

CALL NEWSLETTER

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Atlanta, Georgia

PRESIDENTS CORNER

Let's start off with the FUN stuff. Jack Riley came as scheduled and demonstrated Geneve, the computer on a card from MYARC. Jack came with Conrad Cusner. Both are members of the User's Group in Birmingham. I would like to extend the thanks of the club to these gentlemen for driving the distance and bringing their equipment on one of the hardest raining, miserable seeming days imaginable. Even with weather like that we still had over 50 people show up for the meeting.

The 'Geneve' that they brought was a preproduction model not fully loaded with what
will come in the finished product. The
computer we saw demonstrated did not have a
sound chip or have the complete DOS (Disk
Operating System) that would allow it to do
such things as load assembly language
programs from Extended Basic. The completed
version will. What we did see even as a card
without a clam shell was impressive.

Bearing in mind that this is from memory, here are the salient points:

Included with Geneve will be an IBM style XT keyboard, for a little more money you could instead have an AT style keyboard. Jack Riley bought an AT style.

Included with the computer are 5 pieces of software— 1. Software to be used with the T199/4A to download cartridges to disk so they can be used with the Geneve, 2. A disk operating system (DOS), 3. Myarc's Extended Basic, 4. A patch to let the Multiplan cartridge work in 80 columns, and 5. A patch to allow TI Writer to work in 80 columns.

The DOS is similar in appearance to MS/DOS 2.11. That means if you are already familiar with the basic terms used in MS/DOS then you will find these to be just about the same. Jack said the parallel was intentional. He also said that the existence of the Myarc DOS makes the current Myarc Disk Manager program practically obsolete, which is just as well since the current Myarc Disk Manager program will not run on the new computer. Disk Manager 1000 does run by the way. It was demonstrated as such at the meeting.

program frequently used in the TI Extended Basic world is NAME-IT by Extended Software. This program has been used by the club to keep the list of members and other clubs around the country for the last four years. The program was demonstrated with the Geneve running in 99/4A mode. It ran 3-4 times faster than on the 4A. One command had be added to the beginning of the program let it run. This was a command to tell the screen to run set for 32 columns. The program worked fine with no problems, only faster. It also accessed the disk drives faster. in part due to Jack's disk controller card (an 80 track one by the way) being set to access the drives at 1 millisecond.

A graphics program was demonstrated to show the screen filling up with 512 colors and rapidly changing.

It was stated that you will be able to use a television, a composite monitor, or an RGB monitor. The appropriate interface will be provided. If you are not familiar with the following realities, take note.

A television is acceptable for 32 or 40 columns. So if you use the Geneve as only a faster 99/4A, a television is fine. There is no way a television can handle 80 columns. If you use a composite monitor then your 32 or 40 columns will look outstanding. It is possible to have 80 columns with a composite monitor. It is also possible to read a book held at arm's length but no sensible person would do so. In other words, if you plan on getting the Geneve then at some time plan on

getting an RGB monitor.

stated in many newsletters advertisements, the Geneve comes with 512K (expandable to 1 megabyte). In the Geneve mode after loading in the DOS or Myarc Extended Basic there is over 400K left of real programmable RAM. In the 4A mode you get 64K of usable programmable RAM and the rest of the memory can be paged in 64K hunks. Now I do know what 'paging' is when talking about computer memory, but I do not know how or if that means the rest of the memory in 4A mode is available to an average programmer. Things like that and many more are what will be talked about when the Geneve starts being sold.

yep... still continuing on this page...

I am waiting to hear about all those little things it really will or won't do. Things that that will only be found out when it gets in the hands of the everyday user. Speaking of which... Jack Riley stated that production units are scheduled to be shipped to dealers the first business day in February (That's the 2nd). So... dealers should have them by or just after the first week in February. I know we have heard similar before, so most of us are waiting to see....

And when you get down to it; most of us are pulling for Myarc to make a go of this.

The sentence above seemed like such a nice place to end but there is more to say.

Jack Riley shared a lot of information with us and I want to impart as much as I can remember of it here. Oh yes, we did video tape the presentation (that is Jim Hubbard did) and depending on how that tape turned out; it will be available for others to see. Even if the lighting wasn't acceptable the tape should help refresh our memories of what was said.

Here is a miscellaneous collection of items heard spoken of:

An IBM emulator card has already been made for the computer but it will not be available until the computer itself takes off. The above statement stands alone. Nothing else was said on that subject; so it is totally unknown if it is something that exists complete or if some chips have been thrown together in preliminary stages.

SPEECH DOES NOT COME ON THE MYARC GENEVE. I Dut that in capitals because information that has been spread around indicates that 'SPEECH' will be already there. So... if you want speech put the speech synthesizer card in Cor Comp's Triple Tech card. There is, according to Mr. Riley, plans to have a 512K memory card with a slot in it to hold the speech synthesizer card. At the meeting Jack Riley said the Geneve could interface with a hard disk controller card to control up to 3 hard disks each with a max of 40 megabytes (I'm not sure of the number. I think that it was 40.) Anyway, days after the meeting, Jack called to tell me that the number he gave out earlier was incorrect. The hard disk controller card

will handle 3 hard disks at 80 megabytes each for a total capacity of 240 megabytes.

More was said on many good products to be coming from Myarc but now the point is to verify that the long awaited TI compatible upgraded computer will indeed make it to the marketplace. Besides, I feel my memory may fail me if I go on. Any inaccuracies here are my fault. I wrote what I remember to help explain to those who could not make it to the meeting. If anything I stated here is out and out wrong, then I expect to be made aware of it so I can let others know.

I asked Melvin Carter, the A9CUG Secretary, if the information that has been relayed so far could be used in place of the minutes that he submitted on the January meeting. Mel said yes.

We also had attendees at the last meeting from Macon who came just to see the Myarc demonstration. We appreciate their coming. Such things make the TI world seem a little closer.

We have come to the time of holding the elections for officers. Actually we have gone past it. At the February meeting we need a nominating committee for people to submit their or another's name for office. The ballot should be in the March newsletter. If you do not make the meeting and you want to submit or be submitted then contact a current officer of the club.

In case you haven't heard about this issue of the newsletter, know that Bobby Miller actually brought this newsletter fully completed, pasted up, and everything to the January meeting. The only thing not in it at that time were my ramblings; Also need to thank his crew of helpers who did a lot of the typing in of articles from other newsletters.

At the next meeting and a couple thereafter; Jim Hubbard will be presenting making/customizing your own database program in Extended Basic. This was decided due to the helpful feedback that followed Marshall Gordon's overview of a good number of databases a few meetings ago. A lot of what gets shown or talked about at the monthly meetings is decided by what the attendees show an interest in and preference for.

THIS ADVERTISEMENT IS INCLUDED AS A GESTURE OF THANKS FOR THE GENEVE PRE-PRODUCTION MODEL BEING BROUGHT TO THE MEETING. UPDATE: HAVE LEARNED THAT THE SHIPMENT DID NOT HAPPENED THE FIRST WEEK IN FEBRURY BECAUSE OF SOME DOUBLE CHECKING THAT WAS DONE. HEARD ALSO THAT THE SHIPMENTS ARE SCHEDULED FOR LATER IN FEBRUARY. HEARD FURTHER THAT THE NEW HARD CARD IS NOW BEING SHIPPED (THIS COMBINES A PLOPPY DISK CONTROLLER. PRICE \$260 WITH A COMBINATION PERSONALITY CARD/VINCHESTER HARD DISK CONTROLLER.

IMPORTANT NEW FEATURES OF MYARC'S Model 9640 FAMILY COMPUTER

TMS9995 u-Processor Runs 3-4 Times Faster Than the 99/4A

* Runs same instruction set as 9900 used in 99/4A plus 4 new ones
* Pipelined processor (i.e. u-processor performs several functions
simultaneously

V9938 Advanced Video Display Processor

* Is software compatible with TMS9918A (used in 99/4A)

* Uses 46 registers for high speed "HARDWARE" graphics commands

* Commands include: DRAW SEARCH POINT(status) BLINK FILL MOVE Animation And more

* Uses Color Pallet of 512 colors on the screen at a single time

7 modes of graphics operation; some modes allow 256 colors

* True BMG (Bit-Mapped-Graphics) operation
 * Both composite (like the 99/4A) and analog RGB outputs (like the Atari ST and Commodore Amiga)

* Supports up to 256 colors per screen in the 256 by 424 mode or 16 colors in the 512 by 424 mode

* Comes with 128K bytes of video RAM (8 times the amount of the 99/4A)

Real-Time Clock Chip

* Gives you and your program instant access to date and time

Sound Chip

* Compatible with 99/4A (i.e. 3 simultaneous tones, 1 noise)

Awesome amount of RAM

- * 512K of CPU RAM (user configurable between CPU-RAM, RAM-DISK or PRINT-SPOOLER)
- * Expandable to 1 megabyte with MYARC 512K Card
- * In 99/4A mode 64K of the 512K becomes GROM and 16K CARTRIDGE ROM

Built-In Mouse Interface

- * Installed hardware allows for the MS mouse to be connected directly to the 9640 board
- * Basic language support for the mouse built in. Uses the industry-standard MacIntosh mouse commands

(over)

Standard Joystick Interface

* Joystick interface is compatible with the one used by the 99/4A

Hardware and Software Support for the most commonly-used peripherals

- * Floppy Disk Controllers include MYARC, Texas Instruments, and Corcomp
- * RS232 cards include MYARC, Texas Instruments, and Corcomp
- * Ram-Disks include Horizon

Software Support Supplied with the 9640

- * MYARC DOS (similar to MS-DOS 2.1)
- MYARC ADVANCED BASIC
 - -Compatible with TI Extended BASIC and MYARC Extended BASIC II
 - -Supports all modes of the Video Processor (including 80 column)
 - -Supports Windows
 - -Supports easy to program Mouse Commands
 - -Combined Text and Bit-Mapped-Graphics Modes
 - -Drawing Commands such as Circle, Rectangle, etc. are built-in
- Program patches to make TI-Writer 1) more powerful
 - 2) display 80 columns
- * Program to SAVE your 99/4A cartridges to disk

SOFTWARE SUPPORT FROM OTHER SOFTWARE VENDORS

PECAN Systems

- * UCSD Pascal Runtime (included free with the 9640)
- * UCSD PROGRAMMING LANGUAGES (at additional cost)
 - -UCSO Basic

-UCSD Fortran

-UCSD COBOL

-UCSD Pascal

* Plus thousands of other applications ranging from Pig Management to Office Management to Home Education

DataBioTics

- * The Music Shop
- * Super-Super 4TH
- Super Word
- * The Terminal Connection
- * The Professional Business Assistant
- * Macro Assembler
- * Pilot
- * Lush Brush

Paul Charlton

* Fast-Term II

- Pike Creek Computer Co
 - * General Purpose Accounting Software

Clint Pulley

Big C Compiler

BRYGHT-DATA

* Professional Business Acc'ting Software

INSCEBOT

- * TI-ARTIST
- * MacPaint Equivalent

CSI Design Group

FIXING BLOWN DISKS WITH THE NAVARONE DISK FIXER

by HOWARD MASSEY

from L.I. 99'er USERS GROUP

NOTE: this is an adaption of a file that originally appeared on the TI-Source BBS (author unknown). While the original was informative and useful, I found, while actually using the Navarone Disk Fixer cartridge, a few additional shortcuts to repairing disks with blown sectors O and/or 1, and I thought I would present this updated version in order to include these new tips.

Did you ever try to catalog a disk and find out the Disk Controller thinks the disk is Not initialized? But you know better! What do you usually do with the problem disk? Most people just delete the file giving into the problem, and that will work, and that will work, but it also gets rid of that file forever! A better solution is to use DISK FIXER by Navarone Industries.

The DISK FIXER enables one to examine and change the contents of any disk on a sector-by-sector basis. I think it is worth its forty-dollar list price. It is available from TI retailers or directly from Navarone Industries:

Here is the process to fix a blown disk; First acquire a DISK FIXER from a friend or by one, it's worth it. Before you start, have a blank, initialized disk handy as you will certainly be needing it during the course of the "surgery". Now we have to determine if the problem with your bad disk lies with either sector 0 or sector 1, or both. If it's a "blown" sector — which means the sector is physically OK, but the information contained in it has been partially or totally erased, no problem — DISK FIXER can fix it!

Sector O contains the information concerning the disk name and number of sectors used/free on the disk. If this sector is completely blown, attempting to catalog your disk will always result in a "DISK NOT INITIALIZED" error message, EVEN THOUGH YOUR DATA IS ACTUALLY PRESENT ON THE DISK. If it's partially blown, attempting to catalog the disk may show you used/free sector information that is obviously in error (as when more or less than 358 sectors are used + avilable for a ss/sd disk). The DISK FIXER can easily confirm for you if the problem is in your Sector O.

Put the DISK FIXER cartridge in the slot, turn on your computer and select 2 from the master menu screen. Put your bad disk in drive 1, and then type in the following:

R 0,1 $\langle \text{ENTER} \rangle$. This command means Read Sector 0 from drive 1.

If you get an error message, you know that Sector O is blown. The easiest way to fix this is to copy a good Sector O from another disk to the blown disk. Here is how to do that:

- 1) Insert a good disk in drive 1.
- 2) Read Sector 0 of that disk:R 0,1
 <ENTER>
 - 3)Put the blown disk in drive 1.
- 4) write good Sector O to disk: W 0,1 <ENTER>

If you now leave the DISK FIXER, and use a program to catalog the bad disk, you will see that the diskname and the used/free information is the same as the good disk, but don't let that alarm you we did that to fool the Disk Controller into letting us at least catalog the bad disk + even inaccurately!

The next step is to find out if Sector 1 has been damaged also. The easiest way is to simply look at your catalog and see if all the files you believed were on the disk are still there - if you are sure that they are and that none are missing, then you've - almost - fixed your disk. If this is the case, then all you now need to do is to MAKE A COPY of your bad disk - File By FILE - to a blan,initialized disk. The reason you MUST do this is that since the Sector O the "fixed" information on disk is inaccurate, the first time you try to add or delete a file to or from this bad disk, you will run into serious trouble! So put a write-protect tab on it, and back it up onto a fresh initialized disk, one file at a time. DO NOT USE a bulk disk copying program, either bit map or sector by sector, as the object disk will then and up with the same inaccurate Sector O data. By copying a file at a time (using, for example the "C" command in the DM1000 File copy/Rename/Delete/Change option), your controller will create a new, completely accurate Sector O on your back-up disk. When you've done that, you can either file away the original for your archives or simply erase and re-use it.

On the other hand, suppose the catalog shows that some or all of the files you beleieved to be on that disk are missing? Have no fear - they are probably still there, they just aren't showing up to your

controller because **Sector 1 has been blown** as well. In order to fix this sector, we need to know precisely what files are actually on the disk. We can obtain a current catalog of the files present by using DISK FIXER to peek into sectors >2h - >21h (that's sectors 2 through 33 in decimal). As the DISK FIXER manual points out, TI DOS uses Sector 1 for a Directory Link Map - essentially a "road map" for the controller to look up the various file Directories. Even if this map has been damaged or erased, the directories themselves as well as the actual file data probably still exists on the other sectors, so it's no tragedy. TI DOS uses sectors >2h through >21h to store the actual File Directories, containing the file names, types, and sector location. The data itself is stored on sectors >22h on up (and the very first file you write onto a new disk is ALWAYS stored on Sector >2h, so that's a good way to quickly determine if a disk is actually blank or not). Therefore, all we really need to to do is read sectors >2h through >21h in order to get a list of the file names on our bad disk.

When DISK FIXER reads a sector, the data is displayed on your screen in hex, which you must then convert to ASCII in order to actually read the information in English. Fortunately, the "M" commnd allows us to inspect the buffer RAM and in doing so automatically does this hex-to-ASCII conversion. So here's how we get a list of the files on our bad disk:

- 1) Type R 2,1 <ENTER>. The screen will fill with hex code. There's no need to see all, so instead of pressing the space bar after the first lot, press any other key to abort.
- 2) Now type M 1000V,100CV <ENTER>. On the right side of your screen, you'll see the first three lines of Sector 2 in ASCII. These lines will contain the file name. Get a piece of paper and WRITE THIS NAME DOWN, along with the Sector #, as follows:

Sector 2: filename

- (If at any time you want to see the whole screen and not just the first three lines in ASCII, type M 1000V, 10ffv you can press the space bar to stop the scrolling).
- 3) Now just type R <ENTER>. DISK FIXER will automatically advance to the next sector (Sector 3). Follow the same procedure as in step 2 above and make sure you write down on a piece of paper the sector # and the filename.
- 4) Continue as above until eventually you come to a sector filled with E5 data in

every address. This usually means you've reached the end of your search. If you still think there are more files missing, keep looking until you reach Sector >22h which will definitely contain only file data. If you're ever unsure of which sector DISK FIXER is currently reading, use the "C" command in order to find out the current sector.

At the end of this procedure, you should now have a complete list of all the files on your disk, along with their sector #. The next step is to alphabetize this list. If you are unsure about how to alphabetize when dealing with funny characters, etc., TI DOS alphabetizes by lower to higher ASCII values. These values can be found on your TI Basic reference card, or in the manual. Suppose, for example, you ended up with the following list of files on your bad disk:

SECTOR # FILENAME

2 CAT

3 HELLO

4 ART

5 PLOT

6 LOGO 7 LOAD

8 PICTURES

9 LINES1

A L0602

B DUNP

C LINES2

If we alphabetize them, we end up with this list

FILENAME SECTOR

ART 4

CAT 2

DUMP B

HELLO 3 LINES1 9

LINESZ Ć

LOAD 7

L060 6

L0602 A

PICTURES 8

PLOT 5

Now we're ready to fix Sector 1. Start by reading Sector 1 from your blank, initialized disk, since this will contain all zeroes in all addresses:

- 1) Put the blank disk in drive 1 and type in the following: R 1,1 <ENTER>.
- 2) Put the bad disk in drive 1 and type: W 1,1 <ENTER>. We have now written a completely blank sector 1 to our bad disk. THIS IS IMPORTANT since the controller MUST find all zeroes following the last file Directory entry.

```
type: 4, <SPACE>
2<SPACE>
8<SPACE>
3<SPACE>
7<SPACE>
7<SPACE>
7<SPACE>
4<SPACE>
4<SPACE>
4<SPACE>
5<SPACE>
5<SPACE>
4<SPACE>
5<SPACE>
5<SPACE>
```

After each <SPACE>, the DISK FIXER will advance one line - just type in each number one at a time, with a <SPACE> in between each entry and be careful not to hit <ENTER> till after the last entry. If you make a mistake, don't worry. Just press <ENTER>, retype A O, and DISK FIXER will let you start all over.

4) The last step is to write this altered data onto Sector 1 of your bad disk. Take sure the bad disk is still in drive 1, type W 1,1 (ENTER), and you are all done, except for the necessary step, as above, of COPYING the bad disk, FILE BY FILE, onto your blank disk. As before, DON'T just put the "fixed" disk back into your active file, because the first time you try to add or delete a file, you'll be in for problems.

And that's about all there is to it! Happy Fixing!

```
*************
****
       CLUB
                 OFFICERS
<del>********************************</del>
Gary Matthews
                             President
 404-233-3096
Jim Hubbard
                         Vice President
 (1)345-5905 w-482-9421
George Sears
                             Treasurer
 396-4112
Melvin Carter
                             Secretary
 997-2617
Bobby Miller
                  Newsletter Coordinator
921-8308
Ed Banovatz
                       Library Chairman
872-4088
^{4}im Fairchild BBS(991-6250) System Operator
Charles Dupree BBS(366-1914) System Operator
```

Just Taking Up Space by Bobby Miller

The other day, I had just about assembled on to disks all of this newsletter. As I was making a backup copy, the good old power company pulled the plug. The lights went out and my TI too. It was only out for a second or two but when everything came back on guess what? The disk with the newsletter on it would not load. I would get an "ERROR no diskett in drive." I knew there was a diskett in the drive I was looking at it. A weeks worth of work gone at the blink of an eye.

Well I had purchased a Navarone Disk-Fixer at the November swap meet and had read the instruction manual three times and still did not know where to start.

The night before I was looking at some newsletters from other user groups and remembered that I saw an artical on the Disk-Fixer so I looked up the article and read it.

The article was a very good one. It showed step by step how to go about fixing a blown disk. It really works I fixed the disk so that it runs. Elsewhere in this newsletter this article appears I hope someone else would like to know how to fix a disk step by step.

So don't throw them disk away that will not run, fix them, its a lot of fun. Maybe sometime in the future we will have a demonstration on the Navarone Disk-Fixer.

I would like to take this opportunity to thank the many people that have helped with the typing of the newsletter. We could always use more help. What would you like to see in your Newsletter? What have you been doing with your TI? Use TI-Writer to type up something and put it on a disk and give it to me at the next meeting. We will see that it gets in the newsletter ASAP. By the way I will give you your disk back if you put your name on it or ask me about it. I know there are some experances that everyone would like to hear about, lets share it with the rest of the TI community.



"I can't explain it, but it won't work right until it's hed its morning collee."

IN-DEPTH PREVIEW OF THE RAVE 99 KEYBOARD ENHANCEMENT by JAY S.LEBER from LONG ISLAND USERS GROUP

Well we've heard about 32K conversions being put everywhere from the keyboard to the speech synthesizer, and RAM disks available from kits up to 512K units with print spoolers. Now RAVE 99 has introduced 2 new keyboards to replace our factory orginal (and hopefully some of the problems inherent in it design). RAVE 99 is run by John W. McDevitt and Rick Hakemiam of the Nutmeg 99'ers (23 Florence Road, Bloomfield CT. 06002). I haven't seen one of these units but the following comes from MICROpendium (July 86 pg 28), Rave 99's product description, and my discussion just now with John McDevit.

Since RAVE 99 makes 2 models, I will first explain what they have in common, and then some of the differences. These keyboards are designed to be connected to your existing computer by removal of the keys and insertion of a keyboard interface card (included with the keyboard). A 6 foot coiled chord now connects from the keyboard interface card to the new keyboard. John assures me that this is an easy procedure because TI designed the keys to be removable and is aware that most users have never done this.

The old keyboard is no longer used for typing, but all of the ports are still active. In other words, it can be placed out of the way but it will be needed for modules, joysticks, speech synthesizer, and other peripherals. I was sad to hear that the enormous black flex cable will still be needed.

The keyboards provide normal spacing of keys (not our condensed spacing), separate numeric keypad, seperate arrow keys, and seperate function keys. It provides keys for tab, back tab, delete, backspace, question mark, apostropne, quotes, brackets, and braces. Special keys are defined for use with TI Writer, XB, E/A, and Mulitplan. By the way, these keyboards are completely compatable with all keystrokes on the TI99/4A (even FCTN SHFT combinations), and no P.E. Box is even required!

Some specifics- The model 99/84 (for 84 keys) is \$149.95. It appears very much like a standard IBM/XT keyboard. The 10 function keys are to the left, and the arrow keys are on the numeric keyboard, as on the IBM. This "enhanced for TI" model has seperate CAPS LOCK and NUM LOCK keys so the joysticks will

not be interfered with. This model also has an LED indicator on the CAPS LOCK and even an adjustable tilt angle.

The model 99/101 (has 101 keys) sells for \$164.95. This keyboard has 11 function keys set in a horizontal row above the number bar. This allows overlay strips to be used. The 11th function key is what (FCTN=) used to be (the QUIT key). It has arrow keys that are completely seperate and special keys for CHAR DELETE, CHAR INSERT, LINE DELETE, LINE INSERT. It has to be seen to be believed (so look at the drawing enclosed). It has FOUR seperate key assignments modes. This means you can adjust its use (with the SETUP key) so the QUIT key will be disabled, or to allow the quotes (") to be used without SHIFTing first. This keyboard can be purchased with an optional 25 foot coiled cord for maximum vereatility. John says the 84 key model doesn't support this chord.

Ok, enough of this, what about the real scoop. Well John tells me that these products will be ready for shipment OCTOBER 1st. His previous promotions have said this and he remains true to it still. He realizes other companies have had difficulty delivering when promised but claims RAVE 99 will be ready. He has had working units for show for several months now.

If you have received an original product bulletin form RAVE 99 (or are wondering why these prices differ from MICROpendiums) it is because earlier prices, says RAVE 99, "represented the best estimates that we were able to obtain from our vendors at that time. Now that we are purchasting the compoients for production, it has become apparent that we cannot sell our products for (those) prices and still stay in business." However, if you order before ostober 1st, 1986, RAVE 99 will still honor earler prices.

These products seem incredible, and there is more that I haven't mentioned. If you want additional information write to RAVE 99, or call John at (203) 872-9272 or Rick at (202) 242-4012 after 6 PM Eastern Time. By the way< I hve invited RAVE 99 to come to Long Island to demonstrate their products. For more information about this, come to our Users Group meeting in September!

EDITOR'S ADDITIONAL NOTES:

Since writing this review I have ordered the Model 99/101 from RAVE 99. As of this writing RAVE 99 is very close to actual production of these units. You can look forward to a hands— on review and demonstration of the model 99/101 in approximately one mounth's time.

I CAN'T WAIT!!!

TECH CORNER

Hard Times #2

Al Stump

from Chicago Times

This months discussion will be on trouble shooting. This is particularly important since there are numerous sources of surplus parts for some of the TI 97/4A components. If you haven't picked up any spare keyboards, modulators or other spare parts, it is a step you might consider, especially after reading this column.

Troubleshooting is a technique that comes into play when there is a malfunction in a process, organization or system. We are only concerned in its application to a malfunctioning system. I'm sure that most of you heard the comments a couple of meetings ago in regards to the cleaning of the lower connection on the cartridge connector. Isolating that area as a source of the strange garbled screens or other wierd occurances was an application of troubleshooting technique, but what about other problems? What approach would you take for a system that wouldn't load from disk for example? What good equipment was mentioned in the last issue so ambiguously?

Let's answer these questions one at a time. First the good test equipment I mentioned. (I believe I used the term 'best'.) Actually we were each born with this test equipment. It is normally kept between our ears. O.K. now that I have established that our brains can be considered test equipment, at least in the respect that it is very useful in diagnosing problems. How would we apply it in an actual case?

- 1. Make up a system configuration. (a block diagram of the system, as it is connected to the console.)
 - Document the problem sysptoms.
- (I.E. won't load from Dsk1, won't print to the printer, etc.) also note if the problem is constant or intermittent
- Look for a common path if there are multiple malfunctions.
- (I.E. everything on the expansion box side of the speech synthesizer is in active or can't be seen by the system)
- Look for alternate paths if we have a single malfunction.
- (I.E. is there another device which will perform the same function)(if a tape program will load and run, but not a disk program then we at least have eliminated the console as a source of the problem, but remember there is still the connector that

the P.E.B. plugs into.)

Now that we have done our preparation we can begin to troubleshoot. The next step is to check visually our data path. We are looking for loose connections, frayed cables cables that are cut through the insulation, etc. If we find any of the above, take appropriate action according to your skil level. I wouldn't recommend that you try to repair some of these cables unless you have some electronic experience. This is a good place to use a spare part, if you cannot find one come to the Users Group meeting you can probably find one there. Now if our visual check turned up nothing then we must dig deeper. Here's where our super fantastic diagnostic tool (brain) comes in. The next step is to analyze our resources, if we have a speech synthesizer we can connect it to the side port of the console to insure that signals are O.K. at that point. If everything is fine out to the P.E.B. then it's contents become suspect, by the way since I didn't mention it earler, if the console and everything sems dead with the P.E.B. connected, disconnect the box and try to just enter a short program to see if works without the P.E.B. (In the computer repair business it's called breaking down the buss) If the console works with out the P.E.B. That is the culprit. Either way we are now at the P.E.B.

Let's find out what's going on in that magic box. If the console works when the P.Ē.B. is disconnected then the box is hanging the buss, if there is only one or two malfunctioning operations, then some card is not recognizing one or more signals. We'll assume for a few minutes that the console works fine without the expansion box. the box back up to the console and in orderly sequence remove the boards in the box one by one (WITH THE POWER OFF PLEASE) and try the console, sooner or later you should find that one board being out of the box will allow the console to become operative again. If you should notice any boards where the front light stays on constantly try removing that one first. (with the exception of the console interface board, the cable comes from this board to the console). Once we have determined which board is hanging the buss, we want to confirm that it is defective, so let's try it in another slot in the box, if it still fails in the new slot then we can safely assume that the board is the source of the problem, send it in for repair. If you have access to another box you may want to triple check it in the other box.

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Editor\Assembler Tutiorial. by Mike Dodd

from Southern California Computer Group

This article is intended to be a tutorial on how to use the Editor\Assembler module for those of you who are just starting with it.

TO TYPE IN A PROGRAM:

Turn on the computer and select the Editor\Assembler from the menu screen. You will see a screen with 5 options:

- 1 TO EDIT
- 2 ASSEMBLE
- 3 LOAD AND RUN
- 4 RUN
- 5 RUN PROGRAM FILE

Select 1, EDIT. You will then see the Editor menu, a screen with 5 options:

- 1 TO LOAD
 - 2 EDIT
 - 3 SAVE
 - 4 PRINT
 - 5 PREGE

Before you do anything, put in drive 1 the disk with the EDIT1 file that came on disk A of the Editor\Assembler.

If you want to load a file, select 1, LOAD. It will load the EDIT1 file off the disk, then ask you for the filename. After you type that in, it will load the file, and return to the Editor menu.

Now, or if you want to type in a brand new program, select 2, EDIT. If there isn't a program already in memory, the cursor will appear on the * in *EOF. Just press enter to get the cursor off of *EOF, then press <FCTN>S to put line numbers on the screen (pressing FCTN S when the cursor is at the beginning of a line will toggle between displaying and not displaying the line numbers).

The format for assembly source code is: LABEL INST OPERAND(S) COMMENTS

Let's say you want to type a brand new program. If you wanted to type in the instructions

* THIS IS A SAMPLE AND WILL NOT DO ANYTHING.

SAMPLE MOV R11,R10

LI RO, >0204

You would type in the first line exactly as is (this is a comment line. Any line that begins with a * is a comment line). The label is optional, so often an instruction will not have one. The INST will always be there. It is the assembly language instruction. The operan(s) will usually be there. They are what the instruction operates on. Also, sometimes a line will

have a comment at the end that explains what instruction does. You can use tab, which is <FCTN>, to jump from field to field.

Now to continue, our next instruction is SAMPLE MOV R11,R10

So type in SAMPLE, a space, MOV, then FCTN 7 to jump to the operand field, then R11,R10. There aren't any comments on this line, but if there were, you would press FCTN 7 again, then type the comment. Always press ENTER after a line.

The next instruction is:

LI RO,>0204

Since there isn't any label, press FCTN 7 to go to the instruction field, then type LI, then press FCTN 7 to go to the operand field, then type RO,>0204.

After you have finished typing in a program, you need to save it. To do this, hold down FCTN 9 (back) until you get to the EDITOR menu screen. Select 3 (SAVE). It will ask you "VARIABLE 80 FORMAT (Y\N)?". Normally, you will want to press Y. If you select N, it saves in Fixed 80 format, which takes up far more space on a disk.

After you have finished typing in a program, and saving it, you will want to ASSEMBLE it, which means to compile it, or to put it in a format that the computer can recognize. To do this, go to the main menu screen by pressing BACK. Select 2, ASSEMBLE. It will ask you "LOAD ASSEMBLER?". This is to give you a chance to insert the Editor\assembler disk 1 into drive 1. After you have done so, press Y. It will load the ASSM1 and ASSEM2 files off disk, and then will ask you several questions.

SOURCE FILE NAME?

Type in the name of the file you typed in and saved with the EDITOR. Source is the name for actual assembly language instructions.

OBJECT FILE NAME?

Type in any legal file name. This is what the program will save to and what you will use when you load the program.

LIST FILE NAME?

If you want to list the program out to the printer, type in the name of your printer. IMPORTANT: If you use PIO or RS232, be sure that there is a period in the file name. If there isn't, then put one at the end of the name. Otherwise, it will crash.

OPTIONS?

This lets you select several options available with the assembler. To type in the options, just type in the letter without any spaces, and press enter when you are

finished.

R option-will let you use the registers RO-R15. Otherwise, it will only allow you to call them by O-15. You will almost always want to use this option.

C option-will compress the file, taking up far less room on the disk, and faster loading time. IMPORTANT: If you plan to load the file with Extended Basic, DO NOT use the C option, for Extended Basic will not load compressed object files.

L option - will list the program to your printer.

S option - will print a list of all the labels out to your printer.

T option (this one isn't listed in the Editor\assembler manual) - Normlly, with TEXT statement, the assembler will just print out the first byte of the text when it lists. However, with this option, the assembler will list every byte to the printer.

After you have given all the information needed, it will start assembling. Now you can LOAD AND RUN it.

Since nobody is perfect, the program will probably not work the first time. If not, go to the editor menu and load the file as instructed above. Then select EDIT.

Here are some more features of the Editor. There are several keys you can press to scan the program. Here is a list:

FCTN S Moves the cursor one place to the left, UNLESS the cursor is on the far left column, in which case it will toggle between displaying and not displaying the line numbers.

FCTN D Moves the cursor one place to the right.

FCTN E Moves the cursor up one line.

FCTN X Moves the cursor down one line.

FCTN 1 Deletes the character that the cursor is currently sitting on.

FCTN 2 Insert mode. Works just like Basic.

FCTN 3 Deletes the line that the cursor is currently sitting on.

FCTN 4 Rolls down one screen (24 lines).
FCTN 5 Rolls right one window. There are three windows on the screen. If you are on the third window, it will go back to the first window.

FCTN 6 Ralls up one screen (24 lines).

FCTN 7 Will TAB to the next field.

FCTN 8 Will insert one line where the cursor is currently sitting.

FCTN 9 If you are in Edit mode, will go to the Editor selection screen. Press it again, and it will go back to the Editor menu

screen. Press it again, and it will go back to the main menu screen. Again and it will go to the computer's title screen.

FCTN = Quit. DO NOT EVER PRESS THIS KEY! Always exit with FCTN 9. The "Editor selection screen" mentioned above also has several options available to help you edit your program. A list is below. To select one, press the first letter of the option you wish to activate.

Edit, Find, Replace, Move, Show, Copy, Insert, Delete, Adjust, Tab, and Home.

Here is the format for the commands. If an item is surrounded by \langle and \rangle , that means that item is optional.

EDIT - Retruns to edit mode, with the cursor sitting where it was before.

IMPORTANT: Both FIND and REPLACE start their search from the position of the cursor when you press FCTN 9.

FIND _ lets you search for any given string. The format is <COUNT><(COL,COL)>\STRING\. COUNT is which occurence of the string to find. For example, 4\HELLO\ would find the fourth occurence of HELLO. (COL,COL) allows you to select only a certain range of columns to search on. For example, (1,7)'TESTA' would search for the first occurence of TESTA in columns 1 through 7.

REPLACE - Lets you replace a string with a new string. The format is <V, ><COUNT>< (COL<COL)>\OLD STRING\NEW STRING\. If you put a V, in front of it, it will verify that you want to change each string before it actually changes it. COUNT will specify the number of strings to change. For instance, 4\TESTA\TESTB\ would change the first four occurences of TESTA to TESTB. (COL,COL) works that same way as FIND. If you have selected V for verify, it will ask you "REPLACE STRING (Y\N\A)" with each occurence of the string it finds (up to COUNT). press Y to change that one string, N not to change it, or A to change all subsequent occuences of the string (up to COUNT)

MOVE - Lets you move a selected block of lines to another space in the file. The format is START LINE, STOP LINE, AFTER LINE. The START and STOP lines select which block is to be moved. It will be placed after the AFTER LINE. After the move, the original block will be deleted.

 $\ensuremath{\mathsf{COFY}}\xspace - \ensuremath{\mathsf{Same}}\xspace$ as above, only the original block is not deleted.

SHOW - Will place the cursor on any given line. The format is LINE

INSERT - Will allow you to merge a file off of disk with the file currently in memory. The format is BEFORE LINE, FILE NAME. It will merge the FILE NAME right before the BEFORE LINE.

DELETE - Will delete any given block of lines. The format is START LINE, STOP LINE. It will then delete the lines between (and including) the START and STOP lines.

ADJUST - Will toggle between displaying and not displaying line numbers. It will then return you to Edit mode, just like the numbers (which you really should be, in my opinion), you will not be able to see the last six columns of text.

TAB - Will allow you to modify the tab settings. When you select this option, you will see some T's, and several spaces. The T marks where a Tab setting is. To change it, either space out a T, or put a T where a space is. Press ENTER when done.

HOME - Moves the cursor to the top row, left column of the screen currently being displayed, and returns to edit mode.

There are also two other options on the Editor menu screen that should be covered.

- 4. PRINT Allows you to print a file. Will ask you for the FILE NAME and the DEVICE NAME. The FILE NAME is the file on disk to print. The DEVICE NAME is the name of your printer. To just print the file currently in memory, it is faster to select SAVE, then use your printer name in place of the FILE NAME. Note that if you do this, you must select VARIABLE 80 format. SAVE will not recognize TP, only PRINT will.
- 5. PURGE Will purge (erase) the file currently in memory. It will ask you ARE YOU SURE? before it does it.

This concludes this article. I hope that it has been of some help to you.



"When I bought it this morning, it was state of the art, but, by the time I got it home, it was obsolete."

Article from page 7 continued here..

```
PRACTICAL PROGRAMMING PRACTICES
                                                               We can now explore the other set of
                                                       conditions, with one or two malfunctioning operations. There are only a couple of things we can try here, such as try another function on the same board (RS-232/PIO) or
  LABEL SIZE DISK CATALOG
  FROM CHICAGO TIMES
  100 [++++++++++++++++
                                                        (DSK2/DSK1), the next option is to replace
 110 ! "Lable Maker" !
120 !By John Behnke !
130 ! Chicago Times
                                                        the board with another board, any board to
                                                        check that the slot is O.K. once we have
                                                      determined the slot is fine then we have only
  140 !Requires XB and!
                                                        the board left and we should get it repaired.
  150 !
            Printer
                                                              This was approached as an exercise in
  160 !+++++++++++++
                                                      theory, substitute the devices you are having trouble with for the examples used here. If
 170 CALL CLEAR
 180 TYPE$(1)="DIS/FIX"
                                                      your monitor was suspect try the modulator and a T.V. as an example. If you are having problems feel free to contact me through the
 190 TYPE$(2)="DIS/VAR"
 200 TYPE$(3)="INT/FIX"
 210 TYPE$(4)="INT/VAR"
                                                       C.U.G. BBS, I'm #330.
 220 TYPE$(5)="PROGRAM"
 230 OPEN #2: "PIO"
 240 PRINT #2:CHR$(27); "S"; CHR$(0)
 250 PRINT #2:CHR$(27);CHR$(15)
260 PRINT #2:CHR$(27);"3";CHR$(9)
270 PRINT "PLACE DISKETTE IN DRIVE":"
                                                  AND HIT (ENTER)"
 280 CALL KEY(0,K,S):: IF S=0 THEN 280
 290 W=0
 300 OPEN #1: "DSK1.", INPUT , RELATIVE, INTERNAL
310 INPUT #1:A$, J, J, K
320 PRINT #2: " DISKETTE: ";A$;" AVAILABLE=";K; " USED=";J-K
 330 PRINT "DISKETTE: "; A$: "AVAILABLE="; K; " USED="; J-K
 340 PRINT #2
P
                                                            NAME SIZE TYPE
                                                                                           P"
380 FOR I=1 TO 127
390 IF I/2=INT(I/2)THEN Q=31 ELSE Q=1 :: W=W+1
400 INPUT #1:A$,A,J,K
410 IF LEN(A$) = 0 THEN 530
420 PRINT #2: TAB(Q); A$; TAB(11+Q); J; TAB(16+Q); TYPE$(ABS(A));
430 PRINT A$; TAB(12); J; TAB(17); TYPE$ (ABS(A));
440 IF ABS(A) =5 THEN 480
450 B$=" "STR$(K)
460 PRINT #2:5EG$ (B$, LEN(B$)-2,3);
470 PRINT SEG$ (B$, LEN (B$) -2,3);
480 IF A>0 THEN 510
490 PRINT #2:TAB(27+Q);"Y";
500 PRINT TAB(28);"Y";
510 IF Q=31 THEN PRINT #2:"" :: PRINT
520 NEXT I
530 FOR I=1 TO 13-W
540 PRINT #2
550 NEXT I
560 CLOSE #1 :: GOTO 270
570 END
IF YOU WOULD LIKE TO HAVE A TYPED IN COPY OF THIS PROGRAM BRING A DISK
FORMATTER SSSD TO THE NEXT MEETING AND GIVE IT TO BOBBY MILLER AND NEXT MEETING
```

NOTE!!!!...DO NOT PUT YOUR HANDS IN THE EQUIPMENT WITH THE POWER ON, WE COULD LOSE A MEMBER, ALSO WHEN YOU ARE GOING TO REMOVE A BOARD WAIT 2-3 MINUTES BEFORE PULLING THE BOARD OUT SO THE CAPACITORS IN THE POWER SUPPLY CAN BLEED DOWN...DTHERWISE YOU MAY RUIN A GOD BOARD. THIS WAS WRITTEN TO ASSIST OTHER TI OWNERS WHO MAY RUN INTO PROPRIEMS OTHER TI OWNERS WHO MAY RUN INTO PROPBLEMS, BUT I AM IN NO WAY SUGGESTING THAT YOU TRY

THESE TECHNIQUES YOU DO SO OF YOUR OWN VOLITION. I AM IN NO WAY ACCEPTING THE RESPONSIBILITYT FOR ANYONES USE OF THESE TECHNIQUES. I MENTION THEM ONLY BECAUSE I HAVE REPAIRED COMPUTERS FROM THE ATLANTIC TO THE PACIFIC WITH GREAT SUCCESS USING THE ABOVE METHODS.... SEE YOU AT THE NEXT MEETING .. AL

CALL PEEK
BY DANNY MICHAEL
FROM SHOALS TIDINGS

Hello again! Boy, have things been ng in the TI world lately jumping in the TI world lately! I continue to be amazed at the new products and support available for our "dead" computer. The new catalog from tenex arrived the other day, and there are plenty of new hardware and software items to wish for. I feel like a 6 year old who just got a new Sears toy catalog! One new toy that I did get recently is a ramdisk card from Horizon Computer, Ltd.. What follows is a review of this exciting new peripheral for our computer.

The Horizon Ramdisk is a PE box card acts like a disk drive. The advantage that the card has over a regular disk drive is speed. Since the data are stored in solid state memory chips instead of on a magnetic disk, there are no mechanical parts to slow down the reading and writing process. The card has on board rechargeable batteries that keep files intact while your computer is off. You can buy the ramdisk ready to plug in and use or for those handy with a soldering iron, it's also available in kit form. You can choose between a card with 104K of memory that acts like a single sided, single density additional \$72 for parts for the single sided version or \$105 for parts for the double sided version. I choose the 192K version in kit form. The parts kit is not available from Horizon Computers, but can be bought from Bud mills services at the prices stated above. Of course you can buy the parts from other sources, but by buying the parts in a package you get a price break.

I was impressed with the ramdisk kit from the time it arrived. First of all, delivery from both Horizion and Bud Mills was very prompt. I must admit that I got more than I expected when I opened the packages. The circuit board is of the higest quality with parts placement clearly marked on the board. Much better than you usually get with a kit. The parts kit yielded the same quality throughout, and included sockets for all the integrated circuits. The only thing I had to supply was solder and some epoxy to glue the battery holders onto the card. The

assembly instructions (9 pages) were complete and guide you through each step of the assembly process. Assembly time was less than 3 hours, including testing. The only touchy part of assembly was the piggybacking of the memory chips. (for those not up on electronics lingo, pioggybacking means to place two chips together, one atop the other, and solder all the pins together.) Since there are 11 sets of chips with 27 pins to solder on each pair, and the chips are static sensitive, it takes a steady hand and god soldering technique to do the job without damaging the chips. The piggybacking step is only necessary on the double sided version.

After assembling the card there are some test programs (provided on disk) to run before beginning to use the card. After everything checks OK, you're ready to load the operating system and use your new ramdisk. It's here that the major difference between the Horizon Ramdisk and others show up. While most other cards have their operating software in ROM, the Horizon operating system is stored in RAM on the card (battery backed of course). This is an advantage in that new versions of the operating system can be sent on disk instead of having to replace a ROM chip on the board. It also means that the operating system can be modified by the user to add additional features to the card. Full source code to the operating system is supplied with the card for those wishing to modify the code, or just understand how it works.

The 25 page reference manual that comes with the card explains use of all the cards features and includes an advanced section for those wanting to modify the operating software. The following subprograms are added to basic when the card is installed:

CALL DN Sets the drive number that the ramdisk will respond to. This can be any number from 1 to 6 CALL DN(6) will allow the card to be accessed as dsk6.

CALL MS Sets the maximum number of sectors available on the ramdisk. The single sided version has 360 sectors, the double sided version has 720 sectors.

CALL WO Turns on write protection for the ramdisk. This is like placing a write protect tab on a floppy disk.

CALL WF Turns off the write protection.

CALL EX Allows the direct execution of an assembly program.

CALL CO Enables the DSR ram on the card. (For use by experimenters)

CALL CF Turns off the DSR ram space

CALL DM Loads Disk Manager 1000 (supplied with the card) from ramdisk.

CALL NF Sets the maximum number of floppy drives in the system. This call is needed only when the card is used in the same PE box with some other cards such as the Myarc ramdisk or hard disk controller.

The above descriptions are short and general. Use of the subprograms is explained in detail in the manual. Using the ramdisk is exactly like using a regular disk drive except for the speed. The time loading and saving programs and files is greatly decreased. My ramdisk card has performed flawlessly since building it 2 mounths ago.

There are other ramdisk cards on the market, but so far the Horizon card has some unique features that set it apart from the First of all, is the battery backup. Any files stored on the ramdisk are retained while the computer is off. I see this as an advantage over other cards. Another big plus is the ability to change the cards CRU base address (the space it occupies in the memory allocated for peripheral cards). This makes it possible to have more than one Horizon ramdisk in your system, and assures compatibility with other peripheral cards. The major advantage that this card has over the others is having the operating system in RAM. This makes updates a snap, and presents the possibility of using the card for something other than a ramdisk. I see no reason why the card couldn't be used as a spooler with the proper software. Horzion Computers plans to make available other software enhancements in the future.

Millers Graphics gave us the ability to program the GROM space in the computer with the GRAM KRACKER, and now Horizon Computers gives us the ability to program the DSR space. With these two products in your system, only the 8K ROM in the console remains untouchable! I think the Horizon ramdisk is a great addition to your computer system. For ordering information, contact Horizon Computers Limited at P.O. Box 554, Walbridge, Ohio, 43465

GENERAL INFORMATION

CONSIDER THIS RUMOR. In other words I think it is true but do not have any verifiable details yet so don't go quoting me as fact.

I have heard that MG (formerly Millers Graphics) has a new project going that has just reached fruition stage. I hope it is not true because it sounds AWFUL. The rumor is this:

Some device will plug into the TI 99/4A keyboard and hook up to make the keyboard work an IBM clone.

Maybe the way I heard it is wrong but so far all I can think about it is NO! NO! NO!.

Before you think that I am just narrow minded and have thought patterns made of concrete, let me explain myself.

As I heard it.... this is essentially using the 99/4A keyboard as nothing more than a keyboard for what really is just an IBM clone. There is absolutely NO WAY for you to use any of what there is good about the TI with the MG product, such as the TI sound, speech, colors, sprites, programs, or data files.

For the price I heard it was going to cost, you could buy an IBM clone itself that would come intact with a lot more features (drives, monitor, memory, RS232). This way you would really have two computers that can run simultaneously. Everyone should know that under those circumstances you already CAN transfer text files between the two. No one should EVER EVER think that a program that runs on the TI will run on an IBM or vice versa.

All right already, why am I being so loud about what I don't even know is true yet? Part of this reaction is attributed to MG having stopped producing the Gram Kracker. I still believe that MG will make a deal for someone else to do so. I also really believe that MG stopped making it because it was too hard in terms of cost and parts availability to continue to produce it.

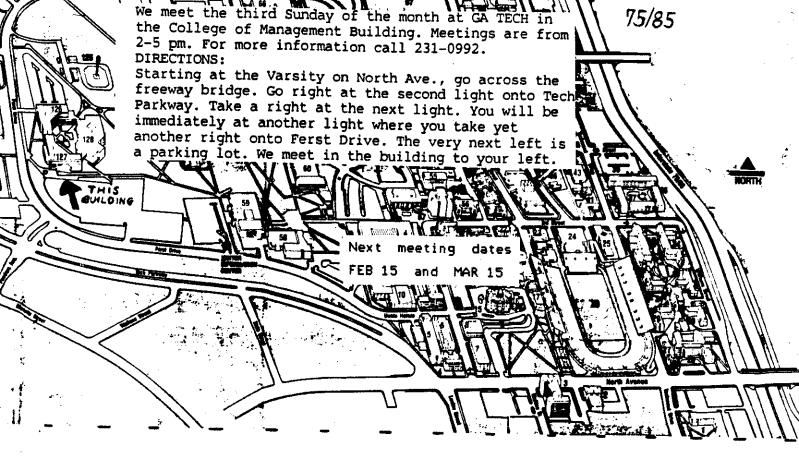
Again; why this tirade over this rumored new product? I guess it is because along with that rumor I also heard that MG is moving into the IBM market away from the TI trade.

Craig Miller is one of the revered geniuses of the TI world in my opinion. He is also a big fish in a little pond. If he goes away from the TI arena, then we have lost a lot. Craig would also become one of the VERY many trying to make money in the IBM market.

I am making a fuss too because there really is not a reason to make such a product as I described. By being so noisome so early, a few people may either come back and yell at me or if they agree; take up the cry and perhaps get MG to change its mind and get back on track.

I am very happy to have a Gram Kracker and I hope it does not become a valuable RARE item.

Gary Matthews



ATLANTA 99/4A COMPUTER USERS GROUP POST OFFICE BOX 19841 ATLANTA, GEORGIA 30328

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[#] DUES ARE DUE THIS MONTH ## DUES HERE DUE LAST MONTH ### THIS IS YOUR LAST NEWSLETTER