



West Penn 99'ers



Supporting the TI-99/4A Home Computer

Established 1985

ISSUE #95

AUGUST 1993

FOR THE RECORD

by Frank N. Zic

Mickey started the July meeting late at 7:20PM. The reason she started late was because of the late arrival of the Gardeners. Since Art retired, Lynn said they are late to everything. But not to worry we all forgave them when they brought in a delicious Chocolate/Raspberry cake. Well, on with the meeting. Mickey started with accolades for, who else, the Gardeners for their outstanding contributions to the club each month. We all thank you. We next got into the Treasurer's report by Lynn and the librarian's report by Bob Sadusky. Mickey and Art reviewed the For Sale items that the club always carries for us. Next month Joe and Rob Ekl will bring in the projects that they both worked on together thru the years, before Rob goes off to college. It's sure nice to see a father son team enjoying each others companionship. We had twenty people in attendance. Our TI ad was published in the June issue of the Star newspaper. It's equipment inventory time again. Video tapes were once again reassigned for take out. Paul had some information on HRD lock-up procedures. Don't forget to bring in any special projects that you use your TI computer to accomplish. Along

these lines John Kline demoed a great little mailing program that he wrote. It did a nice job and made a nice demo. John agreed to place the program in the club library. I'm not sure how I got roped into mentioning that it is Mike Cendrowski's birthday. I think it has something to do with a full height Pepsi machine that is now in their kitchen.

I got into the show a little with comments about: The new Ros 8.14F program for HRD owners, Radio Shacks Bulk Tape Eraser for about \$15, Giant Eagle's cold mixed ice tea called Mega and we talked about and showed pictures taken with a Kodak Panoramic camera. The pictures were brought in by Charles Werkman who rejoined the club. We all welcome you, Charles. The pictures were of his new precast concrete slab home. Erection time four hours, try to beat that. (That's a joke son). Norm Rokke demoed the Fonts and Border program and talked about the Giant Artist program. These demo programs, along with Form Shop, a 3-1/2 inch disk case and joy stick cables that were all part of the monthly raffle. A discussion about interest in an IBM club were entertained. Perhaps more to come on this topic later. We wound up the meeting with Norm's critique of the June MICROpendium. Major points of interest were; p5 In

WEST PENN 99'ERS CLUB INFORMATION

NEXT MEETING DATE: AUGUST 17, 1993
 MEETING LOCATION: PENNS WOODS
 CIVIC ASSOCIATION
 JUST OFF ROUTE 30
 N. HUNTINGDON, PA
 TIME OF MEETING: 7:00 P.M.

LIST OF WEST PENN OFFICERS FOR 1993

PRESIDENT: MICKEY 412-265-5201
 VICE PRESIDENT: NORM 614-264-6442
 TREASURER: LYNN 412-835-4304
 RECORDING SEC: FRANK 412-751-6065
 CORRESPONDING SEC: PAUL 412-478-2754
 LIBRARIAN: BOB 412-863-5672
 NEWSLETTER EDITOR: RALPH 412-379-8762

GENERAL ITINERARY OF THE CLUB'S MEETING

6:45 P.M. DOORS OPEN
 7:00 P.M. GENERAL MEETING
 7:45 P.M. DEMOS AND NEW INFO
 9:45 P.M. ONE ON ONE HELP
 9:45 P.M. SOCIALIZING
 11:00 P.M. DOORS CLOSE

MEETING HIGHLIGHTS FOR THIS MONTH

LATEST T. I. NEWS AND SOFTWARE DISCOUNTS
 "NEW SOFTWARE" FROM MS EXPRESS SOFTWARE
 "TI CASINO" - DEMO BY MICKEY CENDROWSKI
 "G. A. P." - DEMO BY MICKEY CENDROWSKI
 USING YOUR TI - DEMO BY VARIOUS MEMBERS
 FATHER AND SON PROJECTS - JOE & ROB EKL

RENEW YOUR MEMBERSHIP DUES!

\$15.00 PER YEAR FOR INDIVIDUAL / FAMILY
 \$10.00 PER YEAR FOR ONLY OUR NEWSLETTER

FREE SOFTWARE CATALOGS

Anyone interested in obtaining a free software catalog from MS Express Software should write to:

MS Express Software
 P.O. Box 498
 Richmond, Ohio 43944

FREE SOFTWARE CATALOGS

Anyone interested in obtaining a free software catalog from Notung Software should write to:

Notung Software
 7647 McGroarty Street
 Tujunga, California 91042

HELP A FELLOW TI'ER OUT!

Stanculescu Marin is looking for educational software on cassette for his 8 year old boy. Anyone interested in helping this man out should write to:

Stanculescu Marin
 Str. Ciuruleasa, Nr. 3
 Cod 75445, Sect. 4, O.P. 7
 Bucuresti -- Romania

Note: He DOES NOT have a disk system, nor 32K in any format.

NEW CLUB ADDRESS

Effective immediately - all club correspondence and newsletter exchange should be sent to the following address:

West Penn 99'ers

C/O Mickey Cendrowski
 R. D. 1 Box 133
 Russellton, Pa 15076

**MAGNETIC MEDIA
SOME MYTHS AND TRUTHS
BY KEITH FAULKNER
LANSING AREA COMMODORE CLUB**

We all know that magnetism can destroy data on tapes and diskettes, but how much magnetism does how much damage?

Widespread curiosity prompted the U. S. National Bureau of Standards to conduct various experiments in order to find the answer to that question. The results have been published in the publications of a number of universities. The experiments verified the theory that the effect of a magnet falls off as the cube of the distance. Double the distance and the magnet's ability to cause data loss is divided by eight. Here are some of the results achieved and some of the myths exploded in the process.

MYTHS

A small magnet such as the holder of a flashlight can damage tapes and diskette some distance away.

TRUTHS

A one thousand oersted magnet, capable of lifting 40 pounds, was brought to within one inch of a computer tape. No data loss resulted. At the range of 1/2 inch, the magnet effectively destroyed the data. The read-write head, virtually in contact with the media, has a field strength of 750 to 1000 oersted. An extraneous field of 200 oersteds causes a loss of data, but one of 150 oersteds does not.

MYTHS

Airport metal detectors can damage a tape or diskette.

TRUTHS

Walk thru, pass thru, and hand-held detectors have a field

strength far too faint to matter. If you are keeping score, it's 5 oersted. So save your worrying for the luggage. Your data is just as safe as your are. This does not necessarily apply to X-Ray baggage inspection machines.

MYTHS

A hidden or overlooked magnet will cause gradual damage.

TRUTHS

Time is not a factor. Fortunately for the technology which brings us high speed disks, magnetic particles change their orientation in billionths of a second, so damage is instantaneous or it is negligible. So, if you notice your disk lying on a graphics tablet, do not hasten to snatch it off. The disk was, or was not, damaged the instant it was set down.

MYTHS

A large electromagnet can destroy a roomful of tapes and disks with a poorly aimed burst of magnetism.

TRUTHS

Distance is still the telling factor. A truly enormous magnet did no damage at a distance of 1.3 feet, at which range it could lift a radiator.

MYTHS

Radiation around a microwave oven can destroy data.

TRUTHS

Cassettes were warmed inside a microwave oven without causing loss of data. So don't worry about highway radar...unless you are speeding.

MYTHS

Nuclear radiation can erase media.

■ TRUTH ■

Gamma rays four times a lethal dose did no damage to the data. Worry about yourself not the diskettes.

The overwhelming conclusion is that, apart from the physical damage which can be produced by heat, abrasion, or dirt, magnetic media are subject to harm from one source only ■ extremely close contact to any magnet. At very close range, even the smallest magnet can destroy a tape or diskette, but a mere inch of isolation provides safety for the data. Our advice should therefore be...keep tapes and diskettes inches away from all magnets, such as transformers, speakers, compasses, motors, and the graphics tablet.

Reprinted from the ARIZONA COMMODORE USERS GROUP April 1993 INPUT OUTPUT newsletter.

You don't know where an interesting article may come from sometimes. RJV

THINK ABOUT IT

Be master of your petty annoyances and conserve your energies for the big, worthwhile things. It isn't the mountain ahead that wears you out. It's the grain of sand in your shoe.

If At First You Do Succeed...Try To Hide Your Astonishment.

WE THE WILLING

We the willing, led by the unknowing, are doing the impossible for the ungrateful. We have done so much for so long, with so little, we are now qualified to do anything with nothing.

Author Unknown



FROM THE EDITOR

RALPH J VAKO
1 VIRGINIA DR
DONORA PA 15033-1607
(412) 379-8762
PUG BBS #32

Articles are accepted as hard copy, ASCII text files on the PUG BBS, MS-DOS Word Perfect V4.2, V5.0 or MS-DOS ASCII text files on disk. Deadline is the Sunday after the meeting. My TI systems are not set up. PAGE PRO articles like PAUL'S PAGE will have to be photo ready.

ADDRESS HELP

The U S Postal Service has told us that the DELAWARE VALLEY UG is not where we sent our newsletter. There is no such street as 24 COWDES LANE in NEW CASTLE DE 19720. If anyone knows the correct address or if the club has disbanded please let us know.

** HOW I USE MY TI by Mary Phillips **

1. WORD PROCESSING
 - a. Write letters, tests, reports, grants, permission slips, etc.
 - b. Template for NL workbook
 - c. Articles and reviews for the NL
 - d. Student Council election packet
2. LABELS
 - a. Address labels for frequent correspondence.
 - b. Return address labels--graphic
 - c. Date stickers for freezer/freezer items
 - f. Warning labels for mailing disks/photos
 - g. Diskette titles and catalogs
 - h. "Return to ..." stickers for books, etc. loaned out.
 - i. Name/address labels for rebate coupons/contest entries
 - j. Decorative labels for holidays, special events
 - k. Decorative label sets for gifts/peace offerings
 - l. Instruction labels for diluting concentrates
 - m. Funny and thought provoking labels to put on envelopes to amuse recipients
3. DESKTOP PUBLISHING
 - a. Greeting cards
 1. Membership care for church--Thinking of you, Get Well, Miss you (My 3rd-5th grade Sunday School class does the coloring for our project.
 2. Sympathy, Birthday, Mother's Day, Father's Day
 3. Notecards
 - b. Decorative postcards
 - c. Banners--(Welcome, Farewell, Sunday School, Birthday)
 - d. Certificates of Recognition to colleagues for personnel file
 - e. Poster of class bell schedule for office & junior high rooms
 - f. Ballots for StuCo election.
 - g. Ozark 99er News publication
 - h. Stationery with letterheads, footers, or borders
4. ARTIST
 - a. Graphics creation for use on cards, banners, newsletter, envelopes, etc.
 - b. Modification of existing graphics and fonts
 - c. Conversion of graphics to/from different formats--GIF, RLE, TI ARTIST pictures and instances, Character Sets & Graphic Designs Designs)
 - d. Coloring pages for kids
 - e. Ads for items and services
 - f. Print out catalog pages of fonts and graphics for reference
5. BUSINESS APPLICATIONS
 - a. Balance checkbook
 - b. Invoices
 - c. Mail list for customer
 - d. Inventory for Amway/Artistry
 - e. Multiplan spreadsheet--Keep income and expenses for taxes
 - f. Database for User Group membership roster and mailing labels
 - g. Household inventory
 - h. Recipe management
6. TELECOMMUNICATIONS
 - a. Electronic mail
 - b. Upload newsletter to Bob O. for GENie upload
 - c. Select downloads desired from GENie by Bob. (CompuServe, Delphi, and InterNet also have TI areas.)
 - d. Person-to-person file transfer**
 - e. Download programs, graphics, conferences, other newsletters
 - f. Access Public Library listings for availability
 - g. Access City of Springfield information BBS
7. PROGRAMMING--Modify BASIC or XB programs for my own needs occasionally
8. EDUCATION--Use modules/programs for tutoring math/spelling/language
9. UTILITIES
 - a. File organization
 - b. Diagnostics to test hardware
 - c. Disk management (formatting, copying, etc.)
 - d. Conversion of files from IBM to TI format and vice versa
 - e. Archive and unarc files for up/downloads and program storage
 - f. Menu loaders for disks of multiple programs
 - g. Reconfigure my Horizon ramdisks
 - h. Configure FUNNELWEB environment

Continued from page 5

10. MUSIC & GAMES--use occasionally for fun and to entertain friends.

11. FRIENDSHIPS

a. User Group--two dates I look forward to each month are our regular meeting and the Board meeting because I really enjoy the camaraderie.

b. Nationwide network of friends evolved through correspondence with Tiers all over the U.S. (and one in Australia) who write in the exchange newsletters. I've spent quite a few happy hours "playing" with friends in Hollywood CA, Fullerton CA, Huntington Beach CA, Dubuque IA, and Macon GA. I don't do a lot of traveling, but before I go anywhere, I try to find a phone number and address of a Tier to contact, and if possible, attend a user group meeting--I enjoyed visiting with the Brea UG once and the L.A. UG several times.

c. FEST WEST TI CONFERENCE--I've been to Fest West in Anaheim, Phoenix, and Salt Lake City. One of the most exciting parts is getting to "rub elbows" with our celebrities--the programmers, writers, and hardware developers whom we read about in Micro-Pendium and the exchange newsletters. I'm going to make it to the Lima OH and the Chicago/Milwaukee conferences one of these days. Then, there are Boston and Canada; I probably won't ever make it to Germany, Holland or Australia but international conferences are held there, too

12. MENTAL STIMULATION--I keep learning new/old programs and better ways to do things. It exercises my mind and it's fun because what I learn, I can share.

 ** WHAT SR. PAT DOES WITH HER TI **
 ** as shared with Mary Phillips **

1. TEACHES

a. Sisters at Marian Hall Health Care Facility, many in their 90's, use the computer.

One of my favorite cards from my Sr. Pat collection states, "When the physical exertion is too much, opt for climbing the mind's mountains. Let the spirit within

free to explore. Let your mind see new worlds and enjoy it!"

b. Shares her expertise with other Tiers who come to visit.

2. DESKTOP PUBLISHING

a. Greeting cards (ARTIST CARDSHOP)

1. Thank you, Sorry to hear..., Birthday, Holiday

2. Notecards (humorous and inspirational)

3. Card sets used as BINGO prizes

b. Signs (ARTIST PRINTSHOP)

1. Birthday door signs (240+)

2. Special food choices in the dining hall

3. Crafts being taught and activities being held

4. Appreciation (Letter Writers, Wheelchair Pushers)

c. Banners (Horizontal and Totem)

1. Welcome for special speakers

2. Farewell for personnel and volunteers

3. Holiday banners (Easter, Christmas, Thanksgiving)

4. Special Events (National Nursing Home Week, Nurse's Day, BVM Centennial)

5. Appreciation (Volunteers, Cooks, Maintenance personnel)

3. WORD PROCESSING

a. Personal reflections

b. Christmas letters

4. ARTIST

a. Customizes graphics for use in desktop publishing

b. Creating special collages

c. Graphics gender changes to produce more pictures of women

d. Creates stationery with seasonal borders/pictorial headings

e. Prints out topical catalogs of instances for easy reference

f. Rotates instances/fonts 270 for totem banners and portrait signs

5. LABELS (*NAMELOC*)

a. Large print disk labels with sources and instructions

b. Wrap-around disk catalogs

6. UTILITIES

a. Disk/file management (DISKU)

b. Graphics conversion (TIPS, etc. to _I format (TIPS MANIPULATOR)

c. Groups graphics by topic on disk

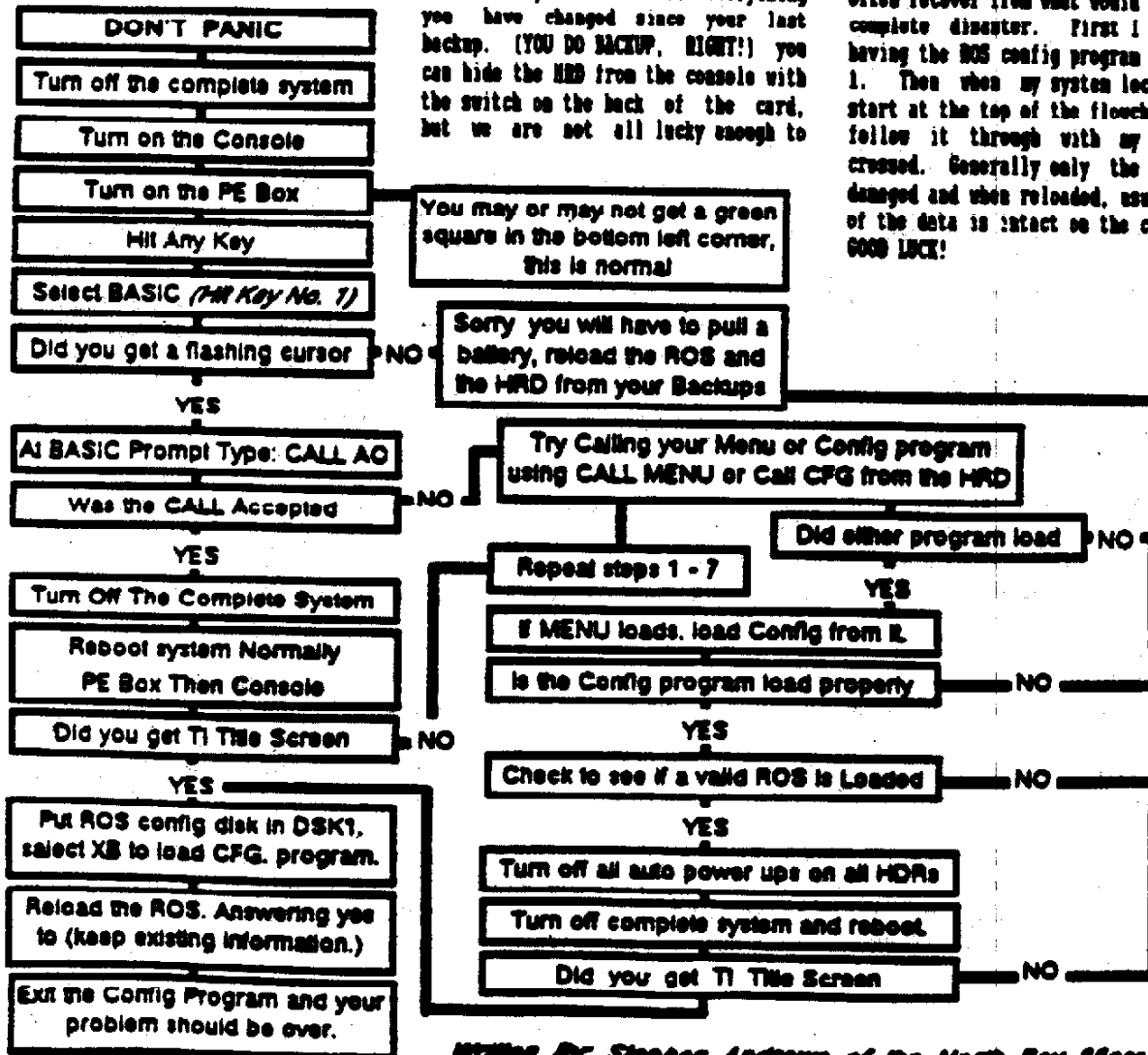
Horizon RAM Disk Lockups

(Don't dump that data yet!)

Certain coincidences this morning have made me decide to write an article, or sort of a quick reference guide for users of Horizon Ram Disks (HRD) of all types. This morning started with a call from our newsletter editor asking questions about a new HRD test program from OPI and problems he was having with one of his HRDs. We discussed the problem, determined that it was most likely the hardware and decided on a course of action. We

said our goodbyes and I went to my system to work on something only to find that my own system would not boot. This is where the real story begins. Anyone with a HRD, with any of the new Ram Operating Systems (ROS) installed in memory, as opposed to some of the Epress that are available has had this problem. (Come on be honest.) At this point you have a lot of options. You can shut everything off and walk away, but that will not solve anything. You can put the batteries on your HRD(s) and start over, but that means you have lost everything you have changed since your last backup. (YOU DO BACKUP, RIGHT!) you can hide the HRD from the console with the switch on the back of the card, but we are not all lucky enough to

have that option because of the old cards which do not have the switch. You could take out the card, put it in the closet and you will never have the problem again. (No, No, that just wouldn't do). These are all options, but not very good ones so let's discuss the alternatives. I am the club librarian and when trying out many new programs, or reviewing older ones, I often have conflicts with the ROS on my cards that make the system appear to be messed up. If however, I remember some simple rules, I can often recover from what would seem a complete disaster. First I start by having the ROS config program HRD No. 1. Then when my system locks up, I start at the top of the flowchart and follow it through with my fingers crossed. Generally only the ROS is damaged and when reloaded, usually all of the data is intact on the cards. GOOD LUCK!



Written By: Stephen Andrews of the North Bay 99ers

THE FACTS ABOUT TI MEMORY SYSTEMS
AN EDITORIAL

Over the last six months there has been a lot of noise on the computer networks and in user group newsletters on issues related to extended memory cards for the 99/4A. Some people have blatantly asked people to come out and choose sides on a very complex issue without understanding what they are choosing. In fact, what should be a pretty objective decision has been turned into an emotional gut-churner - a question decided by loyalties, petty rivalries, lies and innuendo.

Frankly, this is why we are in the situation we are in today - and why companies like Myarc and Corcomp left the community. Everything technical debate gets turned into a personal vendetta, thinly disguised ambition is allowed to prevail over substance, and the community eats its young yet again.

When I set out almost 3 years ago with a really talented bunch of guys to put together a new kind of memory card for the 99/4A, I had believed that the community had finally outgrown that kind of thing. I was wrong. Seeing all of this stuff all over again has made me seriously consider throwing in the towel once and for all.

Why? Because everything we've done with these cards has either been ignored, mis-represented, or labeled as too "controversial" or "not ready for prime time".

For 8 months we've been mailing out press releases, articles and newsletters about our memory cards that apparently no one is reading, and user groups aren't re-printing or even reporting on. The only reference to what we've done that I ever see in print is usually in an article about our competitors, or in an editorial that simply says that there has been a "debate" and that it has "gotten out of hand".

This is simply ridiculous.

This is the most important thing I've been involved with in the 10 years I've been in this community, and unless the community gives this a fair hearing, well, I guess it's finally time to cut my losses.

Here is my last attempt to get the unvarnished facts out in front of you, the reader.

1. The Asgard Memory System (AMS) is available NOW - it is NOT still in "development". We announced the product the day it was commercially available for sale, and in stock. In the last 8 months, we've been refining the product, writing software, and working on the next generation card. Our only competitor announced their product over a year ago, and have yet to release more than press notices (which all seem to be faithfully reprinted everywhere). It is pretty hard to compete against something that so far exists only on paper - especially when the unreleased product gets more press than the one that you can buy today!
2. We started AMS almost 3 years ago - long before there ever was a "National Committee for TI Standards". This so-called committee has never met more than once, doesn't include most of the TI hardware or software developers in the U.S., much less the rest of the world, and has produced a specification for memory systems without any real debate, which endorses our competitor's plans. Before we had a chance to object, it was the declared "standard". Can you say "railroaded"?
3. Our memory system was designed to the only standard TI ever made for extended memory on the 99/4A - the one used in the TI-99/8. In fact, the guy who DESIGNED the TI-99/8 said our design was identical to the one TI specified.
4. Because our design was built to TI's specifications, it doesn't conflict with any other card in the P-BOX - except a 32K card. You can plug it in and your Horizon RAM-disk, Myarc HFDC, or anything else you have will still work fine.
5. Our design uses standard, off-the-shelf components. EVERY other extended memory design uses lots of custom ICs, and even more custom programming (as in a big DSR). Custom parts not only drive up the development time, they also drive up the cost, and guarantee that the design remains proprietary. By using off-the-shelf parts, we keep the price down, and guarantee competition. Remember how much TI used to charge for the 32K card when they were the only one making them?

THE FACTS ABOUT TI MEMORY SYSTEMS
AN EDITORIAL (Continued)

6. Our system is tried and tested. We use the exact same "memory mapper" (the chip that controls the computers use of memory) that TI used in their 99/8, their 9900 minicomputers, and that IBM used in the very first IBM PCs. This component has been available for 10 years - all "bugs" in it have long been removed.
7. Everything about our system is "open". Anyone can write a program for it or enhance it - the hardware and software specifications are available free of charge. Heck, the 5-disk development system we've spent the last 18 months writing is even fairware - and posted on the bulletin boards.
8. The AMS is very fast. It can switch pages over 10 times faster than any competitor, and with little program code (even in Assembly). Why is speed important? If you are sorting 512K of data, or loading 512K of pictures, you'll notice the speed - in fact, you'll notice the other system is less than half the speed.
9. Our system doesn't have its software in a DSR - and we are proud of it! Why?
 - A. We found that putting the operating software in a DSR makes it run much slower than if it was in RAM - and really doesn't give any benefit to the programmer or the user.
 - B. Any DSR increases the chance for compatibility problems - who wants to waste time finding problems with Myarc cards?
 - C. A DSR is "fixed". If you find a bug in it, the only way to correct it is to replace it. Consider all the pain Myarc users have gone through with EPROM upgrades of the HFDC and the Geneve.
 - D. If programs are written to work around a DSR bug, they may not work when the DSR is fixed.
 - E. If the software to use the card is built into each program, than the only thing we have to do to correct a bug is issue an upgrade. Old programs written for earlier versions of our operating system software would continue to work fine, and new programs could take advantage of new features without worrying about hardware compatibility problems - since the operating system isn't in hardware.
 - F. Why do you think Microsoft and Apple load their operating systems from disk, and not from ROM chips?
10. We have a complete set of development tools available NOW. Even if our competitors released their card today, it would be a year before they had a system that was as easy as ours is for programmers. Because our software was designed before our hardware, we were able to design a "programmer friendly" system that is far easier to program than any other extended memory system. This is important - as so many people have said, who wants a memory card there are no programs for?

In the last 8 months since we released our first AMS card we've released 2 software packages that take advantage of the card (including the word processor FIRST DRAFT), and software from other people has started to appear. Around 20 AMS cards are in the hands of developers around the world.

Is any of this news? Apparently not - I've seen few of the facts above in print anywhere, even though we've put them in a half-dozen articles.

The facts, on their own merit, should be compelling enough for people to put aside their differences and really weigh the benefits of what we've done - instead of consigning it as some "curiosity", or ignoring it.

We wanted to put together something that was cheap enough to build that every TI user could have one, and yet was simple enough to write programs for that every TI programmer could do so. I think we've done that. If the TI world isn't interested at this point, doesn't care, or wants to keep waiting for fantasies, well, I can take a hint.

Thank you.

AUGUST 1993

WEST PENN 99'ERS

Chris Bobbitt
July 2, 1993

HOW TO BUILD CABLES

by Tom Morrison
Lima Ohio User Group

Not many computers use cassettes these days, but I still do. Most of the problems I have ran into where cable and/or connector troubles. Building your own cables is not an impossible task. You spend much less and have a better cable by building your own.

On the cassette connector, as you look at the computer, run 1 thru 5 on the top, and 6 thru 9 on the bottom. The list below tells what each pin is used for:

- 1.^CS1 motor + control^6.^CS2 motor + control
- 2.^CS1 motor - control^7.^CS2 motor - control
- 3.^ground^8.^Audio input
- 4 ^not used^9.^Audio return
- 5.^Record output

I cut three pairs of wire 36 inches long. Three black and three white. The first white and black wire pair were connected to pins 1 and 2 of the 9 pin connector. The RS 274-289 plug was connected to these wires. Don't worry about reversing them. When you try this cable and the motor control doesn't work, you just reverse the wires on the plug.

The next black/white pair were connected from plug pins 8 and 9 to the larger RS 274-287 phone plug. I painted the plastic hood on this white to identify it as the audio. Pin 8 should be soldered to the short terminal on this plug. Pin 9 of the plug should be connected to the longer terminal of this jack.

The remaining wire pair goes on pins 5 and 3 of the plug. 5 goes to the long terminal and 3 to the short terminal. Now you can put the hood on the plug. This last wire pair is the record plug. I marked mine with red paint.

After plugging it in and testing, you will want to wrap the wires with tape. I ran the wires through a length of black tube found at the electronics store.

For those who have a monitor that takes a video and audio jack and not the modulator box, it is easy to connect. The TI model number UM1381 just snaps apart. Pop the front off and the wires are labeled as to what they are. The plugs have to match your monitor. I cut the cable and attached the corresponding wires to the plugs. You might wish to purchase a din (round) connector with 5 pins, the shielded cable, and jacks. Looking at the din connector with the notch at the top, the pins are 1 thru 5 counting counter clockwise.

1. 12 volts (not needed)
2. video out
3. shield
4. ground
5. audio out

A parallel printer cable can be constructed some times without even soldering. The connectors are made to snap over and puncture the wire to make the connection. pins 1 thru 9 are connected straight across. These are data lines. You have to know where the handshake line is on your make of printer. This is pin 10 on the TI connector. The port is a 16 pin pin-head connector, and is organized like this:

- 15 13 11 9 7 5 3 1
- 16 14 12 10 8 6 4 2 (front view)

On my printer pin 11 had to be connected to pin 10 on the TI parallel port. Pin 16 on each were ground. Here is a list of what they are:

- 1.^control strobe (clocks it into printer)
- 2.^thru 9. are data lsb to msb
10. and 11. sense input (printer says "got it")
12. 1K resistor to +5volts (??)
13. 10 ohm resistor to +5 volts(??)
14. logic ground
15. spare control strobe
16. logic ground

I have a long cable to my printer now. Wrapped in foil it looks strange, but it works. The snap connectors and flat cable were much cheaper than buying a cable. I haven't made any joy sticks, but I don't use them very much. It uses the same 276-1538(Radio Shack) connector as the cassette plug. The pins on it are:

1. not used^5. left^9. fire
2. stick #2^6. not used
3. up^7. stick #1
4. fire^8. down

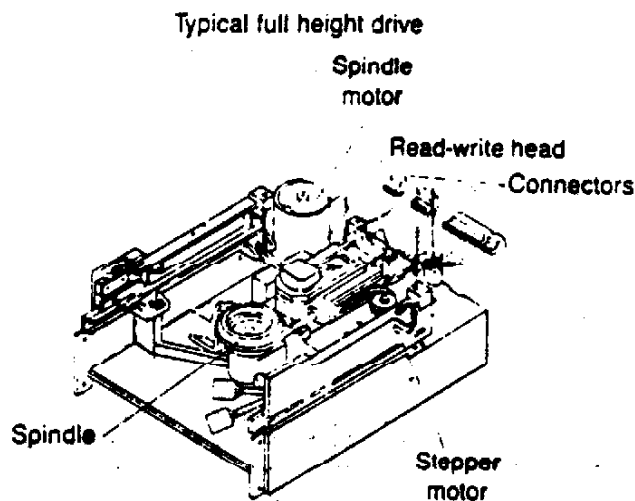
If you know the connections on a different manufacturers stick, you could adapt it to your TI. Many happy connections to you all.

THIS AND THE FOLLOWING PAGE ARE BEING PRESENTED TO ALLOW YOU TO GET AN "INSIDE GLANCE" INTO THE WORKINGS OF THOSE WONDERFUL DRIVE UNITS THAT WE USE, AS WELL AS ABUSE, AND THEN EXPECT THEM TO GIVE US TROUBLE-FREE SERVICE.

THEY CAN & WILL GIVE THAT SERVICE "WITH A LITTLE HELP FROM YOUR FRIENDS", AND YOURSELF. PAY SPECIAL ATTENTION TO THE FINAL PICTURE ON THE NEXT PAGE!

FLOPPY DISK DRIVES

Disk drive maintenance and adjustments



The floppy-disk drive components are installed tightly and critically in the unit.

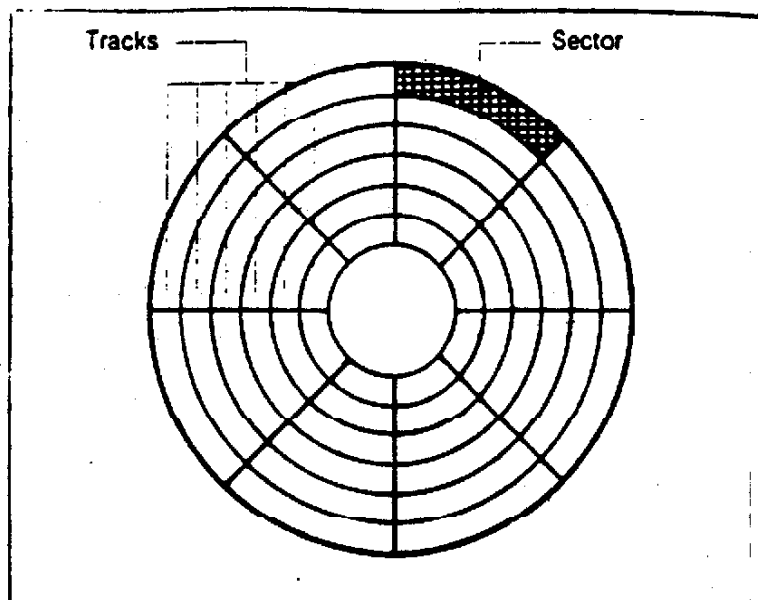
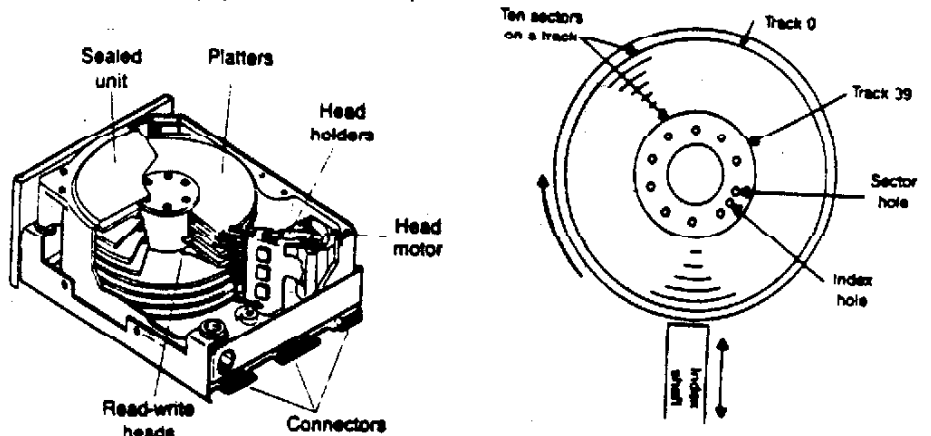


Figure 8.2. Tracks and Sectors on the Surface of a Diskette or Disk

HARD DRIVE UNITS

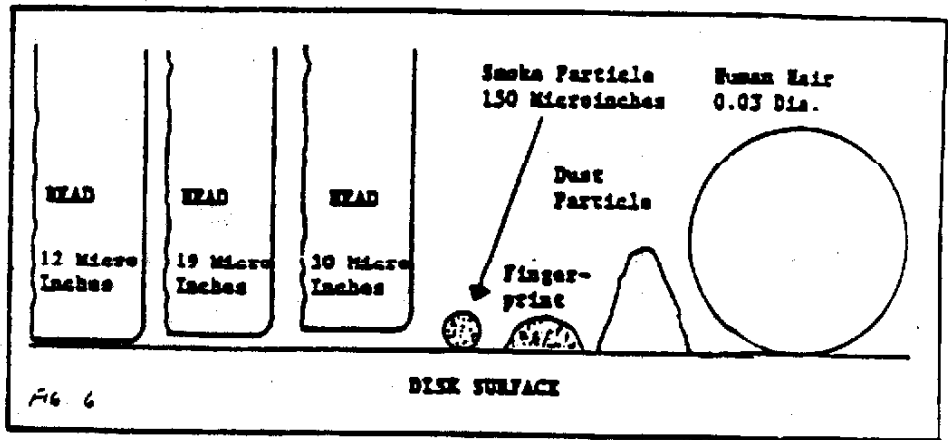
FIGURE 6



A hard disk can be constructed with one or more hard metal disks called platters. The moving mechanisms are enclosed in a sealed unit that is not easily opened up.

FIXED DISK DRIVES

Figure 6 shows head flight relationships for winchester technology hard drives. Since a smoke particle is about ten times the head gap it is easy to see why a clean environment is required in the servicing of fixed drives.



PAUL'S PAGE



WEST PENN

99'ERS



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Sooner or later there comes a time when we have to talk to those other machines. I know that the big guys are used in industry and business. I look at my TI computer, and ask myself how did I get here? I didn't know how to connect the RF mod. to the TV without reading the book that came in the box. Now almost ten years later I can do a little programing, I have a ton of graphics, a printer and a stack of disks and books and papers. There is quite a few of us that travel to get to a meeting. I know little of the other machines and desire to learn more about my TI. I am glad that we have such a following, I found some pretty good friends and hope to keep them. I know that I could not have all this equipment if it wasn't for West Penn.

I just want to say that I want to keep my TI and to keep on learning. I don't want anyone to loose interest in any computing that they may have. If I was given or won the big machine, I think that I would still stay with my TI. I would also need help with the machine, therefore I would seek information. I would not try to interfere with the conflict of interest.

This all reminds me of a story that I read in the March 1993 Great Lakes Computer Group, intituled **A MODERN FABLE!**

A wily, old man retired and bought himself a modest home near a school. The frist few weeks were peaceful but then three young people started coming around and kicking all the trash cans on the block.

One day the old man decided he

couldn't stand it any longer and went out to talk to the hellions. "You kids are a lot of fun," he said. "I like to see you express your exuberance like that." As a matter of fact, I use to do the same thing myself when I was a kid. Will you do me a favor? I'll give you each a dollor if you continue to come around and do your thing."

The kids were elated and they did a bang-up job on the cans. One day the oldster greeted them with a sad smile. "Inflation's putting a big in my income," he said. "I'm afraid I'll be able to pay you only 50 cents."

The noisemakers were very displeased but they accepced his offer and continued their afternoon ruckus. A week later the man approached them again. "Look," he said, "I haven't received my Social Security check, so I can't give you any more than 25 cents. Will that be all right?"

"Only a lousy quarter," one kid exclaimed. "You think we're going to waste our time kicking those around for a lousy quarter? No way. We quit!"

The old man lived happily ever after.

A New Trojan Horse? From Bill Gaskill. March issue of the Greater Akron 99ers. His artical deals with a VIRUS, that he seemed to have on his TI. On the next page Mike Maksimik Tells why a True VIRUS cannot run on the 99/4A. 03/93...It has something to do with copies of DM1000. I have had some problems with my disk drives, now after reading this artical I think that it was with DM1000. I am useing a different copy at the present

PAUL'S PAGE

time. Sometimes I don't know the problem and create bigger ones while trying to fix them.

SMILE--A preacher had poured his heart out to the congregation. It went longer than usual. As he was shaking hands at the door, he asked an elderly

parishoner how he liked the sermon. The man replied, "It was refreshing... absolutely wonderful!" This obviously pleased the preacher until the man added, "I felt like a new man when I woke up."



I LOVE MY TI!!

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May the good 4's be with you.

PEPSI-----COKE!!!

Check elsewhere in the
newsletter for a photo of the
PEPSI GIRL caught with a COKE!
What is this world coming to?
It is not trick photography
either. Maybe a needle scared
her but she had her PEPSI
again last month and her own
PEPSI MACHINE!!! at home.

WEST PENN 99'ERS

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