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

NEWSLETTER

VOLUME 6 NUMBER 10....DECEMBER 1987

DON'T FORGET THE MEETING -- DECEMBER 8, 1987

P.O. BOX 2144, STATION D, OTTAWA
*** ONTARIO, CANADA K1P 5W3 ***

COMING EVENTS

December Meeting: December 8, 1987   Merivale High School

7:30 p.m.   Fun night! Contest! Win your 1988 membership!

Beginners Assembly: December 16, 1987   Dick Piche's home

7:30 p.m.   Contact Bill Sponchia for further information.

TI FEST: March 5, 1988   Merivale High School

Mark it on your calendar and plan to attend! Contact Jane Laflamme for more information or to offer your help.
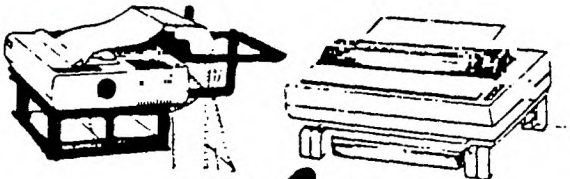
Software Contest: Deadline - March 1988 meeting   Start now! See rules elsewhere in this newsletter, or contact Bill Sponchia for more information.
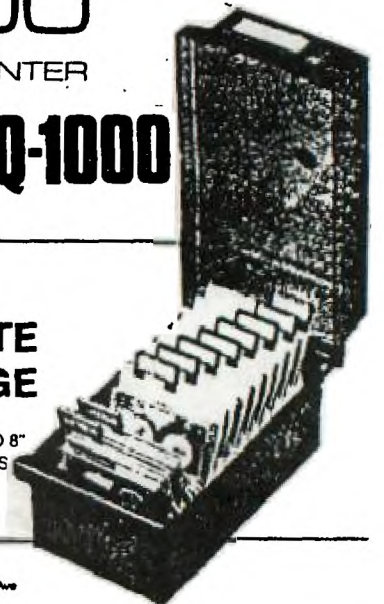
EDITOR'S NOTES
from
Ruth O'Neill

I am pleased to report that we now have a full executive. Bill Sponchia has been appointed to the position of Past President. All the best, Bill!

The November meeting was a busy one. Bill Sponchia was thanked warmly for his work in revising the club's constitution. In addition to the committee reports, the remainder of Berry Minuk's TI equipment and books were auctioned off by Lloyd Galenzoski, who made a fine auctioneer.

Bob Boone reported on his trip to the show in Washington on October 24th and 25th, where he was very well received. The show was held at the Sheraton, and included TI, Myarc, and Timex Sinclair computers. Bob served as moderator for a panel on Telecommunications in North America, with representatives from BIX (Travis Watford), Compuserve (Jim Horn), Genie (Barry Traver) and Delphi (Jeff Guide). He also participated in a round table discussion on users group projects (such as our DM1000 and Texlink). He saw a number of new products introduced, such as MyArt, Fortran-99, Legends, Fontwriter II, Total Filer and more.

There were two demonstrations at the meeting. Jane Laflamme demonstrated MyArt for the Geneve, and Michael Taylor demonstrated PLATO. The club's new video sender was in place for the first time, and worked very well. With the video sender attached to the computer running the demonstration, it is possible to watch on another tv tuned to UHF 15.

The December meeting promises to be an excellent one, so come on out! Bob Boone is preparing a contest to be played by randomly-selected teams. The prize this year is free 1988 membership in the club to members of the winning team. Don't let that keep you from paying Lucie, though. Winners who have already paid will have their fees refunded.

Members who pay their 1988 fees on time (by December 31, 1987) are eligible for a draw for a $50.00 prize! See Lucie Dorais at the December meeting, or send in the form on page 19 of this newsletter.

Bill Sponchia is going to be starting up a series of "How to Run" workshops. These workshops will focus on specific application programs, one at a time. For each program in which there is sufficient interest, Bill will find someone familiar with its use to help teach other members to get it up and running. Contact Bill (check the hotline numbers at the back of this newsletter) for more information, or if you have a program you would like to learn "How to Run".

Bill has also agreed to host a question and answer section in this newsletter. I would like to see members writing in (or calling, or leaving messages on the BBS) with questions about programming, using programs, hardware, or any other related topics. For questions printed in the newsletter, Bill will find someone with the knowledge to answer the question. Start asking those questions right away! Even if you find the answer before the next newsletter is printed, someone else may be able to benefit from your question (and, of course, the answer Bill finds for you).

At future meetings, Dick Piche will be holding brief hardware clinics to help members in making modifications to their equipment. Watch for these starting in January.

Don't forget the Fest! Already we hope to see Barry Traver, HRD PLUS, Disk Only Software and others here on March 5th. It may seem early, but there is a lot to do. Contact Jane Laflamme if you can help in any way, or to find out how to help. Mark your calendar and tell all your friends. Let's make this Fest the best yet. See you there.

Thanks go to Lucie Dorais again for the cover illustration, which is her adaptation of a GRAPHX picture. Once again, I'd like to remind you that I am open to comments about what you would like to see in this newsletter. There has been some interest in C, and I hope to get some articles on that in here. The next deadline for submissions of articles and advertisements (including the trading post) is December 15th. Have a safe and happy holiday season.

BROWSING THE LIBRARY
--with STEPHEN BRIDGETT

This month you will be pleased to find a new wrinkle in the price scheme for the library. Some members have already taken advantage of the offer to make BULK purchases.

As you recall, the price scheme was printed in last month's Newsletter. Now deduct $1 off of the price per disk on purchases of 10 or more disks, on diskettes that you supply. Let's look at it. If you want ten or more disks, the price goes down by $1 from a basic $3 to $2. Now if you document the disks, (subject to the need of the library to have them documented, and at this time that includes everything), a credit of $1 can be had toward future purchases. That in effect makes the cost to you $1 per disk. Since this BULK purchase arrangement does not require the club to purchase the disks, the club makes $1 per disk (documented) and the software goes into the widest possible circulation.

Let's take a minute to think about the library's documentation program. You know, folks, your library contains an amazing wealth of information. What it needs now that it's catalogued, is some very basic documentation. What we're looking at here is about a dozen Y/N or short sentence type answers to some very simple questions. The information is being put on a data base, which will be available to everyone as part of the library's resources. To boot, you can get a credit towards your next disk purchase. Bob Lanoy is anxious to make this one work and I'll let you in on a little secret besides. One day last winter, our own past president, Berry Minuk, raked yours truly over the coals for not having a documentation program underway. Berry was adamant about it and it's become important not only to the club, but to me personally. How about giving it some thought? See Bob Lanoy at the meetings to pick up the forms. You can document purchases or disks that you already have. The only requirements are that you relate the work to the library software and that you review complete disks to receive a credit.

The disk of the month in December will be a Fareware product written by John Taylor of Alabama and called SPRITEBILD. This came to my attention through a recommendation by Lucie Dorais. When I took a look, I was impressed! If you've ever had the need to create sprites for your programs, this is the luxury edition of sprite editors. John deserves full marks for this one. Complete with full documentation, the program appears flawless. Even if you have only a passing curiosity about sprites, this is a pleasure to play with. If you have speech, it's worth running just to hear how versatile ol' Tex can be. I was tickled by this one and if you have a habit of collecting those gold nugget programs and snuggling them into your personal library, well, you'll want this one. If you like it and use it, please remember, it is Fareware.

That's it folks, except to express a hearty welcome to the library's latest correspondent, Sandra Touchette. Sandra takes over for Bernard Vanden who did an admirable job of taking our correspondence out of the year 86 and into 87. Sandra is enthusiastic and, may I say, as she is part of the female minority in our group, she makes a welcome addition to the club's committee's family.

See you in December
Your library committee.

Ottawa TI-99/4A Users Group

1987/88 Pro-Am Software Contest - Bill Sponchia, Chairman

RULES:

General:

G1 - There will be two categories - Pros & Ams

G2 - Prizes
.1 - Each person entering either category will have one chance to win the Grand Entry Prize which will be chosen by random selection.
.2 - Individual category prizes will be awarded as indicated in the respective rules.
.3 - Additional prizes will be awarded by random selection if they are available.

G3 - Generally, anyone is eligible to enter either or both categories (see Pro Rule P1 for eligibility restriction to that category). However, each program submitted is subject to acceptance.

G4 - The software program may be of any type (e.g. game, utility, business, etc) and may be written in any language that can be used on either the TI or Geneve computer.

G5 - Deadline
Entries will be accepted up to and including the day of the March, 1988 Meeting by delivery to the Contest Chairman. Note: Entries ready before the deadline can be submitted when ready - and would be appreciated.

G6 - Programs submitted and accepted into the contest become the property of the Ottawa TI-99/4A Users Group.

Pros:

P1 - Eligibility
The Contest Chairman and judges are not eligible to enter this category.

P2 - Prizes
.1 A "Best Programmer" award will be presented.
.2 If there are more than three (3) participants then a "2nd Place" award will also be awarded.
.3 Award winners are also eligible for all random draws.

P3 - Entries will be judged on the basis of (i) performance, (ii) ease of use, and (iii) documentation. The Contest Chairman's decision is final.

Ams:

A1 - Prizes
Each program entered qualifies for two (2) diskettes with a maximum of ten (10) to any one person.

A2 - There are no other rules.

CHICAGO REVISITED!
by Jane Laflamme

Well, to start off, the trip didn't turn out quite as we planned but all in all it was an enjoyable trip with very enjoyable company. Originally we were to fly with our own personal plane and pilots (Peter Arpin and Bob Picard), but after the original plane was sold, and the back-up developed radio problems, off we drove on Thursday morning. "We", in the end, were Bob Boone, Michael Taylor, and myself. It is the second time for Chicago for Michael, the third time for me, and the fourth for Bob. We managed to miss the major Friday snowstorm (cars and tractor-trailers scattered in various positions on and around the "401" according to the Toronto group) by taking the route south of the lakes. We encountered one or two small squalls of ice pellets but nothing too significant. The first night we stayed in Erie, Pa., and continued to Chicago the next day.

Friday night brought us to a "mixer" cocktail party, or so we thought, but we arrived at the tail end of talks by several companies that would be showing products the next day. Had we known, we might have tried to be there a little earlier. It's a wonderful feeling to meet people again from all over the U.S. and Canada. There was a delegation from the 9-T-9'ers from Toronto, one person representing Kitchener-Waterloo, and the Hamilton group had a booth again this year. (Ironic that the two largest groups in Canada didn't, but we planned to see the show rather than work it this year). We even met a 2 users from Holland who had met our Margaret and John O'Connor at the fair in England, plus two users from Italy (the comedy there was we spoke French to each other... at which all three of us were very limited!)

The next day, after having a very close encounter with three or four Chicago police cruisers chasing a stolen car right into OUR motel parking lot, and almost being driven over in their haste, (quite unnerving), we were off to the fair. The attendance at the show appeared to be down even from last year, but I believe the quality of vendors and attendees is up. Unfortunately, I was unable to really see the show again. I found myself speaking with people that I had met either in Chicago or Boston; meeting new friends; meeting friends of friends; making new friends; swapping news on both TI and GENEVE; or in other words, just plain networking, I guess.

Of course, Myarc was there, and since they were my main concern, I spent quite a bit of time at their booth. They were showing their new paint program called MyArt, which uses the Myarc mouse. Superb! I am hooked, but no doubt you will have realized that in no uncertain terms at the demo in the November meeting. The mouse has three buttons, and can control the painting with various combinations of them. I was surprised and disappointed when the program used a lot of keystrokes from the keyboard, but someone pointed out to me that you can draw with one hand, leaving the other free to make the quick changes from the keyboard, and thereby not break your "artistic" flow as a mouse menu no doubt would. A much better idea and a very exciting package.

I was quite upset to hear that the big mail-out promised by Myarc of their software updates would be delayed further until all packages were complete, even though I can understand the logistics and expense of making two or more mail-outs. It is now expected at the latter part of November. For updates as they become available to the Canadian User, you can call the Ottawa BBS 24 hours a day, at (613) 738-0617 and select Option 9 of the File Transfer section. Alternately, you can send a formatted disk to your dealer. There might be a small handling and mailing charge. They will also be available from Laflamme & Wrigley Wholesale.)

The hard disk controller has changed in configuration, which is the reason for its delay. It will control three hard drives of up to 130 megabytes each. Including floppies, you can have a total of 450 megabytes of stored information. (Animation will be a dream on our machine with the hard disks!) I didn't hear whether they still plan to support 3 floppies as originally announced. Back up of the hard disk will be by streamer tape rather than video tape. You will also be able to have the two disk controllers, floppy and hard disk, in your P.E.B. at the same time if required?!!?? Release is slated for mid-to-late November for the GENEVE version, December for the 4A. MyBasic, a basic compiler is very close. MyNumber, Lotus compatible, is slated for the second quarter of next year. MyData, DBIII compatible, is slated for around the third quarter. There is one, possibly two, third parties developing

digitizers for the GENEVE; no other information at this time. (As an aside, I have heard that the new IBM digitizer is totally 4A compatible.... If anyone has more information, would appreciate it. It apparently doesn't have enough resolution for GENEVE.)

Peter Hoddie has plans for version 2.0 of MyWord and is asking what we would like to see. I would appreciate any suggestions passed on to me and I will send them on to Peter. You can contact me by writing to the address on the Newsletter, or my phone number should be elsewhere in this newsletter.

For the 99/4A, as well as for the GENEVE, some very exciting things are happening. A newer version of the Horizon RAM disk has been developed with 32K chips. You now have the option of having all configurations available now plus ONE MEGABYTE! (820K for the Geneve) (And at one time, I thought 256K would supply all my needs. As with memory AND women's purses, there never is enough room; but one meg.?!! Can't wait!) From what I understand, the VER-MENU authors will be supporting this card also. (Speaking of VER-MENU, their new version will run on the 4A but most exciting, it will also run on the GENEVE, and the card will not require the EPROM. We will be able to update just as the 4A users do. I have digressed again...) Also released is a Protocard for the hobbyist. HRD PLUS, a Toledo, Ohio based company, is helping John Clulow (one of the original members of Horizon) develop an 8K DSR and clock kit for this card. I'm sure others will have just as exciting ideas, and for you hard-core hobbyist, the sky's the limit on what you would like to design and build on it. Archie??? There were two 80 column cards for the 4A at the fair. One was shown last year, developed by Mechatronics, and plugs into the GROM port. The other is by Dijit. Trio+ Software released Print Wizard. This is somewhat like Print Shop - you can design and print greeting cards, invitations, etc., and it is menu driven. Great Lakes Software had Certificate 99, complete with parchment-like paper, and gold seals for customized certificates. I'm sure Bob will have more information on all these products, and in better detail, plus other items too numerous to mention but of interest to us all.

I came back with a RAVE speech adapter card. By removing the speech circuit board from its original casing, and placing it in this card, you can plug it into the P.E.B. It will work with both GENEVE and the 4A. (I haven't had a moment since returning to plug it in and test it!) My most exciting product is my friendly computer bug. It bit me at first (some friend), but now is quite happy. I have already taught it to stand on its head and "play dead". If anyone knows of someone with one of the opposite sex, I would like to breed it.

The biggest disappointment was not seeing Barry Traver there. For those who met Barry at the Ottawa FEST or subscribe to his Disk-a-zine, Genial TRAVeIER, you will understand why. He was unable to attend for medical reasons. We in Ottawa all wish you well and a speedy recovery, Barry.

That evening brought a beautiful buffet supper, and then we were off to Hank Ellerman's home, our great Chicago host, for a drink and more networking. Bob picked up a few more pieces of public domain software (is it possible??!!), and I copied as many GENEVE programs as time and equipment permitted, most indiscriminately, I am ashamed to say, from his BBS's file download section. It's going to take quite a while to filter through those disks.

The next day, we made a quick trip to Hank's to say our goodbyes, and then we were on our way home. As usual, we got lost in Detroit; it has become a tradition. I do believe I'll be disappointed if we ever make it straight through to the border.

Oh, almost forgot! With the change in time zones, our "grand boo-bah" managed to sneak in a 25-hour birthday. It could be questionable on whether that was good or bad, especially with me in the back seat, snow brush in hand ready to wield at the next slur against womanhood!

In closing, thanks to the Chicago Users group for having such a good fair once again. If ours is only half as good, it will be a great success. (March 5th, 1988, write it down!) Thank you once again Yvon, for being so understanding; some husbands might not be so ready to let their wives run off to a foreign country with two men! And to Bob and Michael: thoroughly enjoyed our trip and thank you for being such great travelling companions. But... even with the snow brush, I really did miss Lucie to help keep you in hand.. Next year Lucie? Pleeeeeeeasee....?

GENEVE UPDATE (as at Nov.15/87)
by Jack Adams

The promised updated software from Myarc has not yet been delivered. However, a few new items have been picked up via outside bulletin boards by Jane Laflamme, and have been uploaded to our BBS in file area [9]. There are two files... One is an updated version of MDOS, now Version .99B and the other is a new and interesting menu loader for MyWord and Dm1000 and any other program you might want. These two downloads are named:

Name	Size	Description
SYSTEM/SYS	358	MDOS V0.99b/Nov.13/87
RAG/V2;ARC	260	RAGLOAD for MyWord 1.0

Note that the second file listed has been Archived. It takes about 45 mins. to download SYSTEM/SYS using 300 Baud, so space your downloads accordingly or wait until everyone else is in bed. The second file comes equipped with some documentation. It is wise to read this first (get a printout). The interesting thing about RAGLOAD is that it allows you to work completely from your Horizon Ramdisk or from DSK1., whichever you prefer.

As for SYSTEM/SYS VO.99b, the only new improvement over VO.97 that is apparent to me at this time is that it can make use of an AUTOEXEC file during a hot or cold boot. The AUTOEXEC file can save you a fair amount of finger work. Here's how it works for me.

PREPARING AN AUTOEXEC FILE

1) LOAD MyWord.
2) EDIT TAB to bring LEFT margin to the extreme left (column 0).
3) Get out of WORD-WRAP.
4) Get into EDIT MODE.
5) Using upper case, TYPE in each COMMAND, one per line. (see page 63 of the GENEVE manual.)
6) Save the file to any disk EXCEPT Horizon Ramdisk.
7) AUTOEXEC must be loaded from DSK1 regardless of how SYSTEM/SYS is loaded. For some reason, after SYSTEM/SYS is loaded, it looks for AUTOEXEC in DSK1 or A:.

SAMPLE AUTOEXEC FILE

```
ECHO OFF
MODE 80
DATE
TIME ECHO
ON
PAUSE          " INSERT DISK IN DRIVE 1 "
DIR/W
PAUSE          " PRESS ENTER TO LOAD GPL "
GPL
```

This file assumes you are working from DSK1. ECHO OFF suppresses reiteration of the commands on the screen. MODE 80 changes screen to 80 columns. DATE and TIME shows you the current readings and allows for corrections. ECHO ON allows you to read the messages when PAUSE is in effect. DIR/W gives the directory of DSK1 on screen in 6 columns. GPL asks SYSTEM/SYS to load the GPL program. Any legal command can be placed in this file in the same way you would enter it on screen as prompted by "A>", for example. Have fun ! Experiment ! If you find out anything new, get it up on the BBS.

AMUSING A-MAZE-ING

A-MAZE-ING is a command module from TI and is a cat-and-mouse game. But wait! Don't turn the page! This is real stuff! Despite its narrative part, A-Maze-Ing is an action game which, in our opinion, is THE family game made by TI.

GAMEAUCRATS

Henri Monat

RULES OF THE GAME

Basically, you are a mouse and you must find your way through a maze. To fully understand the rules, you must first find your way through a maze of 3 screen options.

A: GAME TYPE	DESCRIPTION
1. One player	Self-explanatory
2. Two players	
1. Escape maze	Escape through the exit without being caught
2. Cheese hunt	Must eat 10 cheeses before the exit appears
Type of hunt	
1. Competitive	2 players against each other
2. Cooperative	2 players joining together

B: MAZE

1. Simple maze	Self-explanatory
2. Complex maze	
1. Visible maze	Pressing FCTN 7 gives the same result
2. Invisible maze	
1. Mouseholes	Here you can hide without being caught
2. Obstacles	These are small blocks placed in the alleys
1. Fast mouse	Not so fast
2. Slow mouse	Very slow

C: CAT OPTIONS

0. No cats	Self-explanatory
1. One cat	
2. Two cats	
Cat speed	
1. Slow	This is very slow
2. Medium	
3. Fast	
4. Lightning	This is very fast
1. Dumb cat	The cat always follows the same pattern
2. Smart cat	The cat follows the trace you have made
1. Standard cat	
2. Pouncing cat	The cat makes random jumps in the maze
Pouncing frequency	
1. Low	Self-explanatory
2. Medium	
3. High	

Full explanations of these various options are in the documentation that TI provided with the command module.

CHOOSING A MAZE

One reason I like this game is its versatility. Your 6-year-old child may choose a no cats game while a most advanced player can choose cats moving at various speeds. What makes this game really interesting, though, is the smart cat option.

I like to play a cheese hunt in a simple maze against 2 smart lightning cats. Choosing a complex maze makes the game easier to play because it takes much more time for the cats to sweep the screen, even at lightning speed. Try the simple maze; you will see that there is a lot of traffic in there. To tackle 2 smart cats moving around at such speed, you need a fast mouse and, sometimes, mouseholes. With a slow mouse, you won't be able to make more than 1 or 2 mazes out of 15 different mazes played. Sometimes, I play the same type of game together (i.e. in cooperation) with my 13-year-old son. Never play in competition against your children; you will lose either the game ... or your children. I must add also that I never choose the pouncing option; the random element can destroy all the work and creativity you have put into solving the screen difficulty.

PLAYING AGAINST A SMART CAT

To play against a smart cat, you must fully understand the cat's pattern. Unfortunately, TI's documentation on this point could have been more accurate.

Choose a dumb cat first and observe: you might think that the cat moves from left to right, or right to left. This is not quite so. Pick a wall as a point of reference and follow it in the same direction as the cat is moving. Don't cross any intersection; just follow the walls, and you will soon find out that the cat is in fact circling around the screen, always in the same direction. If you press REDO (FCTN 8), you have the same maze except that the cat is now circling in reverse.

Once you are familiar with the cat's pattern, try AID (FCTN 7); the screen becomes dark; you can see the cat but the maze is invisible. With the arrow keys or your joystick, risk your mouse one square down and have it come back into its safe hole. The square into which your mouse has entered is now visible until the cat goes into it to turn it dark again.

Now repeat the same experiment with a smart cat: press FCTN 7, wait until the cat passes into the square which is in front of you, quickly open this square and come back into your hole. If you act quickly enough, the cat will come back into the same square in order to get you. Hence, with the smart option, the cat follows your trace. However, it keeps its original route and its original direction. It is, in a way, jumping within the pattern in your direction. If the cat can't reach you, it does not return where it left; it simply resumes the circle around the screen in the same direction as before.

There are cases where the cat does not follow your trace. Where it has to choose between your trace and its pattern, it will take the latter route. You may verify this by going to a crossing: open the first square of each route in the intersection and keep out of the cat's pattern. The cat will simply follow its direction without caring about you. So with a good understanding of the cat's pattern and a proper plan route, you should be able to outsmart the smart cat.

SCORES

You will notice that A-Maze-Ing is not on the list of the club's game scores. This is because the challenge is to make the screen, not to accumulate points. Each time you make a screen, the mouse (i.e. you) gets a point; if, however, the cat catches you, it gets the point. There is no time limit to play a game, but your time is recorded and can even be displayed on the screen by pressing FCTN 3.

I used to play a game of 10 points. If I win a screen, I press FCTN 6, which creates a new maze with the same options. Otherwise, (i.e. if the cat wins the screen), I press FCTN 8, which replays the same maze.

HAVE FUN and have a nice mouse and cheese party.

RAMDISK RECOVERY

by Hal Tonkin

If you back up your ramdisk before turning off the power every time you use it, then read no further. But if you are like the rest of us mortals, who take a backup copy only once a month or so, then this article may help.

Every now and then when I turn on the power to the system, I find that the ramdisk operation system (ROS) has been corrupted. If the system will still come up and I can get extended basic to run, then it is a simple matter just to reload the ROS. Usually the files are still OK, and at this point I breathe a sigh of relief, and then take a backup. However, last week when I turned the power on, there was nothing - no TI banner, no menu, no response on the keyboard, just a little red light on the ramdisk indicating that it was looping in its power-up routine. PANIC!!! I had just finished entering a C program, and did not want to have to type it all in again. The ramdisk instructions say that when this happens, the only way out is to power down, remove the card, remove the batteries, wait, re-install the batteries, re-insert the card, and reload the ROS. However, this would also destroy the contents of the rest of the memory - that is, all my precious files. There had to be another way. This time there was, and if this happens to you, perhaps the following procedure will also save your day.

1. Turn off the expansion box and the console.
2. Put a mini-memory cartridge in the console.
3. Turn on the console ONLY. At this point the TI banner should come up, and after pressing a key, the mini-memory menu should appear.
4. Select option 2, EASY-BUG
5. Now turn on the expansion box. Since the console was already on, it did not try to execute any of the power up routines of the cards in the expansion box.
6. Select CRU single bit i/o by typing C, then type C1000<ENTER>1<ENTER> to enable your ramdisk. CRU address >1000 is where my ramdisk address is set. If yours is at a different address, then enter the appropriate address instead of >1000. When you turn on the bit, the red light on the ramdisk card should come on, indicating that it has been selected. If it does not, then this recovery procedure will not work.
7. Exit CRU single bit i/o by typing a period.
8. Examine memory address >4000 by typing M4000<ENTER>. This is the address of the first byte of the ramdisk memory and should contain the value >AA indicating that there is a device present.
9. Alter the byte at memory address >4000 to be >00 to indicate that there is no device present by typing 00<ENTER>.
10. Exit CPU memory addressing by typing a period.
11. Turn off the CRU bit >1000 by typing C1000<ENTER>0<ENTER>. The red light on the ramdisk should go out.
12. Turn off the expansion box, then the console.
13. Remove the mini-memory cartridge and insert extended basic.
14. Turn on the console, and then the expansion box.
15. Type FCN = to reset the system. All the cards in your expansion box except the ramdisk should reset themselves, and the system should not hang up since the ramdisk did not try to go through its power-up routine.
16. Put your ROS disk in drive 1, and select extended basic.
17. Reload the ROS, and with luck your files will still be there.
18. Take a backup NOW, before anything else goes wrong.

This procedure may not work all the time, but it did for me, and may be worth trying before removing those batteries.

EXPANSION PORT INTERFACING: Part 2.
By David Caron

Now that you know how the expansion port works, you will undoubtedly be interested in knowing how to access it. If you are already lost, read part 1 of this article in the November 1987 newsletter. The simplest way is through CALL LOAD and CALL PEEK. However, these BASIC statements are not available on an unexpanded console. If you are using TI BASIC you can obtain the commands by inserting the EDITOR/ASSEMBLER or the MINI-MEMORY module. Either of these modules will expand TI-BASIC vocabulary to include those and other commands. HOWEVER, because the Editor/Assembler is designed to work with the 32K expansion memory, you may need to obtain the memory before the CALL LOAD and CALL PEEK commands will work. If you have MINI-MEMORY, the 32K expansion memory is not necessary. The most common way of obtaining the commands is through the TI-EXTENDED BASIC module, which is by far the most popular of the three modules. With Extended Basic, CALL PEEK is immediately available; however, the expansion memory is required to use CALL LOAD. Now that you have discovered how to add those commands to your console, LET'S USE THEM!.

CALL LOAD is used to "poke" data into CPU memory either by loading in a program from disk or by specifying a direct address and data such as: CALL LOAD(16384,255) where 16384 is the address and 255 is the data.

CALL LOAD(16384,80,79,75,69) will poke the data 80 79 75 and 69 into memory starting at 16384 to 16387. CALL PEEK works the same way except that variables are used so that the computer can return the value at the specified address.

CALL PEEK(16384,A) would make A=80 since we just poked the data 80 at that location. You may also use multiple variables like CALL PEEK(16384,A,B,C) with the A being assigned the data at address 16384, B containing the data at address 16385 and C containing the data at address 16386.

The address numbers range from 0 to 65535 or Hex 0000 to FFFF. However the computer will only take addresses between 0 and -32768. To represent addresses greater that 32767 use the formula:

your address 65536 = BASIC addressing notation.

For example, address 32768 would be entered in a CALL LOAD or CALL PEEK statement as -32768 and address 65535 would appear as -1. This weird addressing system was developed to enable assembly programmers to operate with negative data should they wish to, although it makes no sense to me why TI used that signed numbering system for the addresses.

The data numbers range from 0 to 254 period, no problem with that. By now you must be wondering how this relates to the expansion port. Read carefully!

Every time BASIC or EXTENDED basic executes a CALL LOAD or a CALL PEEK, the address you entered appears on the 16-bit address bus of the expansion port A0 to A15. As the computer is displaying this address in binary, the data you entered is appearing on the 8-bit data bus D0-D7, also in binary. What is Binary? If you do not already know, simply read a book that talks about the way the computer stores numbers in its memory, it is the same for all computers. Z..Z..Z.. Now that you know how the Binary numbering system works, let me warn you: Unlike other computers TI considers A0 and D0 as the MOST SIGNIFICANT BIT of the Binary number, NOT the LEAST SIGNIFICANT. Therefore if the statement:

CALL LOAD(37000,200) is executed the following appears on the bus:

A0	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12	A13	A14	A15
1	0	0	1	0	0	0	1	0	0	0	0	0	1	0	1

D0	D1	D2	D3	D4	D5	D6	D7
1	1	0	0	1	0	0	0

On the actual wires from the expansion port a zero or low would be represented by 0 volts while a 1 would be represented by 5 volts. As you might have guessed, there are also two other wires associated with addressing operations. One of them is the Write Enable (WE) pin 26. This wire goes low when a CALL LOAD is being executed. This indicates that data is being sent out to an address; otherwise WE is high. The other wire is Data Bus IN (DBIN) pin 9, which goes high when CALL PEEK is being executed. This indicates that data is

being received from external devices like memory; otherwise DBIN is low.

Well, that about explains it! The other memory access related pins like MBE and MEMEN and SBE will become active when certain addresses are being poked or peeked, more specifically.

MBE goes low when addresses 04000 to 05FFF or 16384 to 24575 are used.

MEMEN goes low when addresses 02000 to 03FFF or 8192 to 16383 are used (low memory) OR addresses 0A000 to 0FFFF or 40960 to 65535 are used. SBE goes high when addresses around 08328 and 08330 or 33576 and 33578 are used.

Incidentally, do not think you can monitor the voltage levels of the pins by using a voltmeter, because if you do, you are greatly mistaken. One thing that makes a computer so nice is the fact that it goes so fast. The voltage levels in the wires could change between high and low and back again as fast as 0.0000003 s which is a bit to fast for you eyes or a voltmeter. Instead, a voltmeter will give you an average value between 0 and 5 volts.

For those of you who know little about digital electronics and are fascinated by the thought of interfacing your computer with the outside world, grab a book on the subject and update yourself on the latest fad in the high tech world. For those of you who are already familiar with digital electronics and have been looking for something like this series or article Shout with Joy and get started! Your imagination is the only limit to what you can do with 65335 addresses at your disposal. If, however you find that still insufficient, the next article will introduce you to using CRU addressing to expand the addresses to infinity (well, at least very nearly). If you have any questions, call me at 745-4618.

```
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FAST

EXTENDED BASIC

LUCIE DORAIS

My Christmas gift to you is a real program, one that you can keep and play with during the holiday season... a cute game full of SPRITES. In a winter landscape, a boy and girl walk or run at random speeds; you can change their direction and speed by pressing any key. Sometimes boy chases girl, sometimes the opposite (she's a woman of the 80's). See what happens when they meet!

```
100 REM ** LOVE STORY / by L. Dorais / Nov. 1987
110 REM
120 GOTO 140 :: CALL CHAR :: CALL HCHAR :: CALL SCREEN
130 CALL COLOR :: CALL MAGNIFY :: !@P-
140 CALL CHAR(36,"44EEFEFEFE7C3810"&RPT$("0",48)) ! surprise
150 DISPLAY AT(7,4)ERASE ALL:"$ LOVE STORY $" :: RANDOMIZE
160 CALL CHAR(48,"FFFFFFFFFFFFFFFF",136,"FFFFFFFFFFFFFFFF") ::
    CALL COLOR(3,15,1,14,16,1)
170 CALL HCHAR(16,1,136,128):: CALL HCHAR(20,1,48,64) :: CALL
    HCHAR(22,1,136,96) ! landscape
180 CALL CHAR(120,"0103070B070F170F1F2F1F3F5F0101010080C0A0C0E0D0E
    0F0E8F0F8F4")! trees
190 CALL CHAR(124,"0100010800021000042100044000000000000200040108
    0002800A004")! lights
200 CALL CHAR(104,"0303030701070F1B33070F1F06060E0EC0C0C0E080E0F0D
    8CCE0F0F860607070")! girl
210 CALL CHAR(108,"0303030301070F1B33030307070606060E0EC0C0C0C080E0F0D
    8CCC0E0E060607070")! boy
220 CALL CHAR(116,"030F1F0703010103070F0300031F0F03C0F0F8FCFC9CBEF
    EFEBE3C7CFCF8F0C0")! moon
230 REM
240 DISPLAY AT(7,4):"" :: CALL SCREEN(5):: CALL MAGNIFY(4)
250 CALL SPRITE(#9,120,13,89,26,#7,120,13,110,106,#2,120,
    13,144,200) ! put trees
260 CALL SPRITE(#10,116,11,25,180,0,-1)! put moon
270 CALL SPRITE(#4,108,5,132,64,#5,104,14,132,145)! put couple
280 !@P+
290 BV=(RND*50)-25 :: GV=(RND*50)-25 ! velocity
300 CALL MOTION(#4,0,BV,#5,0,GV)! move couple
310 CALL ON :: CALL OFF ! light trees
320 CALL COINC(#4,#5,10,COIN):: IF COIN=-1 THEN CALL KISS ::
    GOTO 300
330 CALL KEY(0,K,S):: IF S=0 THEN 310 ELSE 290 ! press any key
340 REM
350 SUB ON :: CALL SPRITE(#8,124,12,89,26,#6,124,8,110,106,
    #1,124,16,144,2 00):: SUBEND
360 SUB OFF :: CALL DELSPRITE(#8,#6,#1):: SUBEND
370 SUB KISS :: CALL MOTION(#4,0,0,#5,0,0)
380 CALL POSITION(#4,PR,PC):: IF PC>250 THEN PC=250
390 CALL SPRITE(#3,36,9,PR+6,PC+6,-30,0):: CALL SOUND(300,1900,0)
400 FOR DEL=1 TO 300 :: NEXT DEL :: CALL DELSPRITE(#3):: SUBEND
```

After the now-familiar PRE-SCAN (note that it is put back ON in line 280, long before the end, since a lot of CALLs and variables are used only in the last portion of the program), the title and landscape are displayed while Tex lazily redefines our sprites; we cannot use our fast DISPLAY AT routine for the landscape (see Sept. issue), since we want to use all 32 columns.

All our sprites are four-char. long, and their numbers are all multiples of 4. Char. 36, defined in line 140, takes up only one char., so we can use it as a single character in the title (line 150); to use it as a sprite, we make the following three char. blank, hence the RPT$ (repetition) of "0"s. In line 240, we encounter a CALL MAGNIFY. This special sprite function controls their size. The factor of 4 will make them double size, i.e. 16 char. (4 ch.*4). Unfortunately, it applies to all the sprites in the program. That is why we made the surprise so small: Magnified, it will be only 4 (4*1) char. in size.

Line 250 plants the trees in the landscape; these are stationary sprites, so we could have used standard CALL HCHARs, but can you imagine the length of the code to define and display three trees of 16 char. each? Using sprites simplifies our work. CALL SPRITE is one of those "multiple parameters"

statement: you can use it for as many sprites as you want, three here. I will explain below how the sprite numbers were chosen.

Let's study the left tree: CALL SPRITE(#9,120,13,89,26,#7,...
                                      S# CH#,CL,PR,PC

Sprite number S# is the number we assign to the tree on the left, and CH# is its character number. CL is the color of the sprite foreground. Since sprites are designed to be seen over each other, their background is always transparent, and does not have to be specified. To make them move smoothly, XB controls the sprites pixel by pixel, instead of row by row and column by column. Since there are eight pixels in a row or column, to get the right p-row and p-column (PR and PC) you multiply the normal value by eight and adjust it as you want. Here, p-row 89 is somewhere "into" normal row 11, p-column 26 "into" column 4.

The moon is dealt with on line 260, in a single statement, but we have two additional parameters after its position (25 and 180), for the "velocity" of the sprite. The first parameter is vertical vel.; since it is "0", our moon will stay up in the air. The second one is for horizontal vel. To make the program more animated, the moon moves very slowly towards the left, hence the "-1" (negative value for left, positive for right). Change the "-1" to anything up to "-127", or a number between 1 and 127, and see what happens!

Boy and girl come on stage as motionless sprites (line 270), their velocity randomly determined on line 290; it will be any value from -25 to +24, and each figure gets its own motion, as in real life. Their velocity is then passed on to the CALL MOTION statement in line 300. It has only two parameters, vertical ("0" in this case: we don't want our couple to wander around and hide behind the trees!) and horizontal, which are our random values. Each time you press a key, the CALL KEY statement in line 330 will take the program counter back to these lines. Otherwise it will skip them.

Line 310 controls the lighting of the trees by two user-defined subroutines; I chose that approach so you can play with the lights if you wish (no, I had no tutorial intent! This program is for fun!). And since we expect some action from our couple, line 320 checks for the coincidence of their sprites. The "10" is a coincidence factor: the last parameter, "COIN", will return a value of -1 when the coincidence is 10 pixels or less, or of 0 when there is no coincidence. Note that this does not work all the time: this is because the program is not on that particular line when they meet... bad luck! If there is a coincidence (COIN=-1), well, read the name of the sub to find what happens....

To light up the trees, the SUB ON puts three more sprites right on top of the trees (same position), and the SUB OFF deletes them. Readers who know about sprites might object that CALL PATTERNs would have been simpler: CALL SPRITE the lights somewhere before the main game routine, and you define another sprite, e.g. 96, as a blank one, i.e. with a foreground color of 1, transparent: no need to redefine the character, since we will never see it! We would then define SUB ON as CALL PATTERN(#8,124,#6,124,#1,124), and SUB OFF as CALL PATTERN(#8,96,#6,96,#1,96).

BUT: XB does not allow more than four sprites on the same row at the same time. We already have a boy, a girl, a tree and a light cluster, on or off. When the couple meets, the heat of passion causes a fifth sprite to appear, so one has to disappear. Since the girl's sprite has the highest number (#5), she loses her body! Then, as the surprise sprite moves upwards, the trees lose part of their branches... Try it just to see! So, we avoid that problem by deleting the light-sprites in the SUB OFF (our heroes' passion is hot enough to keep the scene lighted anyway), and put them back in the SUB ON.

You see now that careful planning is needed when you number your sprites: here, we want the couple to pass beyond the right tree, but in front of the middle one. And we want the surprise to appear between the couple and the right tree in case their encounter happens right behind it. The sprite with the lesser number passes in front of a sprite with a higher number; I therefore planned the sprites as follows ("ltr" means left tree, "1.ltr" lights on left tree, and so on):

· 15

#10	#9	#8	#7	#6	#5	#4	#3	#2	#1
moon	ltr	l.ltr	mtr	l.mtr	grl	boy	???	rtr	l.rtr

A word on the SUB KISS: each time boy meets girl, or vice versa, we freeze them in embrace with a motion of "0,0" and we sneak up on them with a CALL POSITION that gives us the p-row and p-column of the top left pixel of the boy-sprite (by that time, the girl is close enough!). If PC is too far out on the right, we correct it (there are 256 p-columns, and the surprise sprite will be six pixels to the right of boy, so 250 is the highest PC we want). We now use those values to call a new sprite slightly to the right of and below the couple's upper left position, then give it a vertical velocity of -30 (negative value for upward motion, positive for downward) and an horizontal one of 0.

A short sound confirms the happy ending, as the moon quietly continues to pace the sky. If you don't change the velocity of a sprite, it moves forever, until you stop it with a CALL MOTION(#n,0,0) or delete it with a CALL DELSPRITE (see line 290). After the brief kiss, our couple can resume its course in line 300.

Before I let you play, a last, COLORful note: if you study the program, you may have noted that we have defined two sprites in one set (trees+lights, boy+girl). But their colors, in the CALL SPRITE statements, are not the same: boy is blue, girl is magenta. Even better, in line 350, the lights have three colors (12, 8 and 16), but are all the same character, i.e. same set! And the surprise, which was left its default black in the title, becomes a vivid red when used as a sprite. This is because the color of a sprite is totally independent from the color of the char. sets. The VDP RAM keeps that information in two distinct areas: sprite color is part of the SPRITE ATTRIBUTE TABLE, while character/set colors are kept in the COLOR TABLE.

TO DESIGN SPRITES, you can use any good Sprite Definition program, such as Compute!'s SUPERFONT, or you can use a program which has a ready-to-use collection of sprites. Since I am lazy, this is exactly what I have done: tree (PINE), MOON and GIRL come straight from the SPRITE BUILDER program, and boy is just its FARMER without a hat. Good news: SPRITE BUILDER is freeware, and part of the Group's Library! It is even this month's Disk of the Month! Just ask Steve Bridgett or Stuart Bruce...

A TI-WRITER TIP

from
Lucie Dorais

In my XB column this month, one line (in the program) reads: "290 BV=(RND)*50-25". While printing through the Formatter, the "*50" did not print at all! I found the reason (and solution) in the Boston booklet on TI-WRITER, written by Joyce Corker. She calls it "The Asterisk 'Bug'..." When you type an * followed by a digit higher than 0, the computer thinks you are asking for a value file or mail merge file (TIW manual p. 113). Jim Peterson found the solution. I tried it, and it works. You have to double the asterisk, so TI will print at least the first one, and you must follow the second one by two dummy digits, which cannot be 0. To print it twice at the beginning of this paragraph, I actually wrote "**1150" in the text.

When you only have the console, you may only run programs in TI Basic. Trying to load or run programs in any other language (such as Extended Basic) will produce error messages.

Saving programs to tape
When you have keyed in a program you may wish to save it on tape, for future use. Otherwise you will have to key it all in again.
Use cassette tapes of maximum length C60. C90 tapes and longer are thinner and liable to stretch slightly in use, distorting the data the computer needs. Many large newsagents now sell computer tapes of C10, C15 or C20 length. A C20 tape will hold three average length programs on each side.

If you are keying in a long program, it is a good idea to save your work from time to time, even though it is not finished, then if some disaster occurs (such as baby brother unplugging your console) you don't have to start all over again : you may load your work and carry on from there.
When you are ready to save a program, type in SAVE CS1 (with the alpha lock key down) and follow the directions which will appear on the tv screen. When the computer has finished the recording, you will be asked if you wish the tape to be checked : if your program is worth recording, it is worth verifying the recording- always respond Y (yes) you wish the tape to be checked. Then follow screen directions.
This part of the procedure is the same as loading a tape, but the computer will be checking the tape data against what it has in memory. See the section on loading programs for further assistance.
The reason you should always check your recording is that even the best tapes have small sections with little or no oxide coating, causing what are termed 'drop outs', Very short duration drop outs will not affect music, but you will lose some data. If you find that your recording is unloadable for any reason, the program is still in the computer, and you may use SAVE CS1 again to try a different tape.

Please remember that tapes are relatively fragile so do not keep them near to any strong electromagnetic field. In particular, it is unwise to place a tape near to the console, the tv modulator, or your tv set, for any length of time.
As tapes can be damaged so easily, always make two copies of your program, on separate tapes. If one is damaged you can then make a further backup from the second tape. A magnetic tape has a limited life and you should rerecord onto another tape if a tape begins to become difficult to load.

FURTHER NOTES ON USE OF SAVE:

The keys R C & E are used when an error has been found, to R(ead) or R(ecord), C(heck), or E(xit). These keys are also active whenever the current instruction is 'THEN PRESS ENTER'
Be careful not to press them unless you wish to Exit the routine.
When you have finished recording a program, when the display asks you to 'PRESS CASSETTE STOP THEN PRESS ENTER', instead of pressing ENTER and moving on to the verify routine, you may press R to immediately record the program again, say on another tape.
If you wish to save a program, and find on looking at the screen the message 'PRESS CASSETTE PLAY THEN PRESS ENTER' you will realise that instead of SAVE CS1, you have typed OLD CS1, and you are well on your way to destroying all your hard work. You can escape from this problem by pressing E. An error message may appear, but your program should be safe.

CHAPTER FIVE:

FILE PROCESSING

PROGRAMS are saved to tape using SAVE CS1, and loaded back into the computer with OLD CS1 (if you are using a tape recorder).

The values of the program variables are not saved with the program, and will initially have a value of zero when the program is loaded.

If you wish to save a high score, or other data, you must use file processing operations as described below.

Tape files can take a few minutes to load, but form an inexpensive introduction for the novice programmer to the field of data management. Fortunately, TI have provided a fairly simple operating system.

Before you can save or load data, you must 'open a file'. This operation describes to the computer the format of the data on your tape, and allows you to refer to the tape by a simple label, called the file number.

When the computer comes to an OPEN statement, a section of tape is wound on, with no signal. This is to clear any leader on the tape. You will find it easier if you always start your data files at the beginning of the tape, then you can be sure the computer will find the data where it expects to.

A cassette file may be to load data or to save it, and this is defined in the opening statement. The usual cassette operation instructions are given when the OPEN statement is operated on. Please keep this in mind and ensure that you do not open a file after a complex screen display has been created!

The OPEN statement is in the form:
OPEN #N:"CS1",INTERNAL or DISPLAY,INPUT or OUTPUT,FIXED NUM

The number N must be a number and not a variable, and lie between 1 and 255. It is possible to have several files open at once (eg to CS2, a printer, the speech synthesiser if using Terminal Emulator 2 module & so on), and the file number is used to instruct the computer which peripheral it is to use.

The choice between INTERNAL and DISPLAY is one of coding : in DISPLAY format, the computer data is recoded to printable ASCI code. DISPLAY format can sometimes be of advantage in DISK processing when greater speed is sometimes possible, but for TAPE files, it uses more tape and also requires more complex program writing.

Using TAPE files, use the INTERNAL format.

File organisation with tape files is always SEQUENTIAL and this word is not required in the opening statement. This means that the second item of data read from the tape is the second item of data which has been recorded on the tape. It is not possible to 'skip' to say the 6th item of data without reading everything in between.

As mentioned, you MUST indicate if the file is for INPUT or OUTPUT. You use INPUT to read data from a tape, and OUTPUT to place data onto the tape.

You should only have one file open to CS1 at a time, otherwise the computer will lose track of the data on the tape.

FIXED means that every time the computer writes data to the tape, the same amount of tape is used no matter how long the data. Any unused tape is filled with nuls. If no number follows the word FIXED, the data field is 64 bytes long. A number always occupies 9 bytes, and a string one byte more than the string has characters.

To save data once the file has been opened, you use the PRINT command, but add the file identification: PRINT #1:
There is ALWAYS a colon (:) after the file number.

To save a single variable value, you would use: PRINT #1:A

To make the most of the 64 byte field length, you may save 7 variables at once, each separated in the PRINT statement by a semicolon:
PRINT #1:A;B;C;D;E;F;G

Strings are saved in a similar way:
PRINT #1:A$;B$
or
PRINT #1:"THIS STRING IS TO BE SAVED"

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HOTLINE NUMBERS

The executive has expressed a desire to assist all members should you have some problems or questions, want to do some library swapping or borrow a book. This will be the place to look. Listed here are the members of the executive, committee heads, and others in the group willing to help in their specialized areas. 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, so I hope to add to this list. 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.

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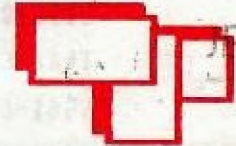
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