



# The Ottawa T.I.99/4 Users' Group



VOLUME 4 NUMBER 06.....JUNE 1985

**NEXT MEETING.....**

HOG'S BACK July 13th, 1:30pm. SEPTEMBER meeting 1st thursday at 7:30pm, at the Merivale High School, 1755 Merivale Road in Nepean.

**DISCLAIMER.....**

The Ottawa T.I.99/4 Users Group Newsletter is published 11 times a year and is not affiliated in any way with Texas Instruments. It is supported only by its subscribers and advertizers.

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**DEADLINE.....**

The 15th of AUGUST is the cutoff date for submissions.

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- 23....Exceltroix

## HOTLINE NUMBERS

The executive has expressed a desire to assist all members should you have some problems or have some questions, do some library swapping or borrow a book. This will be the place to look. Of course if you wish to be placed on the list just give me a call...I know there is a lot of expertise within our Group. I hope to add to this list and improve the coding. Please respect normal hours unless you specifically know that someone doesn't mind a call at 3am or use the BBS to leave a message at 738-0617, 24 hours a day, 7 days a week.

- BILL SPONCHIA.....CHAIRMAN.....TUTORIALS, B, Ls, XB..... (M) 523-0878
- BERRY MINUK.....V/CHAIRMAN...TUTORIALS, ASL, B, F, XB..... (M) 234-5472
- JOHN ALTORIO.....TREASURER....FINANCES, B, CC, L, MBX, Mmp, XB..... (M) 224-8440
- JANE LAFLAMME.....SECRETARY....RECORDS, B, BBS, Lb, Lc, Ls, MBX, Mwp. (M) 837-1719
- BOB BOONE.....P/CHAIRMAN...U/G CO-ORD, CC, I, Ld, Ls, S, SS..... (M) 623-7841
- BRUCE CARON.....SYSOP.....ASL, BBS, CC, I, R..... (M) 733-7675
- MARGARET O'CONNOR.EDITOR.....NEWSLETTER..... (M) 833-2626
- TONY HOPKINS.....ADVERTISING..BUSINESS, Lb, Ld.....746-4463
- SHAWN MILLAR.....YOUTH CO-ORD.SCORES..... (M) 684-3466
- MAURO TOMIETTO....LIB.CHRMN....OTIUG SOFTWARE, Ls..... (M) 729-4519
- LLOYD GALENZOSKI..MEMBER/CHRMN.MEMBERSHIPS..... (M) 830-1522
- ART GREEN.....ASL.....837-1955
- JEAN-PIERRE MORIN.....F.....729-4579
- TONY DOMEVSKI..\*TEXAS INSTRUMENTS GEOPHYSICAL SERVICES\*.....416-884-9181

\*HARDWARE AND SOFTWARE REPAIR DEPOT IN RICHMOND HILL (TORONTO)\*

SOFTWARE:::ASL=ASSEMBLY LANGUAGE  
 B=BASIC  
 F=FORTH  
 L=LOGO  
 Lb=BOOKS/MAGAZINES  
 Lc=CASSETTE LIBRARY  
 Ld=DISK LIBRARY  
 Ls=U/G SOFTWARE SALES

Mp=PLATO  
 Mea=EDITOR ASSEMBLER  
 Mmm=MINI-MEMORY  
 Mmp=MULTIPLAN  
 Mwp=TI WRITER  
 S=SALES  
 XB=EXTENDED BASIC

HARDWARE:::BBS=SYSTEM OPERATOR  
 CC=CORCOMP EQUIPMENT  
 I=INSTALLATION  
 M=MODEM EQUIPPED

MBX=VOICE RECOGNITION  
 MY=MYARC EQUIPMENT  
 R=REPAIRS  
 SS=SALES

# EDITOR COMMENTS

by Margaret O'Connor

Bear with us.....Its a long time since either Eleanor Brooker, my assistant, or I have worked with newspapers and we are very new to computing so we may make a few mistakes...not too bad I hope.

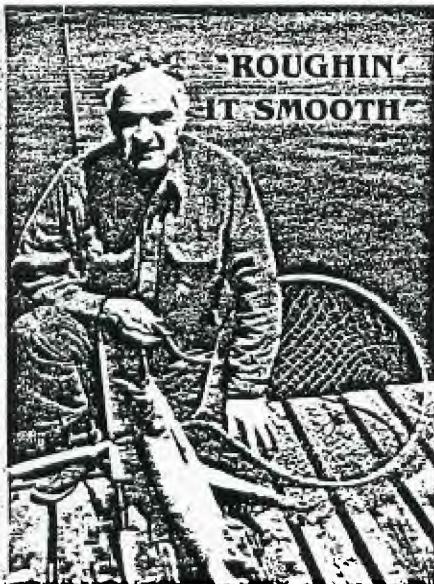
We have changed the format a little to allow you to insert your copies in a binder. In future issues we would like to include a "LETTERS TO THE EDITOR" column for your questions, comments, sugestions and answers to reader questions. There will be a mail box at the meetings and if there is a response we will include this in future newsletters.

This newsletter is an extra bonus as we hadn't planned to put any out until August but with a bit of urging decided to get a June issue out so you would have something to read while you are enjoying this "lovely" summer weather.

Because of the very short time to put this together and the fact that Jane is off for awhile to re-stocke her natural enthusiasm for the upcomming winter, her report of the compition will be delayed until the August newsletter.

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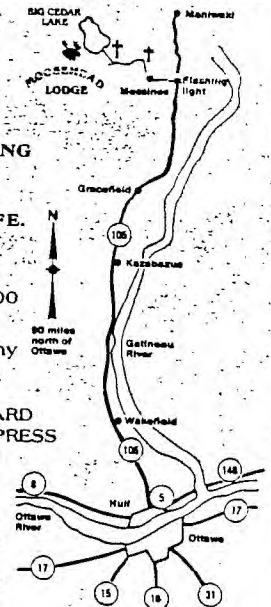
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CHAIRMAN'S TWO CENTS WORTH by Bill Sponchia

General Meeting:

As most members probably know by now the last Meeting before summer was a great success. There were about eighty members in attendance which was more than double what we had at the one last year. Thanks goes out to all the members that attended, to all those that brought equipment and to all those that entered into the contest.

Speaking of the contest, it too was a huge success. Unlike most contests of this sort where you only have a few enteries, our contest received 29 entries from 20 different programmers. Regardless of what any judges may say, I believe they are all winners.

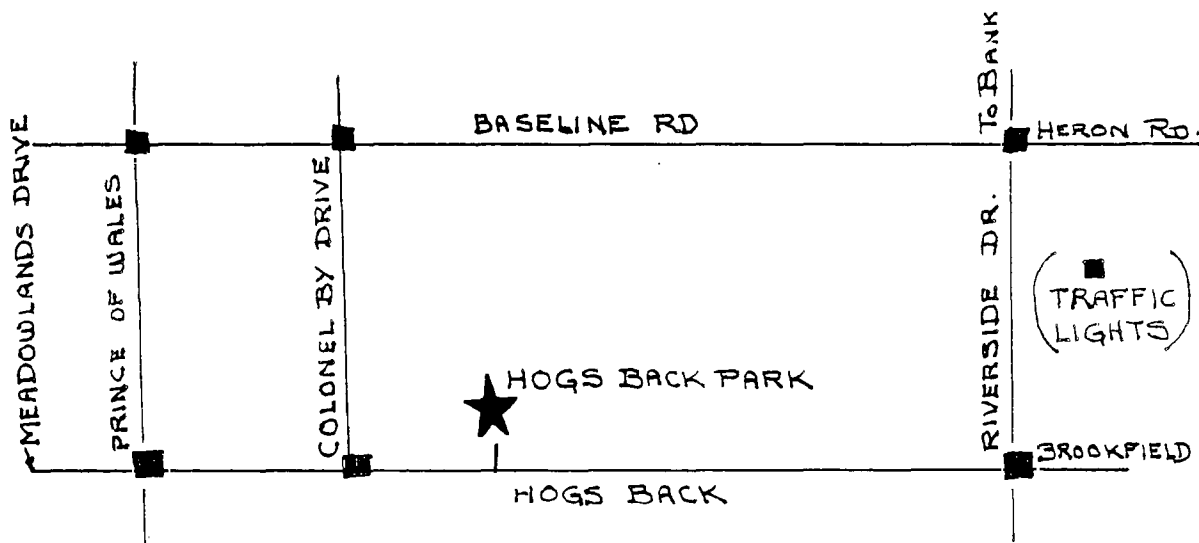
The draw for the MBX system was held and the winner was Benoit Tanguay. Congratulations!!!

I have been informed that the judges will be rendering their verdict around the first of August and therefore the results will be announced in the next Newsletter.

As of yet there is no firm dates for next year's General Meetings and Tutorials however I have requested the first Thursday of each month for the General Meeting and each Tuesday for the Tutorials. We can only hope for the best. It is likely that at the time of the next Newsletter we will have confirmed dates.

JULY 13TH PICNIC

I hope no one forgot to set aside that date. Nothing fancy, nothing planned. Let's all just turn up, bring what you want and have a good time. For those not familiar with the area and don't know were the park is I'm giving you a map:



# A WORD ABOUT MEMBERSHIP

by Lloyd Galenzoski

At this writing, our club has 151 members.

Over the past four months membership has increased by over twenty percent. Computer enthusiasts tend to be less active during the summer months. Thus, we don't expect many new memberships during July and August. A membership drive in September is in the planning stages. Hopefully, we can set up two or three TI systems in a couple of malls.

We have been advised that there were some seven thousand TI-99 and TI-99/4A's sold in the National Capital Region. Therefore, we feel confident in reaching our goal of 200 paid memberships by December 31, 1985.

The club publishes a pamphlet which is distributed to a number of computer retailers. It contains information about the club, as well as a registration form for those interested in joining.

Have you ever asked yourself, "What do I, as a member, get for my twenty bucks?" What value do you place on tutorials, workshops, library, BBS, software exchanges, leads on hardware and fellowship? What about the newsletter? Have you ever wondered what it costs to produce one? Value is a very personal thing. Therefore, the answers to these questions will vary from individual to individual. My own view is that I get full value for my money.

A number of members have expressed concern about the present method of distributing membership cards and getting new members on the newsletter mailing list. A club's reputation rests on how well it serves its members. Therefore, by the time you read this, a new set of procedures will be in place. Your feedback on these items is appreciated and encouraged.

At one of the Executive meetings, I suggested a list of members (names only) ought to be available to members. In the ensuing discussion, it became quite apparent that this was a rather controversial item. The argument "against" is based on a fear that such a list could fall into the hands of the criminally inclined who then have a much simpler task of selecting their victims. The argument "for" simply states that members have a right to know and that the decision by the Executive to not provide members with a membership list is arbitrary. Moreover, our BBS provides a listing of all "Users" who generally speaking have the most complete systems. User lists on BBS's are common practice. Think about this during the summer, as it is sure to be raised at one of our Fall meetings.

In concluding this article, I want to express my best wishes and congratulations to two of our finest members, Paul Berlinguette (Newsletter Editor) and Bruce Caron (Sysop). Both are leaving us for greener pastures. But, with luck, we'll have them back in a couple of years. Thanks for "a job well done".

TI-99/4A USERS ASSOCIATION OF CANADA NEWS



The response to this project, although far from overwhelming, has been positive and encouraging without exception.

To date (and as of this writing, it has only been 5 weeks since our mailout) we have 4 group and 7 individual members.

This 'special'; hitherto unknown 11th issue of our Ottawa U.G. Newsletter; is being mailed to all known Canadian User Groups, quite a few of which have come to light only since our attempt to start this National Association.

Our first individual registration came from Mr. Graham, a grandfather, and a member of a TIUG in North Bay, Ontario. He has a real hodge-podge of a system with 3 add-on peripherals from 3 separate TI support firms; namely: a PERCOM Disk Drive & Controller, an AXIOM Printer Interface, and a TACKYON 32K Memory.

Mr. Graham uses his system to entertain himself and his grandchildren, and as a wordprocessor for correspondence and recordkeeping on behalf of a local Soccer Association, of which he's also a member. Well done, sir and welcome aboard.

Tony Robinson of Vancouver is, to date, our only respondent west of Sudbury, Ontario although we've contacted a number of groups known to us in the mid-west and B.C. The latest Micropendium tells of a group in KELOWNA B.C. that's trying to start a Western-Canada Association of TI Users. Till now we didn't know of their club and this is the sort of lack I imagine both we and they want to remedy with these projects. They can be reached at Kelowna Home Computer Users Group, Box 793, Westbank, B.C. Their Postal code is VOH 2A0. Good luck to you in your endeavor!!!

The small but very powerful TI Nova Scotia has joined us with a group membership and 2 individual ones as well. In my experience this is the best informed TI group in Canada, mainly due to the efforts of Terry Atkinson, their TIBBS sysop. In all modesty we're at least a close 2nd in the TI information race but when you compare our group's resources to those of TINS; we should be (and aren't!) way out in front. Terry has a list of contacts on THE SOURCE and COMPUSERVE that reads like a FORTUNE 500 list in the TI world. Perhaps I can best illustrate his uncanny ability to stay on top of things with a short example:

I attended the CES show earlier this month in Chicago, in hopes of catching the unveiling of MYARC's much heralded TI-99/128. I searched high and low on the opening day of the show, in vain. MYARC's name was not even on the list of exhibitors!! Randy Holcomb, of Computer Shopper and COMPUSERVE fame said MYARC had lost a backer and the 99/128 wouldn't be at the show. I called Terry in Nova Scotia from Newcastle N.B. 4 days later and told him the bad news. I spoke to him 3 days later from Ottawa. He confirmed my news and added....MYARC did open a booth on the 3rd day of the show and announced a new TI product code named 'FOXFIRE', and the



TI-99/128 was at the show all the time but kept in a back room and on view only to potential backers!

Terry, Adrian Hoffman, and TINS itself are welcome members of our National Association. TINS has 38 very active members including TIM MacEachern(author of Wycove Forth) and Larry Norton of NORTON Software. They meet on the second Wednesday each month in St. Peter's Church in Dartmouth N.S. They publish a very interesting monthly Newsletter; operate a very powerful BBS, and offer various tutorials and substantial library services to their members. Terry wears 3 hats in the group; that of secretary; treasurer and BBS Sysop. Data number for TINS-TIBBS is (902) 434-3121. Address is; TINS, PO Box 3391, Dartmouth, N.S., B2W 5G3. From Terry, comes this sketchy, but very exciting information about.... FOXFIRE!!! A MODULE containing an enhanced Extended Basic AND 128K of RAM!!! Said to allow operation at speeds as much as 3 times faster than the normal console operating system with additional graphics commands such as CIRCLE and PLOT. Price and availability, as yet, unknown.

I received a surprise call from a Tier in Montreal P.Q. this week who said a friend had developed a product, he calls "SUPER-MODULE", with 64K of onboard RAM and designer-written software said to do some very fancy stuffé The designers name is Guy Guerney and he can be reached at (514) 651-7280 for more information. I hope to see the product later on this summer and will review it in a later newsletter. My informant says the price tag will border \$200 CDN so the included software had better be impressive to my mind at leasté I'd like to thank Luigi Tatonetti of St. Julie, P.Q. for the call and the info.

The executive of the North Bay U.G. wrote us a nice letter asking what other benefits association members might expect from the association in addition to our newsletter. We will be able to offer AXIOM bulk diskettes to members at substantially reduced prices(\$14-\$15/box or less; I hope). All advertized specials from local suppliers will also be available to you as a National Association member. As we grow I expect our purchasing power will grow too and this just might be reflected in a drop in price of products advertised. Who knows now where it might lead??? A National software contest is a very real prospect especially in light of some of the very powerful stuff our local contest has produced at all levels!!!

DIDAK; producers of a fine line of AXIOM diskettes here in Arnprior; are looking at possibly becoming corporate sponsors of our Association and absorbing such costs as Membership cards(should we get big enough to warrant this expense) for us. In that regard, our symbol will be the silhouette of Canada which appears at the top of this article, which will be embossed on the card. The author, WAYNE JOYCE, is unknown to me, but the program came to me via TINS.

There are now 6 or 7 TI BBS's up and running across Canada now. I've been on 6 and have heard of a second one in Vancouver B.C. but don't have a number for it so am unable to confirm it. There are no doubt even more, and we'd be happy to publish your number too, if you'll make it known to us. Here are the ones I've found so far:

OWNER	SYSOP	BOARD	DATA	VOICE	
TERRY ATKINSON	TERRY ATKINSON	TIBBS	902-434-3121	434-1346	U/D-LOAD
OTTAWA U.G.	JANE LAFLAMME	USER	613-837-0617	837-1719	D-LOAD
GRAPHIC SOFTWARE	STEVE WOODS	TIBBS	416-826-4510	826-6011	D-LOAD
STICCS	KEN READ	USER	306-384-2844	382-2527	
EDMONTON 99ers	TOM HALL	CLULOW	403-424-3258	420-6028	D-LOAD
STEVE CARTER	STEVE CARTER	CLULOW	604-669-8284	669-7906	

## **BBSing**

by Lloyd Galenzoski

One of my favorite passtimes is BBSing (note the extra "B"). At the present time, I maintain regular contact with ten systems, including our own.

Calls to distant boards are always made between midnight and 8 AM, as these are the most economical hours.

Pterm is my favorite emulator program. Although, there are times when I need to switch to TE II, so that I can download programs. Switching while on line is a simple process and allows effective use of the most efficient features of each of these emulators.

The average amount of time, on line, is about fifteen minutes. At about twenty-five cents per minute, that means a typical call would cost about \$3.75. I probably make two calls per week, which means the weekly cost is about \$7.50. Considering the news, information and pleasure I get out of it, I consider this a bargain. Once you get to know your way around, you can get an awful lot of information in fifteen minutes. In addition to software and expanded knowledge of the system, it gives me something to talk about with my TI friends.

The following is an extract of some of the information downloaded from the Bull Board, located in the vicinity of Washington, D.C. This will give you an idea of the kinds of things you can learn and enjoy yourself at the same time.

\*\*\*\*\*

### **24K OF DATA STORAGE**

If you need to work with quite a bit of data or would like to change programs, but save the data after you press CALL QUIT then you can set up the 24K of High-Memory in the PEB as a single data file called "EXPMEM2", you open this file just as you would a disk file with one exception - you must PRECEED the OPEN statement with a CALL LOAD to the location -24574 as follows:

For INT/VAR files - 24  
For DIS/VAR files - 16  
For INT/FIX files - 8  
For DIS/FIX files - 0

Here's an example:

If you want to open up the Expansion Memory for Display, Variable 80 files this is what you would do:

```
100 CALL INIT
110 CALL LOAD(-24574,16)
120 OPEN #1:"EXPMEM2",RELATIVE,UPDATE,DISPLAY,VARIABLE 80
```

Then continue on as you normally would.

If you want to store both data and assembly language routines at the same time do this:

```
100 CALL INIT
110 CALL LOAD(-24574,-16)
120 OPEN #1:"EXPMEM2"
130 CALL LOAD ("DSK1.ASSM1")
140 CALL LOAD ("DSK2.ASSM2")
150 CALL LINK ("START")
160 REM CONTINUE REST OF PROGRAM
```

In the above example the 24 K of high-memory was saved for use as a DATA file (DIS/VAR 80 format) then the assembly routines were loaded. The computer will look for the best place to put the routines and will adjust the pointer accordingly. After the routines are loaded, a LINK statement starts the first routine and off we go.

If that's not enough for you, you can also use the MINI-MEMORY for 4K more of storage of assembly routines! Now that's 16K of program space, 12K of assembly routine space!

\*\*\*\*\*

If you own a modem, don't be afraid to try some of the distant BBS's. Just remember if you call between midnight and 8 AM the cost is about forty percent of the regular tariff. That translates into about twenty-five cents per minute for most Eastern Canadian and U.S. boards.

\*\*\*\*\*

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EASTERN INPUT by Terry Atkinson

This fantastic article was recently found on TINS-TIBBS in Dartmouth, Nova Scotia. Terry Atkinson, was characteristically modest in not mentioning his own efforts toward TI, both nationally and abroad. This article, as usual, is power-packed, and just about says it all... ..Bob

Is the TI dead? That is a question often asked by an uninformed person. My reply to this is an unequivocal NOé In fact, since 'Black Friday', as TIers refer to it, the TI marketplace has bloomed with several new hard and software sources. But....YOU HAVE TO KNOW WHERE TO LOOK!!!

There are four excellent catalogs available from wholesalers/retailers specializing in TI99/4a goods and none show any signs of weakening. They are: (In no particular order):

TENEX: PO Box 6578, South Bend, IN 46660 [phone (219)259-7051.]  
UNISOURCE: PO Box 6420, Lubbock, TX 79464 [phone (806)745-8834.]  
TEX±COMP: PO Box 33084, Granada Hills, CA 91344 [phone (818)366-6631]  
answering machine..so have info ready at hand.  
TRITON: PO Box 8123, San Francisco, CA 94128 [(800)227-6900: toll free]  
This company shows signs of including 3rd party TI hard and software along with their already huge TI stock.

Some major hardware manufacturers for the TI are:

MYARC: expansion systems, and, soon, the new 99/128 computer, which was expected at the June CES. Bob Boone, from Ottawa, was there and didn't see the unveiling, but we will get some information second hand when it becomes available. As an afterthought, some the Myarc MPES/50's will not run SOME assembly prgms such as Companion, as won't their earlier PEB controller. However, their latest controller IS fully compatible. Myarc also produces a 32K card which is expandable up to 128K.

FOUNDATION: Always out front with the first production of a 128K card. Now they have an 80 column card and a Z-80 card, both for the PEB. Contrary to a report in the TINS newsletter, they are not having problems with their 128K card. Sales are brisk, and the return rate, although unspecified, is said to be uncommonly low. The majority of returns are due to in-transit damage, and not meeting up to buyer's expectations. Also the Z80/80 column cards are selling like hotcakes. Foundation is hard pressed to keep up to the demandé Incidentally, I have had my 128K card up and running for 11.5 MONTHS without a hitch. If you want the phone number or address for this company(Foundation), give me a call.

CORCOMP: Made history with their Disk controller. Although plagued with major setbacks, including pseudo-bankruptcy, Corcomp appears confident booming sales of the DC card and 9900 system will get them back on track. Watch for some exciting add-ons coming from this company.

There's several minor companies making peripherals for the TI99/4a, too many to mention here. Check out the above catalogues for more info.

Where would a computer be without software? A student of mine recently told me there was no good software for the TIéé Boy, was he wrongé He was amazed when he saw my software catalog...which is by no means completeé There are several reliable companies producing excellent software for TI. Among them are:

QUALITY 99 SOFTWARE: a host of SUPER software utilities.  
SOFTMAIL Inc.: TE1200 and others. Owned by Don Bynum, ex-VP of TI.

NAVARONE: Wigit(you MUST have on of theseé), DISK-FIXER, and several good utilities as well as a DB manager.

INFOCOM: Produces ALMOST all of their infamous adventures for the TI.

I could go on and on about software vendors...but I think the above is enough to convince any skeptic.

#### MAGAZINES:

The two most noteworthy mags being produced specifically for the TI are Micropendium and Miller's Graphics-The Smart Programmer. Another, recent one on the market is Mini-Mag99...dubbed MINIRAG. HCM continues to support TI (somewhat) and has, in recent issues, done the TI justice. Also in this class are many excellent newsletters being produced by users groups all over the world. Speaking of users groups, some groups such as OH-MI-TI, Ottawa 99'ers, New Horizons, SCCG, to mention a few, are doing many good things...AS A GROUP...to enhance the TI image. There are many more who contribute too, but the above are those that readily spring to mind.

Bringing groups together is efficiently done by Bulletin Boards which have sprouted across North America and, the world. Most offer a wealth of information for the new TI'er. Until recently, there was only ONE type of BBS...namely TIBBS. Now, several authors are producing their own systems; many with exciting features. Some specialize in graphics and speech, some dabble in high-tech, all oriented towards the 99/4a. My personal feelings are that a BBS is for information exchange, and features such as graphics have no place in the BBS system(Please ignore the fact that I have defined the backlash as a TI symbolé). For an excellent graphics/speech/etc board check out the TITS BBS 305-834-2530. Despite the name, it is NOT an adult board. Use the TE2 when accessing it!

Let's not forget Texas Instruments. Since their pullout, they've continued to support the 99/4A by unselfishly releasing some closely guarded secrets not to mention some of their programs, such as TI-Forth, In-House-Diskfixer Disassembler, and, even of late they have turned over some projects to to independants for further developments. Amongst these are 2/3 programs which use the TUNNELS OF DOOM cartridge. (More on this later).

Last, but not least, we mustn't forget the INDIVIDUAL contributions to the TI; saleable programs, freeware & PD software. These people have, perhaps, done more to enhance TI's image than have all the software companies combined. I can't go on without mentioning a few of the people concerned:

Tim MacEachern: Developed WYCOVE forth for the 99/4a. I won't explore its features here, as extensive reviews have been conducted by MICROPENDIUM.

TI FORTH addicts John Volk, Doug Smith & Danny Michael put excellent Forth creations out for public-domain.

Assembly Guru's Randy Holcolm, Mack MacCormick, Ron Albright, Steve Foster John Clulow & Jim Cronin to name a few. These gentlemen have developed many good assembly utilities and given them away to anyone who asks. They are wholly dedicated to the education of TI'ers. Canadians seem to take a low profile, but there are some excellent assembly 'nuts' in Canada too... Bruce Caron & Michal Jaegerman come immediately to mind(from Ottawa and Edmonton respectively).

If I know those few, you can be assured there are many more dedicated TI fanatics that I do not know.

Finally, let's have a look at what has become recently available & what is now available for the TI.

Advanced Diagnostics. This is a MUST for all serious TI users. Put out by Craig Miller, of Miller Graphics, it combines the best features of several utilities...and does it BETTER. Also, watch for a program from him called EXPLORER. It will monitor a program WHILE RUNNINGé (Cartridges too!?!)

DataBiotics is soon to have available the following items:

BITMAC....a MACPAINT emulator. \$39.95

PILOT.....True compiler. \$19.95

SUPERDISK.RAM disk which will be expandable to 512K. \$299.95

RENOIR....FORTH graphics in a cartridge. \$99.95

4A/TALK...terminal emulator with TE2 transfers & Xmodem protocols. \$19.95

Write DataBiotics, PO Box 1194, Palos Verdes, CA 90274 for further info.

SKETCH-MATE: dumps graphics generated by the SKETCHPAD to printer. Shades are dependant on colors.

ADVENTURE-EDITOR: make your own Scott Adams style adventure to be run with the cartridge installed.

FORTH MAIL LIST: \$9.95, 40 col display, full screen editing, 710 records, sort ascending or descending order on any field. Get your's from RAMSOFT ENTERPRISES, 1501 E. Chapman Ave., Suite 338, Fullerton, CA 92631.

DIGITIZER/LIGHTPEN: Not yet available, but a prototype has been made. Uses printer to strobe a picture and makes a D/V80 file for PRINTART type dump.

TRIVIA 99'ER: Yes, a trivia game for the TI. Produced as freeware, and available at TexComp as well. Ten questions in each of 6 catagories. You can create your own files too.

TUNNELS OF DOOM: Two new games are now available to be used with this cartridge. I hope to have them sooné One is public domain, the other is Freeware. Rumor has it that TI has released 1-3 which they were working on, so DOOMERS...stand-by...

BATTERY BACKUP: For the 32K card, a non- corrupting, rechargeable battery backup. Being produced by TIUP(Perth, Australia)

RAM-BOARD: An 8k single-stepper board is currently being manufactured. Uses RAM at >6000->8000(Cartridge space). Will provide single-step ability for the DEBUGger. To get your's, write Chris Caletka, 511 Martha, Euless, Texas, 76040 ...I think for about \$75. (U.S.)

MULTIPLAN: Microsoft Multiplan currently going at \$39.95 at Unisource.

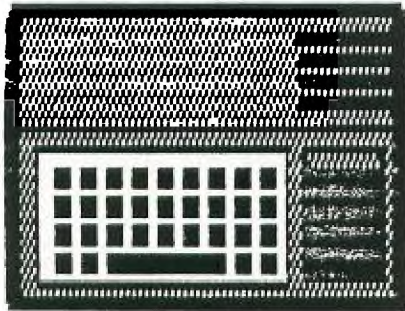
GROM-PORT EMULATOR: For downloading of ROM(not GROM) cartridges to disk to run from disk without further editing. Needs modification of the speech synthesizer; only those who feel competent should buy this item. Also, ask for a program called EPROM-IT if you decide to order. The price is \$50 and its available from: Joe Schulte.....DARN!?! misplaced the address. Will have to get back to everyone on this one!?!'

Well, there is lot's more, but your hour on TIBBS will soon be up. At any rate I think you may now be convinced that the TI is NOT DEADé Watch next month for more of the same.

Later...TERRY ATKINSON

# COMPUCENTRE CONTINUES TO SUPPORT THE TI-99/4A

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ADDING 8K RAM TO EDITOR/ASSEMBLER  
-----

The February newsletter of R/D COMPUTING (Ryte Data) contained an article on how to modify a game cartridge into an Editor/Assembler module with an extra 8K of RAM. This modification involves disassembling and removing the IC's from both the game and Ed/Assm modules. If you damage the IC's from the game module its no problem as they will not be used again, however if you damage the Ed/Assm IC then you're "\_\_\_\_ out of luck" as they say.

Well instead of destroying your Ed/Assm cartridge, Andre Delisle ordered 25 new Ed/Assm IC's from TI and is selling them for 8 bucks a piece. The 8K of static RAM was ordered from the states by Mauro Tomietto and they are selling for 14 bucks. With an old game cartridge, such as Munch Man, and these two IC's you can make yourself one powerful cartridge. Texas Instruments missed the boat when they didn't think of this one. Instead of 32K of RAM you now have 40K at your disposal.

I bought the chips and decided to modify my old Munch Man cartridge. The instructions were very straight forward and easy to follow. The only problem that I can foresee is removing the old game IC's without damaging the printed circuit board. If you are not a practiced solderer then I would suggest you find one who is. The only special tool required is a "SOLDAPULLT", a solder vacuum device, to remove the old IC's. You can purchase one around town or better yet drop into a TV/Stereo repair shop and ask a technician to remove the IC's for you, it only takes a few minutes with the right equipment.

After removing the old chips I installed two brand new IC sockets to plug my new IC's into. I followed the assembly instructions to a tee. Installed the IC's, wired them up, plugged the cartridge into the TI and fired it up. It tested just fine, and I was quite proud of myself at not damaging the 8K RAM chip (it is highly sensitive to static electricity). Unfortunately when I went to reassemble the case around the module it would not fit, the IC sockets were in the way. So I had to disassemble it all and start over without the sockets.

This time I damaged the printed circuit board by unsoldering the IC sockets, and I had to install an extra jumper wire to repair a damaged printed circuit run. Now I reassembled the case, it fit, and the module worked.

A few tips.



- Have a technician remove the old IC's
- Don't use any IC sockets
- Follow assembly instructions carefully
- Handle the 8K RAM only by the case

If you follow these tips you should have little difficulty building this powerful module, and it should work when you are finished.

#### ACCESSING A DISKETTE BY SECTOR

---

I have had quite a few requests lately on how to access a diskette by sector and also on how to initialize a diskette. The technique is quite similar to accessing a file on disk through an assembly language program. I found out how to do this by studying a disassembled listing of the Disk Fixer module. The info on how to initialize a disk came from the source code for TI Forth, and the technique for doing different formats came from a well placed phone call to Craig Miller of Millars Graphics fame.

Set up a PAB 32 bytes long with the following information.

```
DATA >1000,>1000,>5000,>0000,>0001,>1000,>9800,>8C02
DATA >00E0,>000E,>0106,>00F5,>0A0D,>2020,>2A2A,>2A44
```

The SCRATCHPAD FAC is used as follows

```
FAC+2  1 byte  Drive number (1,2, or 3)
FAC+3  1 byte  I/O opcode  00=WRITE / 01=READ
FAC+4  1 word  VDP buffer address for 256 bytes
FAC+6  1 word  Sector number to READ or WRITE
FAC+10 points to byte 9 of the PAB
```

Then Branch to a DSRLNK subprogram with the following statement.

```
BLWP @DSRLNK
DATA 10
```

---

#### EXAMPLE 1. READ SECTOR 25 FROM DISK DRIVE # 2

```
DEF READ
REF VMBW,DSRLNK
PABBUF EQU >1000 VDP Buffer for sector
PAB EQU >0F80 VDP Buffer Peripheral Access Block
FAC EQU >834A Floating Point Accumulator

PDATA1 DATA >1000,>1000,>5000,>0000,>0001,>1000,>9800,>8C02
DATA >00E0,>000E,>0106,>00F5,>0A0D,>2020,>2A2A,>2A44

READ LI RO,>0200 drive #2
MOV B RO,@FAC+2
```

```

LI   R0,>0100      I/O opcode= 01 READ
MOVB R0,@FAC+3

LI   R0,PABBUF     VDP Buffer for 256 byte sector
MOV  R0,@FAC+4

LI   R0,25         Sector = 25
MOV  R0,@FAC+6

LI   R0,PAB        Set up and load PAB
LI   R1,PDATA1     CPU address of PAB DATA
LI   R2,>0020      32 bytes of PAB DATA
BLWP @VMBW        write PAB to VDP ram

LI   R0,PAB+9      Pointer to name length
MOV  R0,@FAC+10

BLWP @DSRLNK      Get sector from disk
DATA 10

```

To WRITE to the disk just change the I/O opcode.

#### INITIALIZING A DISKETTE

---

This is quite similar to a READ/WRITE operation with the exception of a couple of bytes in the PAB. The technique is self explanatory, just follow the listing.

---

#### EXAMPLE 2: INITIALIZE A 40 TRACK DRIVE SSSD

```

DFMT DATA >0111      Default data for PAB (Initialize)

INIT LI   R0,PAB      Set up PAB
     LI   R1,PDATA1
     LI   R2,>0020
     BLWP @VMBW        Write PAB to VDP ram

LI   R0,>0100      Drive#1
MOVB R0,@FAC+2

LI   R0,>2800      # of tracks (>28 = 40)
MOVB R0,@FAC+3

LI   R0,>PABBUF     VDP Buffer
MOV  R0,@FAC+4

LI   R0,>0100      Density 01=Single 02=Double
MOVB R0,@FAC+6

LI   R0,>0100      Sides 01=Single 02=Double
MOVB R0,@FAC+7

LI   R0,PAB+9      Pointer to name length

```

```

MOV  R0,@FAC+10
LI   R1,DFMT          Set FAB for initialization
LI   R2,2             2 bytes
BLWP @VMBW

BLWP @DSRLNK          Initialize disk
DATA 10

```

The example is quite lengthy simply to illustrate all the steps necessary to initialize a disk. Once the disk is initialized you still have to build a Disk Header and Bit Map on Sector 0, and clear Sector 1 for the Link Map pointers. Also whenever you initialize a diskette the contents of VDP RAM will get corrupted.

#### DISK MANAGER 1000

-----

By now most of you are aware, or have a copy, of my new disk manger program that I just finished writing. The program was started long before the idea to have a software contest was made. I saw Paul Berlinguette's new CorComp disk manager and I was really impressed with it. I wasn't as impressed with the controller card as much as I was with the disk manager, but it really irked me that I would have to fork out \$200 plus to buy one of their cards in order to get their disk manager program. Four months later my program weighed in at a hefty 5000 lines of source code. I enjoyed showing it off at the last meeting, and I hope you all get a lot of use out of it. I'd like to thank Lloyd, Jane, Tim, Benoit and Ralph for beta testing the program and for their suggestions.

#### BBS UPDATE

-----

Next week the BBS will be moved over to Peter Arpin's place, and I will relinquish control of the helm. Jane will continue on as main Sysop, and Peter will be assisted by one of our up and coming young programmers, Benoit Tanguay. Between the three of them I'm sure the BBS will have a lot more to offer than it does now, it only took me two months to change the BBS clock from standard to daylight savings time.

My family and I are looking forward to our move to Kingston next month, and our past 5 years in Ottawa have been enjoyable ones. I have meet a lot of friends here, and in the user group. I'm only going up the road a hundred miles so I'll definitely continue on in the group, I have too many TI projects left unfinished. See you all in the fall....

HAVE A SAFE AND HAPPY SUMMER

## BERRY'S BYTES

As you all know I have been giving a tutorial on Assembly language for the past season. As a final test for the year I assigned the following exercise. Duplicate the following BASIC program in Assembly.

```
100 PRINT "WHAT IS YOUR NAME?"
110 INPUT NAME$
120 PRINT "HELLO, ";NAME$;" HOW ARE YOU."
```

In BASIC this is a very trivial program which most people learn during their first week of programming. In Assembly it requires a knowledge of several routines and techniques which had been covered during the year such as reading the keyboard for input, displaying messages and inputs on the screen, etc. For the benefit of those who missed the last class and others who may be interested, I offer the following program as one possible solution. Remember that there are always other ways to solve a programming problem. This solution follows the Mini-Memory conventions, i.e. 2 character labels and absolute addresses for the routines.

```
ADRG >7D00
LWPI >70BB
LI R0,67
LI R1,T1
LI R2,18
BLWP >6028
CLR >8374
LI R0,98
LI R1,>3F00
BLWP >6024
INCT R0
CLR R7
LI R9,>7F00
LP BLWP >6020
MOVB >837C,R1
CDC BT,R1
JNE LP
MOV >8374,R1
CI R1,13
JEQ CT
SWPB R1
INC R7
BLWP >6024
MOVB R1,*R9+
INC R0
JMP LP
CT CI R7,0
JEQ LP
LI R0,132
LI R1,T2
LI R2,7
BLWP >6028
LI R0,140
LI R1,>7F00
MOV R7,R2
```



# THE PHANTOM COMPUTER

by Dennis Denny

Speculation on the appearance of a new TI99/4A compatible computer has been ongoing for almost three years. First it was Texas Instruments in 1983 who would market the 99/8, then in 1984 Corcomp with a modified version of the 99/8 and most recently it was Myarc with a modified version of the 99/8. Features like 128K, 80 columns, built in speech, and speeds up to 60% faster than the IBM-PC were promised by the various manufacturers.

The International Summer Consumer Electronics Show in Chicago was supposed to be the place of unveiling of this computer in each instance. Texas Instruments did not introduce it in 1983 and Corcomp failed to unveil theirs in 1984. Making the assumption that the third time is always lucky, Bob Boone, Berry Minuk of the Ottawa TI User's Group and I, full of great anticipation and excitement in seeing the long awaited 99/128, piled into a car and headed to Chicago to attend this years Consumer Electronics Show held June 9-12th. On Sunday June 9 we arrived at the Show location bright and early, fought our way through the registration process and headed out in search of the 99/128.

We had been advised that Myarc and Navarone Industries were sharing the same booth. A quick scan of the directory of show exhibitors gave us the location of the Navarone booth but Myarc was not listed. With spirits lowered but not dead, we headed for the Navarone booth in the hope that Myarc and the 99/128 would be there. You have no doubt by now figured out that neither Myarc nor the 99/128 put in an appearance at the show. A great disappointment!

The chances of the 99/128 or other 99/4A compatible ever becoming available are now remote if not non-existent, however I personally remain hopeful.

Other than Navarone Industries the only other company displaying any support of the TI99/4A was Keystone Distributing, a large wholesaler which displayed a fair number of 99/4A products(hardware and software) at very reasonable prices.

The trip to Chicago was not a complete loss as we did attend a meeting of the Chicago TI User's Group followed by a lengthy software exchange at the home of the Group's librarian. As a result you will soon have access to some new and exciting software such as disk utility programs, an impressive draw and paint program and some new (to us) assembly language games. Sorting and testing of approximately 40 disks of software is underway. When I have had a chance to review some of the software I will let you know about them through future articles in this newsletter.

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