAY THIS. FIRST THE PRICE HAS DROPPED TO AROUND THE \$400 RANGE. WHAT DO WE GET? THEY NOW GIVE THE OPTIONAL KEYBOARD AS STANDARD. THIS IS A \$225 VALUE WHEN COMPARED WITH ADDING THE RAVE KEYBOARD TO THE TI/4A. FOR MEMORY YOU GET 128K FOR THE TI GPL INTERPETER. COMPARED TO A 32K CARD THIS WOULD BE A \$100 VALUE. DEPENDING UPON WHICH VERSION OF DOS, YOU HAVE FROM 96K TO 128K OF MEMORY TO USE FOR A RAM DISK. THIS WOULD BE A VALUE OF \$145 COMPARED TO 92K RAM DISK FROM BUD MILLS.

SOME PEOPLE MAY ARGUE WITH ME ON THE NEXT POINT. IF YOU HAVE A GOOD TV, YOU CAN USE THE INCLUDED PROGRAM, MYWORD IN THE 80 COLUMN MODE. I HAVE TWO TV'S THAT WILL WORK THIS WAY AND 1 TV THAT WON'T. YOU CAN ALSO USE THE 80 COLUMN VERSION OF FUNNELWEB. KEEP IN MIND I AM TALKING ABOUT USING AN ORDINARY TV AND THE TI MODULATOR. YOU DO NOT HAVE TO BUY A MONITOR FOR THE GENEVE TO USE 80 COL.

O.K. NOW ADD A \$250 VALUE FOR THE 80 COLUMN MODE. THAT IS WHAT AN 80 COLUMN CARD WOULD RUN. NEXT WE HAVE A BUILT IN GRAM CRACKER DEAL WHERE WE CAN PUT ALL OF OUR CARTRIDGE GAMES ON DISK. THESE DISKS CAN BE EASILY COPIED WITH A FILE OR DISK COPIER FOR BACKUPS. I DON'T KNOW WHAT ELSE A GRAM CRACKER DOES BUT WE WILL ADD \$180 FOR THIS VALUE.



ONE OF THE BUG-A-BOOS OF THE TI/4A IS THAT THE COMPUTER SOMETIMES GOES ZIP GONE WHEN USED IN THE EXTENDED BASIC MODE. FOR THIS REASON, I LIKE MANY OTHERS GOT USED TO LOADING EVERYTHING POSSIBLE IN THE EDITOR/ASSEMBLER LOADER WHEN POSSIBLE. HAVE NO FEAR, EXTENDED BASIC WILL NOT GO ZIP IN THE GENEVE. I FIND EXTENDED BASIC TO BE VERY RELIABLE TO SUCH A POINT THAT I NEVER THINK ABOUT THIS POINT ANY MORE. WE ALSO HAVE 5 SPEEDS TO SELECT FROM FOR EXTENDED BASIC WITH ONE SPEED THAT I BELIEVE IS SLIGHTLY SLOWER THAN THAT WITH THE TI/4A. THIS MIGHT GIVE YOU AN EDGE ON SOME OF THOSE HARD GAMES. WHEN I CONSIDER THAT I PAID \$299 FOR THE TI/4A AND \$400 TODAY IS PROBLY LESS NOW THAN \$299 THEN. LETS ADD UP THE VALUE.

RAVE 99 KEYBOARD FOR TI	\$225		
32K EXPANSION (128K)	\$100	A 128K FOUNDATION CARD WAS	
92K RAM DISK (96K)	\$145	INTRODUCED AT-	\$220
GRAM CRACKER	\$180		
80 COLUMN CARD	\$175?		

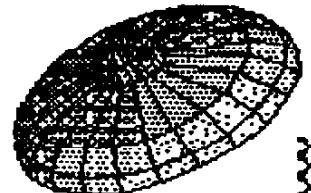
TOTAL TO ADD TO TI/4A \$825 + COST OF TI/99 4A.

I JUST THOUGHT OF ONE MORE ITEM. I BURNED UP ONE TI/994A POWER PACK. WITH THE GENEVE YOU DON'T NEED TO USE THIS ITEM. NOW YOU CAN SAVE IT FOR USE OF YOUR TI/4A.

SO, \$825 WORTH OF FEATURES FOR ONLY \$400

WE ALSO HAVE A NEW COMPUTER THAT CAN BE SERVICED IF NECESSARY AND HAS PROGRAMS THAT WILL NOT FIT IN THE MEMORY OF THE TI/4A.

(PAGE PRO , GRAPHICS TGA)



CHEAP SURGE PROTECTION
by: Dan Eicher

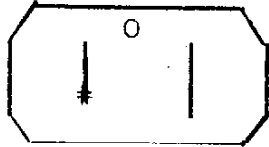
Computer chips are funny things, you give them to little power and they don't work, or you give them to much power and they don't work for good.

The sentence above explains in a nut shell the reason why the whole surge suppressor/Uninterruptable Power Supply (UPS) industry exists. Surge Suppressors can be purchased for anywhere between 15 and a 150 dollars.

If you picked up your TI for 30 dollars at either a close out sale or a yard sale (or even better, you got it second hand for free!), it is real hard to justify paying out this kind of money to protect your equipment. In this article I will tell you how for 4 dollars you can at least get a little protection.

The key to this project is to buy TWO radio shack MOV's (Metal- Oxide Varistors), RS# 276-568 @ 1.99. You should have all your computer equipment on one power strip and power up everything at the same time, I have found this works best for me and most other people.

As you look into the typical power strip (or wall outlet you will see something similar to this:



One off the slots carries a negative charge and the other a positive charge, for most applications it doesn't matter, although on most new outlets and most new appliances both the connector and the receptical are keyed so you can only plug them in one way. The top 0 is ground.

Here is what you will need to do:

1. Unplug your power strip.
2. Disassemble your power strip.
3. Take a MOV and solder one leg to an outside wire, it doesn't matter if its the positive or negative side. Solder the other leg of the MOV to the ground pin. ***This should be done as close to the incoming cable as possible.***
4. Take the remaining MOV and solder it to the remaining outside wire. Solder the other leg of the MOV to the ground line.
5. Re-assemble your power strip.
6. Enjoy!

TI FAIRE WEEKEND

DON'T FORGET.....The Chicago II International World Faire will be held this year on November 3 at:

Holiday Inn Rolling Meadows
3505 Algonquin Rd
Rolling Meadows, IL 60008
708-259-5000

(room rates \$54 per room for TI Faire)

Admission is \$ 5.00 for non members of the Chicago Users Group & FREE to members.

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P-GRAM AND P-GRAM+

GRAM EMULATOR AND REAL TIME CLOCK

Designed by John Guion and Robert Jones / Produced by Horizon Computer / Distributed by Bud Mills Services

WHAT IS A P-GRAM? and WHAT IS A P-GRAM+?

The P-GRAM is a card for the Peripheral Expansion System that adds 72K of battery-backed memory to the TI-99/4A (40K GRAM, 16K bank switched module RAM, and 16K bank switched DSF RAM). This memory is added in place of the ROM memory used for module software. The P-GRAM allows you to save modules to disk and then load them into the P-GRAM's memory to be used. Once a module has been saved to disk and loaded into the P-GRAM, it won't be needed again. The computer cannot tell the difference between a module loaded into the P-GRAM and one inserted into the computer. Since the P-GRAM's memory is maintained by battery, the contents of the P-GRAM will remain even if the computer is turned off. THE P-GRAM+ ADDS 120k of GRAM to the P-GRAM to enable the VOLUME MODULE LIBRARY and ADDS three pages of TI Title Screens.

The real-time clock option may be purchased at an extra cost and provides the computer with time, date, and day-of-the week information. The optional clock is compatible with software written for EITHER the MBP clock card or CorComps Triple Tech and 9900 Stand Alone clocks, thus providing compatibility with a wide range of existing clock-based software.

WHAT CAN THE P-GRAM DO FOR ME?

The P-GRAM may be used to emulate almost any module (including Extended BASIC, Editor/Assembler, Multiplan, TI-Writer, and hundreds of others). This not only provides a backup of each module you currently own, but puts an end to frustrating problems caused by "flaky" modules and worn module ports.

The software required to save and load modules is part of the P-GRAM's operating system and is loaded when the card is installed. A few keystrokes are all that are needed to call up a menu-driven program that allows you to use any P-GRAM feature.

The files created when saving modules to disk for use with the P-GRAM are compatible with files saved by the Gram Kracker and Cart Saver programs. Thus, modified modules used with other devices can be used on the P-GRAM.

The P-GRAM+ has three additional pages of GRAM (five 8k banks per page) that allow you to store many GRAM based modules in addition to the 72k P-GRAM capacity. You can also use J.P. Hodie's "GRAM PACKER" to convert many of your favorite programs into GPL format and "stack" them into the P-GRAM+ for "instant access" from the TI Title screen. John Johnson's BOOT ver 12 will run from the P-GRAM+ as well as from any other device.

Since the P-GRAM uses RAM and GRAM memory to store modules, it can also be used to modify them using an advanced memory editor that is part of the P-GRAM's operating system. This allows bugs to be fixed (such as printer and RAM-DISK incompatibilities) and new features can be added or software can be customized to fit your specific needs. YOU no longer have to be satisfied with whatever was programmed into the original module. The P-GRAM allows you to change and improve things that you never could before.

The P-GRAM can be used just like a "Super Cart" module (an Editor/Assembler module with 8K of RAM). This allows the user to run the growing number of programs requiring this type of module. However, the P-GRAM's memory is not limited to running modules. The memory can be used for an application requiring RAM or GRAM memory. A full 56K of memory is available for use in the module memory space.

The built-in memory editor allows you to inspect or modify any memory accessible by the computer. Although the memory editor is designed primarily for making changes to modules, it can be used to access memory in any part of the system. The memory editor allows you to view, alter, move, fill, print, search, or dump to disk any memory you wish and also provides control over the CPU interface. The memory editor is simple to use, even for people who have no experience with such programs. Each function is documented and easily accessed using function keys.

The optional real-time clock allows your computer to easily access time and date information for use by a variety of programs. Since the P-GRAM's clock is compatible with both the MSP and CorComp clock devices you can use any existing program requiring a clock device as well as create new ones. The P-GRAM clock is easy to access through any programming language and has built-in software to set the clock.

DO I HAVE TO BE AN "EXPERT" TO USE THE P-GRAM?

The P-GRAM is designed to be easy for anyone to use, regardless of prior computing experience. All software is menu-driven and user-friendly. Since the P-GRAM is completely software-controlled and uses no switches, the user only needs to follow the simple prompts to use any P-GRAM feature. The detailed operating manual describes step-by-step procedures for installing and using the P-GRAM and explains how to use every function of the P-GRAM card.

Of course, the P-GRAM is not limited by its ease of use. The operating manual includes an extensive technical data section with complete information on accessing the P-GRAM's features through BASIC or assembly language and includes sample source listings. The method of operation and control of the card is discussed in detail along with helpful advice for writing custom utilities. Additionally, complete source code for the operation system and its loader (including the memory editor) are provided on disk with the P-GRAM.

HOW CAN I GET A P-GRAM?

The P-GRAM is available with or without the real-time clock and may be purchased in kit form or fully assembled. The kit comes complete with circuit board, all parts, and an illustrated instruction guide. Assembled cards are fully tested and include a 6-month warranty. Kits and completed cards may be ordered from:

Bud Mills Services
166 Dartmouth Dr
Toledo, OH 43614

Complete P-GRAM (72k) kit = \$150.00 Fully assembled = \$180.00 ADD \$20.00 for the CLOCK option.

Complete P-GRAM+ 192k kit = \$250.00 Fully assembled = \$280.00 ADD \$20.00 for the CLOCK option.

The P-GRAM requires a TI-99/4A, Peripheral Expansion System (P-Box), J2K, Disk Drive and Editor/Assembler (used for loading the operating system).

5% discount on orders of five (5) units or more. OHIO RESIDENTS add 6% sales tax. U.S. and Canada shipping included in price. Other foreign orders add \$5.00 surface or \$15.00 airmail.

Visa, MC, or American Express add 10%. Call 1-800-736-4951 (Disk Only Software) for credit card orders. Credit card orders may also be called in to BUD MILLS SERVICES on (419) 385-5946, we still add the 10 cc surcharge.

IMPORTANT: The P-GRAM does not currently function with QI (Quality Improved) consoles. If you have a tan-colored console, look into the I/O port on the right side of computer. If the connector is surrounded by silver "fingers", the console is a QI unit and will not function properly with the P-GRAM. If the connector is surrounded by gold "fingers", it is not a QI unit and is compatible with the P-GRAM. Black and silver consoles are compatible with the P-GRAM.

DIAGNOSTICS Roundup
by: Dan Eicher

Diagnostic softwares has always been a special area of interest to me. What I would like to do in this article is tell you about some of the diagnostic software that is available for Corcomp, Myarc and T.I. Products.

TI DIAGNOSTICS MODULE: This module will test all the function of the basic console. It is a grom only cartridge. What is unique about this cartridge is a mysterious test function that say it is for service personal only and is to be used with signature analysis equipment. If you are handy with a soldering iron this product is still available. You will need to call TI parts and order grom number (), this grom chip can be piggy backed with another grom module and selected with a single pull double throw switch.

TI DISK BASED DIAGNOSTICS: This was literally a gift from TI to all 'recognized' user groups. To run this module you will need a known good Mini-Mem, Extended Basic and Console. This programs main use comes in testing all of your add on equipment. (Speech, Memory Expansion, Disk Controller, RS-232 AND P-CODE card). In order to test the rs-232 and PIO function you will need to build two loop back plugs (schematics for doing this is included in the accompanying documentation). The cost of this package is free from your local users group.

MAIN FRAME RAM TRAP: This module was designed by TI for use in house and was never released to the public. This module had several LED's and switches on it. The module was made to be used with a debugger chart by service technicians, needless to say it was slick and easy to users.

POWER UP TEST BOARD: Another of TI's unreleased legends. This board was designed to sit in a modified P-box with a modified console and a special debugger cartridge. . You hooked the console and/or cards to be tested in to this set-up. Upon compleation of the test this modified setup would print on a printer what it found wrong with the equipment under test.

CORCOMP DIAGNOSTIC MODULE: This module was written by Galen Reed for Corcomp with this module you can test out system ram, the RS-232 port (both TI and Corcomp) and your disk controller/drive (TI and Corcomp). This is program is about the same as TI diagnostics except on a cartridge. The major pluses this cartridge has over the TI disk based software is the fact it is in a cartridge. With the TI's disk based diagnostic software you must be able to power up in to extended basic and load a program from disk, if you can do this your system is probably working O.K. anyway. The other major advantage of this cartridge over TI's software is the fact you can test both TI and Corcomp Products.

ADVANCED DIAGNOSTICS: This program is by Millers Graphics. Like any product from this company the program and documentation has the stamp of professionalism from top to bottom. The features of this program that are of the greatest interest to the debugger are:

1. The ability to try various head step times, adjusted from software.
2. The ability to step to any track, even on 80 track drives once advanced diagnostics is loaded it total masks out the on-board DSR of the disk controller.
3. Show Motor Speed - This program will show you how fast you drive is turning and will show you the acceptable high and low limits.
4. Memory Test - This will test the VDP, Scratch Pad and CPU memory. It is probably the most comprehensive memory test available.

Larry Conners has a few of these left and you may be able to get it from other sources.

OTHERS:

Gramulator Diagnostics: Mirak Van Or continuing support for his Gramulator has released a new product that will test the memory in your Gramulator and report all the options that the software finds installed in the Gramulator. Source code is included with this program (anybody game for re-writing it to work with the GramCracker? Hats of to Mark for his continued support. Available from Cadd Electronics.

RS-232 TEST: This program written by Ron Hubbles of Florida will do a test on TI RS-232's. What is unique about this program is it doesn't use a loop back plug. Instead Ron has taken advantage of some of the test features built into the 9901. This handy, because the 9901 on RS-232 and in the console are the first chips to suspect if there is trouble.

MYARC: All the programs listed above will NOT run on Myarc equipment. There are no complete packages for testing out Myarc quipment and very few to test individual sub systems.

BARRY BOONES SPEED TEST: This Program does the same thing for the Myarc controller that the speed check program (in Advanced Diagnostics) does for TI and Corcomp controllers. Unfortunately this program will not run with a Geneve.

Ron Walters Mem-Test: Ron original wrote this program to go with his Memex card. Ron was good enough to make it even more useful. This program will check not only Memex memory, but will also check the Geneve standard memnry. Unfortunately this program will not check the extended VDP memory available for the 9938 video display chip used in the Geneve. There are no programs that will check this memory, either for a Geneve or a Dijit or a Mechtronics card using the '38. This program is available on many bulliten boards.

Myarc Mem-test: This program is built into Myarcs 512K memory expansion card. It takes awhile if you have the full 512K. The program will report to you if it found a bad ram chip and if it did it will tell you in what bank.

SCAN-IT: While this is not a diagnostic program 'Per-say' it will quickly find a home in anybodys debugging tool box. What this program does is goes out and test every CRU address to see if a card is installed. If a card is installed it reads the header from the DSR found at that CRU and tries to make a positive id with those stored in its program. Third it will read a couple of bytes from the DSR it finds, write a test pattern and do a read; in this way it finds out if DSR is in ROM or RAM. Last all 3 fields (CRU address, make of the card and whether the #DSR is ROM or RAM) is displayed. This program is very handy for checking the actual CRU address your cards are currently setting at (like if you want to add a ram disk). Available for a fairware contribution to Stephen J. Tuorto.

Bud Mills Products: Bud provides many fine products for the TI community and for ever product he sends out you are provided with professional, comprehensive diagnostic software. Some of the products Bud offers are the P-Gram, Horizon ram disk and Memex card for the Geneve.

Sources:

TI Dealer Parts:	800-741-2265	Iex-Comp:	818-366-6631
Bud Mills:	419-385-5946	Myarc:	205-854-5843
Card Electronics:	603-895-0119	LL Conner Enterprise:	317-742-8146

Stephen J. Tuorto: 18-Chimney Lane, Bayshore, NY 11706

TI FAIRE WEEKEND
continued

The Faire will open the doors to the exhibits and seminars on Saturday at 9 AM CHICAGO TIME. There are seminars all day and there will be ALMOST every vender of TI hardware & software you ever heard of & some you haven't. This is a once a year chance to see an mind boggling display of TI "stuff" in one place and rub elbows (or talk to, if you'd rather) with the "movers & shakers" of the TI world. In all my trips to this event there have been only 2 people who seemed a little arrogant or rude. I think that is an amazing fact, and tribute to the closeness of the TI community as a whole.

There will be a dinner on Saturday night from 6 PM to 9:30 PM. Admission is \$15 per person. RSVP

For more information contact Hal Shanafield @ 708-864-8644 between 2 PM and 10 PM, or the CUG DDS 708-662-0162, or the CUG "Hot Line" 708-664-4304.
DIDN'T HAVE ENOUGH TIME TO BROWSE EVERYTHING AT CHICAGO?
NO PROBLEM !!

Just a few miles North on I-94 is the MILWAUKEE TI FAIRE. This years extravaganza is being held at:

QUALITY INN
5311 S. Howell Ave
Milwaukee, WI.

This is across from Mitchell Field Airport. The Faire is SUNDAY Nov 4 and will be from 9 AM to 5 PM.

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HIGH RES GRAPHICS

PART 2 HAND THE 99/4A



The Comparison Chart
TI 99/4A DRAWING PACKAGES

by Anne Rhein
(TI ARTIST PLUS! ADDED BY JK)

FUNCTION	JOYPAINT JoyPaint Pal	BITMAC	TIARTIST Artist Extras	GRAPHX	DRAW 'N PLOT	PAINT 'N PRINT + disk	SUPER SKETCH Skmate	MASTER PAINTER	DRAW A BIT Prnt-Bit	NORTON GRAPHIC PACK	TIARTIS PLUS! many
Program Focus	E,T	E,T	T,E,U	E,T	U,T,E	E	E,T	E	E,U	U	E,T,U
Requirements	Any	XB EA MM	Any	XB EA MM	XB	StdA1**	StdA1**	XB EA MM	XB	XB	Any
Ease of Use	6	3	5	5	4	4	6	2	2	1	5
Method of Operation	Icons Menus	Icons FctnKeys	Icons Menus	Menus Keys	Menus Keys	Keys	Menus	Icons FctnKeys	Menu FctnKeys	Menu Keys	Icons Menus Fl
Joystk Control	Required	Required	Optional	Required	Optional	No	No	No	Optional	No	Optiona
Cursr Speed Cnt	No	5 speeds	2 speeds	5 speeds	2 speeds	No	No	No	No		10 speeds
Brush Styles	7	9	8	1	1	32	9	4	1-pixel	3	8
Automatic Draw Functions	Lines rectngls ellipses	Lines Circles Rectngls	Line ray circles rectngls	Lines Ellipses	Lines	Line ray circles squares	Line ray rectngls	lines rays	lines rays arc	lines parabola ellipses	line ray arc cir rectngls
Fill Shade, Depth	Autofill 24 Patrn AirBrush	Manual Color Life	Autofill col/pat Yes	Semiauto color No	Semiauto Solid No	Semiauto Yes	Autofill col/pat Yes	No	Manual	No	Autofill 10colpat Yes
Reflections	No	No	Yes	No	No	Yes	No	No	No	No	Yes
Move, Copy	Yes	Yes	Yes	Yes	No	Yes	No	No	No	No	Yes
Flip, Hor/vert	Yes	H only	Yes	No	No	Yes	No	No	No	No	Yes
Rotate	90 deg	90 deg	Slides	No	No	Not**	No	No	No	No	Any /
Invert	Snapbits	Yes	Yes	No	No	Yes	No	No	No	No	Yes
Magnify, Reduce	Yes	Yes	Mgnify**	No	No	No	No	No	No	No	variable
Text handling Special fonts	Yes Yes	Yes No	Yes. Yes	Yes Yes	Yes No	Yes Yes	No No	No No	No	No No	Yes Yes
"Zoom" Mode	Fatpixel	No	Yes	Yes	No	Magnify	No	No	No	No	Yes
Scratchpad Mem ("Clipboard")	Cut and Paste	Store B. input	Instance Slides	Clipbrd	No	Yes	No	Symbols Store	Palette	No	Instance Slides
Use of Color	No	Full Use	Full Use	Full Use	Limited	20 colors	Full Use	Full Use	Full Use	No	Full Use
Slide Show	No	Yes	Not**	Not**	Yes	No	No	No	Yes	No	Yes
Undo	Yes	No	No	No	No	No	No	No	No	No	No
Spec. Features	Larger Mrk Spce Pat Edt	CoProcsr CrsrRprt Pic.Scri	Instance Custazie	Animate frm clip GridTool	9 Addl Commands for XB	PatrnEd Rainbow Colors	Touch Tablet		Redraw Connect- dots	Cassette version too!	variable- sizing Movies
Printer	Epson Axion	Epson TI 850/S	Most Printers	Epson	Epson	**Most Printers	Epson	Epson	Epson	**Most Printers	Most Printers
Screen Dumps	2 sizes 2 dnsty	Small SD Med. DD	Wide Ch Size,Den	2 sizes 2 dnsty	1 med	1 large NormDnst	1 large NormDnst	1 large NormDnst	2 sizes 2 dnst	No	3 sizes 2 dnst
Disk Catalog	Yes	No	Yes	No	No	No	No	No	No	No	Yes
File Convs Flr	Yes	No	Yes	Not**	Not**	Not**	Not**	No	Not**		Yes
F/Portability	Not at present	Limited	Easily	Prog Skl in Assen	Prog Skl in XB	No	No	No	Prog Skl in Assen	Easily to XB	Easily
Addl Support	Some	No	Lots	Lots	Some	No	No	No	No	No	Lots

*Starred Features are found on the compain disk listed under the main package. ** See chart notes

HUG OFFICERS

President	Dan Eicher	241-994A
V. President	Delbert Wright	895-1765
Secretary	Darla Wright	895-1765
Treasurer	Gary McQuade	888-5654
Librarian	Bryant Pedigo	255-7381

TI FAIRE WEEKEND continued

There will be guest speakers, door prizes, a raffle, & my favorite, VENDORS of TI "stuff"! Admission is \$2.00 at the door, \$1.00 advance. For information contact:

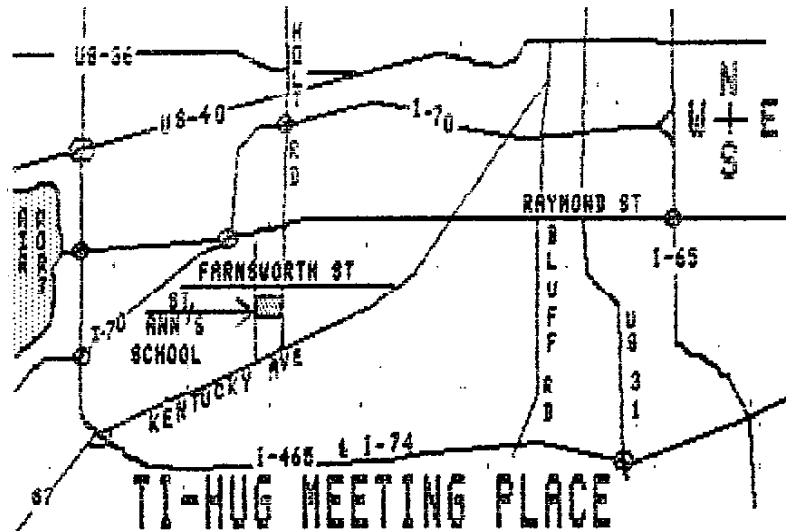
GENE HITZ,
4122 N. Glenway
Wauwatosa, WI 53222
414-535-0133

BBS

Hoosier Users Group
Baud rate: 300/1200/2400
On Line 24 Hours Daily

317-782-994A

Now with a Hard Drive



MONTHLY MEETING LOCATION
LITTLE HOUSE NEXT TO THE
ST. ANN'S SCHOOL
2839 S. McCLURE
INDIANAPOLIS, IN

MEETING STARTS
AT 2:00 P.M.
4 OCTOBER 14, 1990

This news letter is brought to you by the efforts of the officers & members of the Hoosier Users Group.

THE OPINIONS EXPRESSED HEREIN ARE THE AUTHORS', and DO NOT NECESSARILY REFLECT THOSE OF THE PUBLISHERS.

MEMBERS ARE ENCOURAGED TO SUBMIT ARTICLES FOR PUBLICATION. -PLEASE!

REMEMBER
This is YOUR user group too!

Sector Editors Compared

	Disk Patch (TI)	Disk Utilities (J. Birdwell)	Sector One (R. Moore)	HardMaster (Asgard)
SECTOR FUNCTIONS				
Read	Yes	Yes	Yes	Yes
Edit	Yes	Yes	Yes	Yes
Display in ASCII or Hex	Yes	Yes	Yes	Yes
Step through	Yes	Yes	No	Yes
Write	Yes	Yes	Yes ¹	Yes
Output to Printer	No	Yes	Yes	Yes
Print to Disk	No	Yes	Yes	Yes
Compare	No	No	Yes	No
Copy	No	Yes ²	Yes	Yes ²
Search for Text	No	Yes	Yes	Yes
Sector 0 Mark	No	Yes	No	No
Sector 0 Free	No	Yes	No	No
FILE FUNCTIONS				
Search	Yes	Yes	No	Yes
DISK FUNCTIONS				
Floppy Catalog	Yes	Yes	No	Yes
Floppy Directory	No	No	No	Yes
Hard Disk Tree Directory	No	No	No	Yes
4-SECTOR AT ONCE EDITOR				
Edit Screen	No	No	No	Yes
Print Screen	No	No	No	Yes
COMPATIBILITY				
Floppy	Yes	Yes	Yes	Yes
Hard Drive	No	No	Yes	Yes
40 Column display	Yes	Yes	Yes	Yes
80 Column display	No	No	Yes	Yes

Note 1. Sector One does not prompt you to see if you are sure before writing back a sector - a potential risk because memory buffer and sector number isn't always the same.

Note 2. Can only copy between two disks if you choose the same sector number

Source: Sector Editor, Jan Alexanderson, Programmen Nittinon

Amount Enclosed: \$

Check One:
Active Member
New: \$20
Renewal: \$17

Interests/Comments:

Phone: ()

City:

State:

Zip:

Address:

Apt. #

Name:

Today's Date:

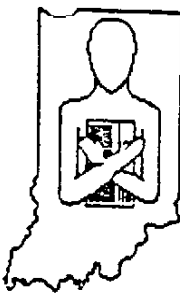
(Cut on dotted line)

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 HUGDBs, 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.

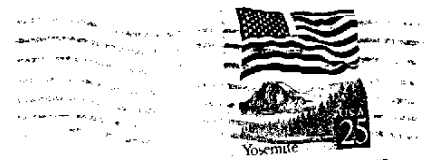
Make check or money order payable to Hoosier Users Group. Send completed application to:

HOOSIER USERS GROUP
P.O. Box 2222
Indianapolis, IN 46206-2222



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Indianapolis, IN 46206-2222

Forwarding and Address
Correction Requested



A90/10

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

TIME DATED
OCTOBER 14, 1990
MATERIAL