

# BITS, BYTES & PIXELS

LIMA 99/4A USERS GROUP



April 1992

Volume 8, #4

## LIMA MULTI USER GROUP CONFERENCE: An all TI/Genove event

4PM Friday May 15 through 6PM Saturday May 16  
REED HALL, OHIO STATE UNIVERSITY LIMA CAMPUS  
FINAL UPDATE (prepared March 25)

**COST:** Free! No admission charge; no charge for exhibit room tables.

### NOW TO GET THERE:

The OSU Lima campus main entrance is on state route 309 approximately 3.5 miles east of the intersection of 309 and 175. Many of the hotels in our list published in the March newsletter are at this intersection. Turn left at the large highway sign to enter the campus. Then turn right at the first opportunity and park in the parking lot.

Lima is served by Greyhound Bus. The closest airports are Dayton Ohio or Toledo Ohio. From these airports you have to rent a car or take a Greyhound bus to get to Lima.

### SPEAKER LIST (to date):

Ken Gladyszewski--"Do it yourself products for the TI, including analog to digital conversion."

Eunice Spooner--"Teaching TI LOGO to first grade students, an actual demonstration with a first grader."

Jack Sughrue--"Using the TI computer to educate children"

Bruce Harrison--"New non-music products from Harrison Software"

Deloris Werths--"Programming music for the Midi Interface; new music from Harrison Software"

Charles Good--"A preview of Funnelweb v5 with a totally rewritten text editor."

Lee Bendick--"A demonstration of the TI 99/8 and its unique set of peripherals"

Barry Traver--Topic to be announced.

Bud Mills--"Hardware products from Bud Mills services"

Gary Bowser--"D.P.A. products"

Bill Nelson--"Comprodine Products"

We expect to additions to this list of speakers as Conference time approaches.

### VIDEO TAPES:

All formal presentations will be video taped and made at nominal cost to any user group and to individuals who are members of the Lima Ohio User Group. Right now it looks like we might be able to squeeze the presentations onto two VHS tapes, but it is quite possible we will have to go to a third tape. The cost is EITHER \$5 per tape (\$10 or \$15 total) which includes our media and postage OR your blank tapes and \$1.25 postage per tape (\$2.50 or \$3.75) available. Blank tapes (clearly marked with a return address) and/or checks can be left at the Lima table during the conference.

Optionally, tapes and/or money can be sent to the Lima UG address at the end of this article.

We have purchased some wireless lapel microphones for our speakers to use. This equipment should solve problems we have had in the past with background noise making the speakers difficult to hear on our video tapes of past NUG Conferences.

### COPYING DISKS FROM THE LIMA UG LIBRARY:

ONLY those disks added to the Lima software library since April 1991 will be available for copying, at no charge, by a representative of any user group. Approximately 120 FLIPPY SSSD disks (240 disk sides) will be available for copying. An annotated description of these disks is being mailed on a disk with this newsletter to all Lima UG members and to all user groups likely to attend the Conference. BRING YOUR OWN BLANK DISKS.

### ATTENDING DEALERS:

L.L. Conner Enterprise  
Competition Computer  
Comprodine  
Bud Mills Services  
Harrison Software  
Asgard  
D.P.A.  
Genial Computerware  
Recharged Computer  
Notung Software

We expect additions to this list. We also expect lots of user groups to have tables loaded with software and used hardware.

### FOR MORE INFORMATION:

To reserve free tables, to schedule a formal presentation, or for motel or other information phone Dave Szippel (419-228-7109) or Charles Good (419-667-3131) evenings, or write the Lima UG at P.O. Box 647, Venedocia OH 45094.

\*\*\*DONES\*\*\*

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## LETTER FROM AUSTRALIA No. 1

Tony McGovern Mar/17/92

A while back I made the suggestion to Charlie Good that instead of writing letters in which a lot of the material could well be of general interest as newsletter articles, that I might as well do the relevant parts as a disk file under the name "Letter from Australia". No sooner had I made this rash suggestion than Charlie accepted it before I could change my mind, and had the idea that it could be a bit like Alastair Cooke's Letter from America which is broadcast on the BBC world service. That was indeed the model I had filched for the name - I regularly listen to the program on ABC radio here most Sunday evenings at 7.15, but I don't think it is going to be in the same journalistic league. I always enjoy the mixture of whimsy and often very penetrating comment on the state of the US of A. We'll be more concerned with the TI-99 world, or what remains of it. First for the whimsy.

The question arose here a little while back as to whether security guards would be more effective if they had a solid classical education, particularly in ancient Greek. The incident that set this off wasn't really anything to do with George Bush's flying visit here on the way to Japan, but it did follow on in a sort of way. Now George's table manners in Australia were impeccable, and our newly minted Prime Minister made a truly awful speech, but that wasn't it either. It was in fact a Trojan Horse that caused the problem. A what? Well, Australian farmers are quite unhappy about the way the US is soaking its own taxpayers to subsidize wheat sales around the world to do battle with the EEC who do even more of it. They don't really care about anyone else's taxes, but they do care about their markets, and were demonstrating to make their point to Mr Bush. They rolled out a metal horse made by a former political candidate for campaigning in a previous election. The body of this thing is a metal tank like the ones that get buried in the driveways of gas stations, so you have an idea of the scale of the thing.

After the official visit the metal horse was hauled back to Sydney on a very large truck. In the meanwhile one of the banks, they are no different here, had decided to foreclose on the business of the ex-political candidate. The bank locked everyone out of the factory and posted security guards around it with instructions to let no one in. This was all publicized in the newspapers. A day or two later the owner rolled up in the huge truck and asked the guards if he could park the Trojan Horse in the factory yard - according to reports in literally those words. Of course once it was inside, out piled 30 or 40 of the factory people and retook possession from the bank. The rest of Australia was still laughing a day later, and wondering about security men who had never heard of a Trojan horse. There can't be anyone with an interest in computers who does not have some idea.

It has been summer here, but not one to remember. First it was drought and heat, then rain, and the surf conditions ranged between bad and dangerous. So some programming got done, and Charlie should have something new and interesting to show at the May festivities. Not much new finds its way to Newcastle these days, and I'm so busy programming that I don't bother with commercial software, no matter how cheap it is for the TI, because I never get around to using it. Besides there is really only one game worth playing on a computer - programming it to do the ultimate it is capable of. The commercial software seen here has not been all that inspiring. Al L. bought a spell-checker, and from what I've seen and heard of it, while it may be a fine spell-checker it needs major rework to get its disk handling into acceptable form. For my part I could always spell, it is just that my typing is lousy. So I have no direct user interest but I am concerned that there be a viable spell-checker, be it commercial or fairware, to complement the Funnelweb system.

It has not been entirely a drought on the fairware front. On my wish list for some while has been a GIF picture file loader for 80 column cards in the TI-99 that would also convert to Myart format. For all its problems, stemming from buggy early Myart releases, this format is the easiest and fastest picture format to load on the TI-99, even if the disk files show less compression than GIF. Funnelweb's DiskReview has a fast and reliable Myart loader for convenience, but there is no way that a GIF loader could fit in. We were stuck between Geneve software that would not run on a 99, and an older German program that would load GIF very slowly but not convert. Now the wish has come true thanks to a computer student in the Netherlands, Ton Brouwer.

There are some other items on my wish list. Chief among these is an update to the Horizon RamDisk ROS that will allow 800 Kb DSDD equivalent disks to be set up. It is only very recently that we have had a HRD big enough for this to be of relevance, but several projects such as DiskReview and the Editor rewrite have reached the point where it is getting difficult to fit source and object files on a 400 Kb RamDisk. I may be a more obsessive commenter of source code than many, but I am sure there must be other programmers out there with big projects running into the same problem. No, I do not regard the Myarc HFDC as a viable device unless its maker gives it at least one more serious development stage - from alpha to beta phase. A not very productive direction was taken in the Vn 8.1x HRD ROS development to cater for zillions of small equivalent drives instead of a few decent size ones on larger HRDs. Maybe Bud Mills will have something good in that line in Lima for May. In the meanwhile we may have to redo the ROS for the local Quest RS so its 512 Kb can be used as a single drive.

Well, that's enough for now. Until next time, goodbye to all Bits, Bytes & Pixels readers from the Hunter Valley.

8:00:00

\*\*\*\*\* TI-101 \*\*\*\*\*

OUR 4/A UNIVERSITY

by Jack Sughrue  
Box 459  
E. Douglas MA 01516

\$3 DOCENTS

To Whom One Turns

You people up back, let's have your attention up here!

Save your questions until the end, as I'll probably answer them along the way, anyway.

First, make sure you have your notebooks open and pens at the ready. There are lots of important names and addresses I'll be giving out. Only once. So, if you miss them the first time, it's as the French say, "Zee tough cookie."

Second, in my hand I have a SOFTWARE EXCITEMENT Catalog. These \$2 catalogs are for the IBM compatibles, Amigas, Macs, Commodores, and Apples. They are typical of the user-supported shareware-type catalogs for those machines, most of which contain the same items no matter who publishes them. Let's look at what they have to offer for \$4 per PROGRAM! If you buy a dozen programs they go for \$3 each. 20 brings the price down to \$2.50. When you order more than 50 of these programs the price gets down to \$2 each. Plus shipping charges and a \$3 handling and packing fee. But there are only 30 educational programs total, pre-school through college, anyway, so you couldn't even order 50 educational programs if you wanted to. But one has to be careful, even if you have a dozen children from ages 3 to 23. AMENCHP (a memory game), for example, requires 640K (YES! 640!), a VGA or EGA monitor, AND a hard drive. Whew! Sure makes our little, very inexpensive, 52K TIs with single/single drives look puny, doesn't it? Or does it? What does this program do? You watch up hidden pairs. It's a fancy variation of Concentration.

There is also a program called WORD GALLERY which helps children associate the printed word with the object it describes. (Doesn't that sound a bit like a few cartridges TI made about a decade ago?) There are also math programs that teach counting, addition, and subtraction through endless patience and some graphics and games. (More cartridge *deja vu*?) There's also French and Spanish tutorials. And so on.

Anyway, if you have a use for any such fanciness or even ALL of these 30 programs, they will cost you about \$70.

Now, we'll begin with THE important educational resources of today's American TI Community.

As I'm not reading from my full notes today, Class, I'm afraid I'll be leaving out a few important resources unintentionally. Consider checking this out and locating the missing sources as part of your assignment for next time.

Meanwhile, let me start with some comparisons to this \$2 shareware catalog in my hand. There's a wonderful programmer and writer in Columbus by the name of Jim Peterson. He has a one-man company which has no equal for any other computer in

the country. It's called TIGERCUB SOFTWARE (156 Collingwood Ave., Whitehall, OH 43213) and offers disks at \$1.50 each (postpaid for 8 or more). Disks! Not programs. And he has over 550 different disks! Jam-packed full of the best authors in the TI World, arranged by category and auto-loaded from a super menu. We're talking THOUSANDS of Public Domain and Shareware programs. Let's look under education, for example, where, along with the games sections, you can find not 30 but THOUSANDS of programs, various Concentrations just being a sidgeon of these. For example, there are three disks full of programs just for Vocabulary & Reading and 15! for math (to name a couple). Here are the programs from just ONE of these Vocabulary & Reading disks: Adjective to Adverb, Noun to Adjective, Learning to 'ing' It, Plural Endings, Animal Multitudes, Doctor Who, Vocabulary, Vocabulary Quiz, Syllables, Reading Practice, Speed Reading, Tense Time, Synonyms & Antonyms, Read-Fast, and Vocabulary II. 15 educational programs for \$1.50! Or, in this case, just 10 CENTS A PROGRAM! (Or, put another way, about 30 programs for \$3, instead of \$70, as is the case with the "other" computer.) In addition to some neat graphics, some of these programs have real speech! All for a dime. Nothing's been a dime since Nixon took us off the gold standard: not a pack of gum, not a comic book, not a candy bar. But now, thanks to Jim Peterson and TIGERCUB, the dimey has returned to those fortunate enough to own a TI-99/4A. Top quality for wonderful prices. To get his catalog (\$1 deductible on first order) is like rolling Chanukah, Kwanzaa, Christmas, Druidic Solstice, and 55 Birthdays all into one computing event.

I tell you, Class, it'll make your mouth water.

But where was I?

Oh, yes, TI resources for educational goodies. Er, tools. Educational tools and materials.

Obviously, if you own a disk drive, TIGERCUB is an enormous resource.

The next best resource is an active user group. Makes no difference if you live in East Douglas or Venedocia (if there really are such places), you can make the connection by joining by mail. I belong to a few user groups. In addition to monthly newsletters, which keep me very informed and me to date on TI matters of importance, I am also afforded the opportunity of participating in the treasure chests called Club Libraries. I'll use the Lima, Ohio, group as an example. (Lima UG, P.O. Box 647, Venedocia, Ohio, 45894). For my \$15 dollars a year I receive a MONTHLY newsletter of original articles, reviews, advice, programs, you-name-its. Also I automatically receive important updates of FUNNELMED, the most used piece of software in the TI disk world. I have access to a zillion world-wide newsletters and other pieces of textware, not to mention the expertise of a truly sharing collection of hard-working, friendly 99ers. I am also entitled to the free library of cassettes and disks put together by this small, dedicated contingent of TI goodfellas (and gals). This means that I can look over the immense LIMA catalog at my home in Massachusetts and send cassettes and postage or disks and postage and get ANYTHING I want for nada, zilch, zero, cribbage 19, nothing. Beat that one, Kiddos!

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**Daps!** As I was saying, we must look into our educational resources. There are many other user groups, too, Class. My local M.U.N.C.H. (560 Lincoln Street, P.O. Box 7193, Worcester, MA 01605) is probably my best personal resource, as I attend our monthly meetings and fairs and so on. We do lots of demos and hands-on type things and help each other whenever possible. Anyway, Class, if you can find a local group you can go to for meetings, that's another great resource, but at least join one by mail if there are no locals.

And attend at least one TI Faire somewhere once a year, even if (as I do) you have to travel over 800 miles. It's worth it for all the...

If you'd hold the talking down back there, it would be greatly appreciated. We're running out of time, and I did want to...

Okay, Mr. Shakespeare, what is the question? I suppose that's the only way I can get you to stop waving your hand.

Listen up, Class! Listen up! Mr. Shakespeare over by the window wants to know about some of the educational software. He says he has a nephew in junior high who is having trouble reading and two granddaughters who are 8 and 4, respectively, and wants to know what the TI can do for him.

Yes, yes, Ms. Bronte, I'm AM going to tell you about educational software for people our age, too, but we won't be able to get into too much of that for a few sessions.

Right now, though, I'd just like to tell you about a few people who had some visions. It might help.

Terrie Masters, who used to be president of the Los Angeles group, spoke to me a few years ago about doing some educational networking with our TI educators. I've also discussed that same thing more than once with Charlie Good (Lima UB). And Sister Pat Taylor (1050 Carmel Drive #456, Dubuque, Iowa, 52001). And John Willforth (RFD #1, Box 73A, Jeannette, PA 15644). And Janet Ryan and her daughter Jennifer (10 Jolly Road, Ellington, CT 06029). And Nickey Schmitt (196 Broadway Ave., Lower Rurrell, PA 15068). And Mike Wright (45 Centerville Drive, Salem, NH 03079). And Jim Nora [EXTENSIVELY] (P.O. Box 244, Lorton, VA 22079). And Rodger Merritt (1949 Evergreen Ave., Fullerton, CA 92633). And fellow elementary teacher Phil Townsend (c.o. Kawartha 99ers, 224 Woodward Ave., Peterborough, Ontario, Canada, K9L 1J7). And Eunice Spooner (Webb Rd., Box 3720, Waterville, ME 04701). And Barry Traver (835 Green Valley Dr., Philadelphia, PA 19128). And OFTEN with Jim Peterson. And, once with educational programmer Don Shorock (P.O. Box 501, Great Bend, KS 67530). And very often with Chris Bobbitt even before he founded ASGARD (P.O. Box 10306, Rockville, MD 20850). And piles of teachers and interested parents and grandparents.

An educational network has been a hot topic for many years in our community. As a matter of fact, Terrie mentioned a teacher by the name of Joy Warner (Box 518, Mt. Baldy, CA 91759, whose daughter is a pilot and was in the recent winter olympics as a "lugist," one of those incredible slidders) who was bent on getting a network going. This past year Joy flew all over America trying to help Terrie's dream come true by meeting with as many TIers as she could meet

during her whirlwind tour.

She discovered, as I did, that there is already much of that network in place and ready to connect. Jim Peterson has his TIGERCUB marvel. Charlie has been testing (with his own wonderful tykes) all kinds of marvelous and rare TI educational programs from Milliken, Scholastic, Disney, and so on. Mike and Charlie, along with Gary Taylor from Pittsburgh have been competing for ownership of the ultimate TI Collection (in fable known as the TI Grail). Eunice Spooner not only runs the only all-kids TI user group in America but has the best LOGO video and disk program money (\$10) can buy. Bill Gaskill and Ron Albright have been (to our 99 history) the best thing to happen to us. Bill still is. Dirk Altan's wonderful Fairware List is now in the capable hands of Ida McCargar of the Southwest 99ers (P.O. Box 17831, Tucson, AZ 85730).

Oh, sorry, Ms. Bronte, I didn't notice the time. Anyway, keep this list. It's important when it comes time for the final. Guaranteed this material will be on it.

Did I mention NOTUNG? Or Tex-Comp? Or COMPRODINE? Or MICROpendium?

Or Regena? I didn't mention Regena? Quick. Write down REGENA, 918 Cedar Knolls West, Cedar City, UT 84720.

Ciao!

(Now let's see. Who did I leave off this list? And where does the time go?)

\*\*\*DONE\*\*\*

#### \*EASY SORT\*

#### ASSEMBLY LANGUAGE SORTING OF XB DATA STATEMENTS

reviewed by Charles Good

Lima Ohio User Group

Many of us have our favorite extended basic name/address program, or household inventory program, or other "list of things" program. There are lots of these floating around in the TI community and the nice thing about them is that, since they are in XB, the inexperienced user can modify them to the user's particular requirements. These programs either load in a separate data file to sort and display or they contain their data in XB data statements. Many "only know how to program in XB" users use data statements in such software. The advantage of using data statements is that the data is loaded into the computer just as fast as the controlling program. There is no need to spend time loading the program and then loading a data file. One disadvantage of data statements is the haphazard unsorted order that the data is usually entered into the program. New data, irrespective of alphabetical or numerical order, is usually added after all the existing data statements. Reading all this data into memory and sorting it in XB takes alot of time.

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Bruce Harrison to the rescue! Bruce sent me an evaluation copy of a new commercial offering which sorts data in data statements FAST. No assembly language knowledge is needed, just use the SKELETON program or add the appropriate CALL LINK to your own software. SKELETON is very flexible. Many different kinds of data can be stored with a neat menu popping up at the start of SKELETON showing what the data is (video tapes, names and addresses, household inventory, etc). DATA statements can be part of the program, MERGED into the program, or loaded in from a separate disk file.

Bruce's disk includes a demo name/address program that contains the addresses of many prominent personalities in the TI community. The demo program itself is REALLY NEAT with quick sorting by first or last name, street address, city, state, or zip code. The list of TI personality's addresses is in and of itself useful to owners of TI home computers.

Below are excerpts from the letter from Bruce that accompanied my evaluation copy of EASY DATA:

"Here's our latest commercial offering, a little goodie we call EASY DATA. It's for unskilled XB programmers, so they can do great things with DATA statements and a little help from Harrison's Assembly routines.

"The package sells for \$6.00 including S&H for US and Canada customers. Its main ingredient is a routine called MSORT, which is supplied buried in the XB program SKELETON. That XB program also contains a slightly upgraded version of our Menu Driver (QMENU), so the unskilled programmer can make nice looking menus from simple DATA statements.

"MSORT is a magical routine in many ways. It performs sorts by any two fields in the data, as designated in the LINK statement. The kind of sort performed (Numeric or String) is determined by the kind of variable that the field being sorted reports into. It does not waste time on the secondary sort unless the primary sort is a tie.

"Three demos are provided. The one called BIGDEMO sorts 55 records of six fields each on two criteria in a bit over three seconds. [Charles Good note: BIGDEMO is the name/address demo mentioned by me above.]... The time required to sort is essentially insensitive to the original ordering of the data. Lists that are almost in order take no less time than lists that are completely reversed."

EASY DATA is NOW available by mail for \$6 and will be available at the Lima MUG conference in May as well as some of the East coast TI shows.

Harrison Software  
3705 40th Place  
Hyattsville MD 20781  
301-277-3467

\*\*\*DONE\*\*\*

### HARRISON SOFTWARE'S "CODE BREAKERS"

reviewed by Charles Good  
Lima Ohio User Group

Do you like solving CRYPTOGRAMS such as those published in newspapers or "mixed puzzle" magazines? These are phrases encoded in a monoalphabetic substitution. Each instance of a single letter in the phrase is represented by a "code" letter that is different from the real letter. The same real letter is always represented by the same code letter in the encryption. Harrison software's CODE BREAKERS gives cryptogram fans the chance to solve such puzzles on a 99/4A with the aid of assembly speed and an excellent screen display.

Code Breakers randomly selects a phrase from a file of available phrases and displays the encoded phrase on screen. Coding is based on a "keyword", also selected randomly. The encoded screen display is in either of two formats:

1- NORMAL, as such puzzles are usually published in newspapers or puzzle magazines with letters grouped into words with all the original punctuation. In this case two and three letter groups are a great help in solving the puzzle, allowing the solver to decode words such as "the", "as", "it", "it's", etc., and to use the letters in these decoded words to partially decode other words in the encoded phrase.

2- PROFESSIONAL. The encoded phrase is displayed as groups of five letters, with the last 5 letter group padded with extra letters if needed. The solver has no initial clues about the length of individual words or where one word ends and the next word begins. This format is really hard!

When solving puzzles you use the arrow keys to move the cursor over a code letter and then press the keyboard key of what you believe the real letter represented by the code letter is. The letter under the cursor AND all similar letters in the coded phrase instantly (at assembly speed) are changed to your guess. Different foreground and background colors make it obvious to the viewer which letters are in still displayed in the original code and which have been guessed (maybe correctly, maybe not) by the solver. When the solver thinks the code is correctly translated, or gives up, a press of the <enter> key reveals the correct solution and the keyword used to generate the encrypted phrase.

There are three possible sources of phrases for encryption. CODE BREAKERS comes with a large disk file of phrases that the software will randomly select from for encryption. Users can also create their own files of phrases, up to 124 characters in each phrase. There is also a "two player game" option that does not use an existing file of phrases. One player types in an uncoded phrase while the other player looks away. The computer then displays an encrypted version of this phrase on screen and the second player try to solve the puzzle.

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My testing panel of two cryptogram puzzle fans (my wife and one of my children) gives high marks to CODE BREAKERS. The ability to quickly try different letter substitutions and see their effect on screen speeds the solutions of the problems. Lots of wear and tear on pencil erasers, and the resulting mess, are also eliminated. The only complaint my testing panel had was that they were confined to a chair sitting in front of the computer. This is considered rather restrictive. Cryptograms are usually solved in leisurely locations such as laying in bed, sitting on the couch watching TV, or while riding home from work in a car pool or public transit. Wouldn't it be nice if CODE BREAKERS worked with a CC40? Then the game would be portable, just like newspaper and magazine cryptograms.

\*\*\*DONE\*\*\*

**GRAM USER MENU SYSTEM (GUMS)**  
 reviewed by Charles W. Good  
 Lima Ohio User Group

Offered as fairware by RAG software (requested donation \$10), GUMS is for use with any GRAM device (Gram Kracker, PERAM, etc.). It provides the user on powerup (immediately after the TI or CorComp title screen) with multiple useful menu selections comparable to, and perhaps better than the menu selections available with O.P.A.'s SOP operating system. Some special features are available if GUMS shares GRAM memory with TI Extended Basic.

GUMS loads into small portions of the normally unused GRAM memory space in GRAMS 3-6 with the loader that comes with the GRAM device after a cartridge has been loaded, and can be used successfully with any saved cartridge. Once loaded, the cartridge/GUMS combination can be saved back to disk as a single set of cartridge files. Previous user modifications and enhancements to cartridges, such as the Gram Kracker's additional extended basic CALLS (XB CALLS), usually still work ok after GUMS is loaded. Combined GRAM cartridge files such as XB/EA also work properly. However, EAS software packed into GRAM memory with GramPacker may not work properly after GUMS is loaded into the pack because GramPacker uses all available GRAM memory to store its packs. There is no "unused" memory on each gram when using GramPacker.

When you turn on your 99/4A and advance past the title screen GUMS gives you this menu, which like all GUMS menus is in 40 columns.

- A- PROGRAM LIBRARY
- B- UTILITY LIBRARY
- C- FILE MAINTENANCE
- D- DISK MAINTENANCE
- E- TI BASIC

F-P Cartridge and GramPacker files loaded into the GRAM device. For most users, selection "F" will be TI EXTENDED BASIC. Those with the PERAM+ will have all cartridges in all

memory banks displayed simultaneously on this powerup menu without the need to use the console's Review Module Library feature to page to banks of GRAM.

A- PROGRAM LIBRARY and B- UTILITY LIBRARY allow you to boot a large number of programs from disk, ramdisk, or hard drive. Each of the two LIBRARY menus gives you a user configurable menu of up to 13 programs which can be booted with the press of a single key. That's 26 selections! These items can be any combination of EAS PROGRAM files, extended basic PROGRAMS, or direct access to a specific GRAM address to start an internal SPL program. As distributed, the first two items in GUMS' PROGRAM LIBRARY are preconfigured with RAG software's 40 column TI Writer editor and formatter (TIW v3.0). The first UTILITY LIBRARY item takes you to the loader/memory editor of the Gram Kracker or the PERAM, whichever device you are using. These preconfigured items and the unconfigured items in each menu can be altered by the user. Configuring these items is done either with the GRAM device's memory editor, a sector editor to change GRAM cartridge files that have been saved to disk, or a configuration utility that comes with the GUMS package. You can also from the PROGRAM and UTILITY LIBRARY menus run any EAS or extended basic software not listed as a menu item. Just type the drive and file name and press <enter>.

C- FILE MAINTENANCE from the powerup menu gives you these options when it is selected:

- A- SHOW DIRECTORY (with option to print to a printer)
- B- COPY FILE
- C- RENAME FILE
- D- DELETE FILE
- E- PROTECT FILE
- F- UNPROTECT FILE
- G- SELECTIVE COPY
- H- SELECTIVE DELETE
- I- PRINT FILE (must be DV80 or DF80 file)
- J- VIEW FILE (this also must be a DV80 or DF80 file).
- K- PRINTER SETUP

COPY FILE (item B) can be used with a single drive system with disk switching prompts. You can also copy a file back onto the master disk using a different file name.

If you select items G or H each file in the directory is presented one at a time. The user can either perform the action or move on to the next file.

Item I- PRINT FILE is very powerful! Before printing begins you can specify the left margin, the number of text lines per printed page, and whether or not to include line numbers in the printout. The printer name is, of course, configurable.

PRINTER SETUP (item K of the FILE MAINTENANCE menu) is very comprehensive and as distributed is set up for STAR NX1000 and other Epson compatible printers. Each of the items listed below in PRINTER SETUP is user configurable.

- A- Elite
- B- Pica
- C- Compressed
- D- Compressed Off

- E- Expanded
- F- Expanded Off
- G- Emphasize
- H- Emphasize Off
- I- Double Strike
- J- Double Strike Off
- K- 8 lines/inch
- L- 6 lines/inch
- M- Skip Over Perf
- N- Eject

**D- DISK MAINTENANCE** uses the built routines in the disk controller's ROM and should thus be compatible with all disk controllers. These options are available:

- A- SHOW DIRECTORY (same as in FILE MAINTENANCE SD)
- B- BACKUP DISK (file by file copying)
- C- CHANGE DISK NAME
- D- FORMAT DISK
- E- BOX FORMAT
- F- SECTOR COPY
- G- PROTECT DISK
- H- UNPROTECT DISK
- I- PRINT DIRECTORY

I really like and frequently use BOX FORMAT. It is faster than any other 99/4A disk manager's "box format" and lets you rapidly format lots of blank disks on a multiple drive system. You put disks to be formatted into drives 1 and 2, type the number of sides, the density, and the first drive to be formatted. If you type D, S, and 1 (no need to press <enter>) the computer begins formatting the disk in drive 1 DSSD with the name "DSSD01". When formatting is complete the cursor flashes on the drive number. Press 2, and the computer begins formatting the disk in drive 2 DSSD with the name "DSSD02". While this is happening you have time to replace the formatted disk in drive 1 with another blank disk. When formatting in drive 2 is finished, just press "1" for the drive number of the next format and you are formatting again. There is no wasted time switching disks between formats!

**CONCLUSION-** Without reservation I recommend use of this software by all owners of GRAM devices. GUMS will make your life a little bit easier almost every time your turn on your computer. Members of the Lima Ohio User Group can obtain GUMS from disk XXXA of the group's software library. Others can obtain GUMS directly from the author by sending a \$10 fairware donation AND a postage paid return mailer to:

R.A. Green  
1032 Chantenay Dr.  
Gloucester, Ontario  
K1C 2K9  
CANADA

\*\*\*DONE\*\*

**BOUNDED UP SUPERCARTS**

By: Andy Frush, Lisa UG

It all started with the original TI Cartridges. The cartridge ("cart") port of the TI is one of its advantages in

both ease-of-use and young education. This port (called the GROM port) allows users to insert cartridges into its slot. This offers instant access to the programs contained in it. I mentioned that this port is an advantage. It is also now unique to the TI. Most other computers do not offer such a port and those that do not offer a whole lot of software. Older computers usually have such a port. The main reason for this is that home computers appeared shortly after the home video games (Atari, VCS, ect.) came out. Computer manufacturers feared that many people would be afraid of disks or cassettes, so they enabled their machines to use software in cart format, just like the popular home video game machines. A good marketing move. In addition, children could use them with considerable ease.

The quality of TI made cartridges grew from awful to excellent. The chief reason for this is the 99/4 was not as capable as the 99/4A. If you look at some later carts (1983), you will see that the manual may say, "for the 99/4A Home Computer only." This means they will NOT work on the 99/4. Most of these are games, such as Parsec and Star Trek. I am not sure if it was the graphics or the speech that would cause problems on the 99/4. Could somebody please submit a letter or an article describing the internal differences between these sister computers? Compare an early module or cart such as the 1980 Hunt the Wumpus to the 1983 graphic adventure Return to Pirate's Isle. The features and graphics of "Return" is significantly greater.

But what does all of this have to do with Supercarts? Well, just as TI tried to improve the quality of their cartridges, many users were "playing" with the cartridge and the GROM port it plugs into.

When most people think of Supercarts, they are thinking of cartridge-like hardware that plugs into the GROM port and have battery backed memory. Most Supercarts can save Assembly programs or even other cartridges and store them in this memory. However, when I use the term Supercart, I intend to discuss almost EVERY device available that can be plugged into this port.

Let's start from the beginning. One of the first Supercarts ever made was marketed by DataBioTics. This was the Superspace cartridge. This included an Editor/Assembler, it could save Assembly programs in its 8K memory and could save any cartridge that didn't use TI's GROM (such as AtariSoft and Funware). What is a GROM? Well it stands for Graphics Read Only Memory. It is completely separate from RAM and ROM, which I assume most users are at least slightly familiar with. These are unique to TI. Three inside the console control the Operating System and BASIC language. Up to five addition GROMs (each with 6,144 bytes of ROM, I believe) can be added via the GROM port, adding 30K to the computer's ROM memory.

DataBioTics later marketed an upgrade to their Superspace. Superspace II had all the features of Superspace

as well as letting users use 8K of memory as extra RAM for Assembly or TI BASIC programs. It also had 32K of battery backed memory, instead of only 8K. One thing I should note. Both Superspaces contained an Editor/Assembler. They did NOT include the manuals or support file disks. This may have been due to copyright restrictions. I am not sure if the operation of this Ed/Asm is identical to TI's or not.

The next device I would like to talk about was the GRANKracker. And no, I won't discuss other GRAM devices, such as the P-GRAM or GRAMulator. Not to take anything away from these two. All three devices perform similar functions. However, since the focus of the article is on devices that actually plug INTO the GROM port, I will only discuss the GRANKracker.

I believe this came out sometime in 1986. At least that's the earliest ad I've seen for it. It was marketed by MG (originally Miller's Graphics). The main thing it could do was have another cartridge plugged into, then save the contents of that to a disk, RAMdisk or cassette file. You could also MODIFY your cartridges. A manual describing typical customizing jobs was included. It also allows you to modify the TI operating system. For example, you could load in a new character set with true lowercase letters. Such changes would always be in effect, as long as the GRANKracker was installed. It had 56K of memory, and could handle up to 80K. Obviously, this module was advanced over the Superspace.

What about prices? These are ORIGINAL prices, and I'm sure these devices could be found at significantly lower rates. But here's how they used to compare.

Superspace.....\$39.95 (This was a sale price. I can't find it's original)  
 Superspace II.....\$89.95 (\$69.95 on sale)  
 GRANKracker.....\$174.95

The price of the Superspace dropped sharply after Superspace II was introduced. All three prices were around the same time, 1986-1987.

Those prices seem a little, well, pricey. And a lot of other users felt the same way. For that reason, pre-programmed and a few user-programmable "multi-carts" appeared. These were cartridges that contained many modules in one. I assume the idea for this started with the "Widget" or Navarone's module expander, which could hold three cartridges. The disadvantage was the size. This expander is fairly large.

One of the first multi-carts was the MultiMod by the late John Guion. His product was a plug-in modification to people who owned the Super Extended BASIC cartridge. This module was manufactured by Triton, which recently became TM Direct Marketing. I am not sure if TM offers this product. MG developed this cartridge for Triton. Super XB adds 33 new

commands and 6 altered ones. Most of these are in the form of CALLs. The Fall '89 catalog for Triton listed this module with a price of \$49.95, including a graphics utility, Draw N' Plot. The MultiMod gave users Super XB, the Editor/Assembler, Disk Manager III, and TI-Writer in one module. The Multi-Mod was offered in kit form for \$22.95 including manual and all support files for E/A and TI-Writer. I am not sure how well this sold, but I assume reasonably well. It gave users essentially the same thing as Funnelweb, without Funnelweb's enhancements and user expandability. The Multi-Mod's one major advantage was cartridge speed. Of course, the support files still had to be loaded from disk.

There is another similar product on the market, only this one is user-alterable. WAS Controllers offers a device which allows users to install 5 other modules in addition to Extended BASIC. For example, you could have XB, E/A, TI-Writer, Multiplan, Personal Record Keeping, and Tunnels of Doom in one cartridge. This is also sold as a kit, for \$25. This includes the module, which has a modified case so all the other module's chips will fit. The flyer I have states that "only modules with 16 pin GROMs can be used with the Extended BASIC Expander." The GROMs are a normal looking computer chip. What that means is that you have to count the pins coming from the GROM chip. Only modules having 16 pins will work.

As mentioned in the December 1991 issue of B, B & P, OPA is selling a \$95 cartridge device with amazing features. It is called the Pop-Cart and looks about like any other TI cartridge. This device contains 256K chunks of RAM and GROM. You tell OPA what modules or Assembly programs you want on the Pop-Cart, and they burn it into the module. This uses no batteries, but it does mean that users can NOT program it themselves. Supposedly, if you put XB and the TE2 cartridge, the text-to-speech features of TE2 carry over into XB. This could have significant advantages, since many modules (especially some of TI's older ones) "add" commands to TI BASIC. You may specify up to 2 Megs of memory in 256K chunks for additional money, all in the same module. For an extra \$25, OPA will also put their SOB (Son Of a Board) Operating System into the module.

What about weaknesses? Well this is the one aspect of TI cartridges that is rather disappointing. The connection between the cart and the GROM port can get very weak. This can cause some modules, especially Extended BASIC, to "lock up" The computer refuses to respond, and you usually have to turn it off.

There you have it. I believe that this is basically the principal "Supercarts" available. These devices prove the power and versatility of TI's GROM port. Many modern machines lack such a port. The users of these big machines claim that such a port is "infantile" and has no useful purpose. Bull! I feel this article PROVES how useful this port can be!

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