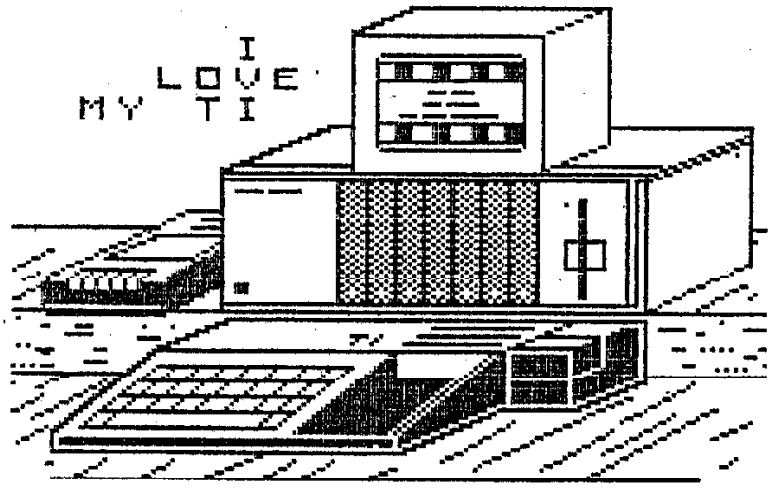
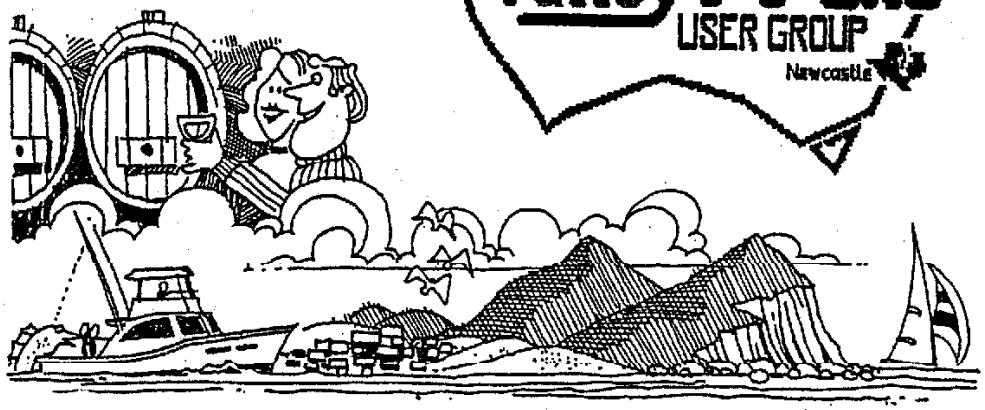
HUNTER VALLEY 99ERS USERS GROUP

HOME COMPUTER NEWSLETTER



JULY 1988



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SECRETARYS REPORT

FROM ALBERT ANDERSON

Welcome back to the July issue of HV99 newsletter. As July is RENEWAL MONTH for the HV99'ers I thought that I would get in early and remind everyone. To date we have 64 membership renewals in already and this is a real inspiration.... thank you to all you good folk. As for those that as yet have not done so, well what can I say but pleeeeese get your renewal ($25 Aust, $45 O/S) and the renewal form to me at your earliest convenience.

More inspiration... during June we have had 3 new members join us so its welcome to HV99 for Geoff Williams from Wallsend, Hilary Gifford from the Brisbane area who met us up at the Faire and to Peter Gleed from Melbourne who has at long last succumbed to become a HV99er. Please become involved in any way you can so as to help us help you with your usage of the 4A machine.

Still on this subject you will notice on the mailing label of your newsletter the status of your HV99 membership. OK and Renew Now!! means what it says and next month people that have not renewed membership will have a LAST ISSUE sign on their newsletter and unfortunately for those people it also means what it says.

In last months Sec column I mentioned that I was sending a complimentary newsletter and accompanying letter to previous members with the intention being that they reconsider using their 4A's and rejoining HV99. This I did for 45 people in the local Hunter region and as yet I have had only one contact in reply... not very encouraging, but you can only ask I suppose!! Whilst on last months newsletter we had a small column on the first page under the title of HELP US TO HELP YOU. Responses to this came from Max McVie (local member) and from Doug Moller from Aitkenvale in northern Queensland and they came up with quite a bit for the new committee to consider for the coming year. This is only 2 out of our 100 or so members so if you have ideas for OUR future don't keep them to yourself... LET US IN ON IT.

The TIsHUG group in Sydney has been in touch recently and have put forward a couple of proposals for the HV99ers to consider. Firstly from Russell Welham on the Central Coast comes an idea to promote interaction at a local level between the two groups in that the Sydney people come to Newcastle for a day/weekend, have a user type meeting and then have an outing together say up at the Hunter Valley vineyards. The connotations of this are wide and many and Russell has suggested around about the October long weekend as a possible time slot. Any views or ideas on this ?? Next from the TIsHUG group through Terry Phillips comes a request for HV99 to consider co-hosting with TIsHUG a TI-Faire, symposium etc. during 1989. We have discussed both of these ideas at committee level and now we need the members views so we can follow up with these proposals. Please don't be shy. If this sort of activity is what you would like to see develop help us do something about it.

News from the the TIUP group in Perth, WA. informs us that the group has had a clean-out of some of the long term officer bearers in the club. Bernie Elsner and Phil West no longer hold positions on the committee of TIUP and hopefully through the new officers contact with the other user groups around Australia and the the world will be re-established and some direction for 4A devotees in the west will be forthcoming. Word from the new

secretary Geoff Warner tells us that TIUP has not received newsletters or had contact with ANY users groups in over 6 months. If that is the case I would suggest that Geoff contact whoever clears PO.Box 246 at Mt Lawley and retrieve the HV99 newsletters as a starting point. To the members of TIUP, good luck and if you need any help to get back on the rails don't hesitate to ask HV99.

I think that's it for the Aussie news now to overseas. Firstly, Jack Sughrue has sent us a supplement disk of his PLUS disk for people with DSSD capability and this looks just as good as the SSSD PLUS disk with more to do with it if that is possible. It is in the software library and thanks Jack for your continued support with PLUS. And by the way Jack, yes I have been getting your letters of the last 3 months. The problem is my end, ask Bob Carmany and the many others I owe letters to. I'll do a bulk apology to my overseas contacts that haven't heard from me recently and I will aim to remedy this situation ASAP. SORRY for being so slack...Albert.

From the Ottawa group in Canada, Lucie Dorais has sent us the latest V2.Ø of TELCO terminal emulator and this is also in the library. Thanks to Lucie and to Charles Earle the author of this one.

From the Chicago TI-User group in the USA. comes word that they are starting a "major software exchange program" with the overall goal being to supply all participating groups with ALL public domain software available for the TI99/4A. Man, what a task!! Someone must have some spare time. Anyway its a good idea and we will keep in touch and get more info on this as the program develops. By the way, nice to hear from someone from the CHICAGO group at long last. Now how about a reply to our newsletter exchange request from someone!!!

The Johnson Space Centre group over the last few months have been compiling a DATABASE on ALL TI-99/4A material available to us users. Now this also is some task... They have sent HV99 via Tony McGovern a disk set of the UNDB Database kit for us to compile the HV99 newsletter from Issue #1 to date as part of this project. This is a large task for someone and no doubt it will be done as this project is designed to aid ALL users and user groups reference the vast amounts of material available to us 4A users. HV99 will be imputing to the system and in return hope to have up-date material on the UNDB returned to us.

While still on databases to help collate 4A material Andi Wise from the Eugene User Group in Oregon has asked that we send him a listing of the User Groups that we currently exchange newsletters with as he his compiling a listing of ALL user groups around the world and up-dates will be made available to participating user groups. Maybe the exchange groups that read this could help Andi in this task by sending him their lists. His address is :-
Andi Wise, PO.Box 70760, Eugene, OR.97405, USA.

To finish up with a letter from Audrey Bucher from the Pittsburgh User Group (PUG) in Pennsylvania, USA sent us a nice letter approving of the quality of the HV99 newsletter and also says "that you people are an inspiration to all in the TI community". Thanks Audrey for that little pat on the back from all of us... now everyone knows where I got that "inspiration" word from.

No news from the continent or the UK this month. They are probably on summer holidays. For other US. info on such things as the Geneve up-dates and the status of Myarcs Hard/Floppy Disk Controller and lots of new software releases I would suggest you rummage the publications library for MICROpendium and the Exchange User Group Newsletters.

That's me done for this month... have fun...see ya!!!

Albert Anderson
(4a4me)

IN THE NEWS

A POT POURRI OF LOCAL
AND INTERNATIONAL NEWS
COMPILED BY

joe wright

Now here is one to think about!

The knowledge of the theory of logic has no tendency whatever to make men good reasoners.

Macauley.

CONVERTING INSTANCES.
****
Roger Merrit from Orange County, an expert on Graphics through TI Writer formatter, makes the following comment in a recent copy of ROM.
"There are now programmes that will convert "TI-ARTIST" instances to a "TI-WRITER" file. I have an excellent programme call "ARTCONVERT" by TRIO+ Software. It is menu driven and easily converts 1 or merges 2 instances into 1 file. This does all the work for you including transliterating all characters back to normal. It also lets you choose where across the page you want the picture. This disk may be ordered from TENEX for US$9.95."

NEW FORTH!!
****
Gary Taylor writing in the June Pittsburgh newsletter.
"The hottest thing in FORTH innovations is now available. It's the FORTH system that loads into the 8k supercart module. Paul Newmeyer of the Northcoast 99ers in Cleveland, OHIO has created the FORTH Super-cart disk. This disk is compatible with FORTH-83. Brodie's 1987 book STARTING FORTH is written for FORTH-83. I was able to get a copy to demo at the next meeting and we may be able to get Scott to show us something about FORTH. You can reach Paul Newmeyer by writing;"

P.NEWMEYER
270S RIDGE E.
GENEVA 44041
OHIO
USA.

SPEECH SYNTHESIZER ON THE MOVE.
****
Also from the same article by Gary Taylor;
"RAVE 99 has introduced a new card for your PE-BOX called the SPEECH SYNTHESIZER ADAPTER CARD. For US$49.95 plus US$2.50 shipping, you can move your speech synthesizer from the side of the console to the PE-BOX. This card, on which you install the SPEECH SYNTHESIZER card from it's housing, then place it in your PE-BOX. They can be reached at;"

119 RAMBLING ROAD
VERNON CT. 06066
USA

NOTE the shipping price mentioned is for internal US mailing.

TRIPLE TECH.
****
On the same subject of moving speech synthesizer a reminder that Corcomp still have their TRIPLE TECH card available. For those not familiar with this card. It is a PE-BOX card which will hold your speech synthesizer , a real time clock/calendar and a 64k parallel printer buffer. The clock/calendar provides YEAR, MONTH, DATE, DAY OF WEEK, HOURS, MINUTES and SECONDS. The card is selling for around US$119.95 plus S H. from TEXCOMP.

STAND ALONE CLOCK.
****
And while on clocks, Corcomp also sell a stand alone clock/calendar which is currently priced at US$69.95 plus S H. from TEXCOMP.

ITALIAN NAME CONNECTION.
****
Chick De Marti writing in the June LA TOPICS has this information for our Italian friends.

Thomas E. MILITELLO
6932 CTREST Road,
RANCHO PALOS VERDES,
CALIFORNIA 90274

"is now offering a computerised database called "PURSUING OUR ITALIAN NAMES TOGETHER" (POINT). In it's first two months, POINT has recruited sixty five members who have entered over 700 Italian surnames, representing forty Italian provinces of origin. Anyone working on Italian surnames can write to POINT, giving his or her name and address, the surnames being researched, and cities or towns and provinces where the surname originated, if known. A #12 SASE with 90 cents postage will obtain a printout of all those who have written, along with a list of the surnames being researched, and a small newsletter called POINTers."

MUSIC MUSIC MUSIC.
****
I must be getting old!! Here is another "oldie" mentioned in the May MICROpendium.
"A limited number of the FORTI music synthesizer cards developed in 1984 are still available and specifications have been published whereby users can make their own.

Sam Weller of the Forest Lane Users Group demonstrated the card at the Texas TI Faire on April 30 in Richardson, Texas.

Used with "surround sound" quadraphonic stereo, 12 sounds plus four tones in total are available with the card, which runs out of the Editor/Assembler.

The card will also enhance the sound of music from user group libraries, although they will not have the true quadraphonic sound of music produced on the FORTI software, Weller noted.

He demonstrated use of the card to enhance the sound of Parsec, and noted that the console speaker can be used with the speech synthesizer to add speech. The console speaker is turned of for music only, he said.

A limited number of FORTI kits are available from;

Bob Lawson
1344 BOSTON AVE,
BAYSHORE
NY 11706
USA

Steve Tuorto of Bayshore, who says he promotes the kits for Lawson, says the kits sell for US$65.00 plus US$5.00 S H for shipping inside USA."

Tuorto says Lawson also has specialized parts for persons wishing to build the cards from the specifications published in the manual for the PEB Prototyping Board, available from the;

COMPUTER BUG
5075 Clairton Blvd,
Pittsburgh
PA 15236
USA

Chips for the FORTI card are available from the TI Parts Department, he said."

NOTE!! There was a phone number but no address for contacting Tuorto, (516) 242-1378.

MYARC DISK CONTROLLER.
****
From the May Micropendium comes the news that Myarc are still not shipping the controller. Micropendium report Jack Riley from Myarc, "we're still waiting for DSRs from independent programmers". Ironically though the controller currently will work with the 4A. In the case of the Geneve and HFDC, a user would be able to load MDOS from the hard disk but after that wouldn't be able access the hard disk again.

NEW DATA BASE.
****
From May Micropendium;
"Texaments will soon be unveiling a new database programme for the TI99/4A according to Steven Lamberti, company President.

Lamberti says the programme, TI BASE, has been under development for the past year. He says that in many ways it resembles dBASEII from Ashton-Tate, the most popular database for the IBM PC/XT/AT and compatibles.

Unlike other databases for the 99/4A, TI BASE contains a database "engine" which uses a procedural command language to create, access, manipulate, display and print database information. Lambreti said. It is also relational in nature; that is, five database files can be activated at once.

He estimates shipment by the end of the second quarter of 1988.
For further information, contact;

TEXAMENTS
53 Center St.
Patchogue
NY 11772
USA.

MINI-SYSTEM RAMDISK.
****
Here is a piece of news that I was going to include last month but decide no to because I had heard some RUMOURS about it's reliability.

WELL!! Thanks to John Paine I have seen the RAMDISK operating on a CORCOMP 9900 MICRO SYSTEM at our JUne Group meeting. So for all those who have a MINI or MICRO SYSTEM then this battery backed RAMDISK is exactly what you need. The following has been taken from the SYDNEY NEWSDIGEST for June, Peter Schubert writes;

ATTENTION MINI-PE OWNERS.
****
the AT RAMdisk has arrived.
A solid state drive that works in a similar way to the Horizon card for the PE Box. It is fully battery backed to retain data just as a floppy disk does, but with the speed of RAM.

Also incorporated in this new design is a battery backed clock, which is compatible with the TISHUG clock software and the Johnson MENU system.

(A)dvanced (T)echnology design enables 128k to 516k bytes of RAM and the clock to fit onto one standard size MINI-PE board. You will have to see it yourself to believe it. The ROS is Horizon HRD+ compatible, includes extra CALLs, and can reside in RAM or EPROM.

The device will be available around June and can be bought in a minimum configuration with 128k bytes of RAM and no clock, and you can add the extra memory yourself as your budget allows. The price will be announced in MAY and orders will be taken for a limited production run.
Enquiries to;

Peter Schubert
P.O. Box 28,
Kings Cross 2011
N.S.W.
Australia.

A budgetary price for the minimum system should be about A$180.00 and the fully configured card would be more than A$450.00, with the clock making up $30.00 of that. Bearing in mind that the 32k chips used are priced around $20.00 each but that is not very stable, it can be seen that total costs cannot , at this stage, be predicted accurately.

The construction method allows the RAMcard to be plugged into the side port of the Corcomp Micro Expansion System as well as fitted on top of the existing MINI-PE system. The power supply tracks will have links, which will allow power to come from an external power pack or the existing power connections within the MIN-PE system. I would recommend that an external power supply be used rather than relying on the console to provide the necessary power."

A wise man sees as much as he ought, not as much as he can.

Montaigne.

That's all this month

Joe Wright

Random bytes

from

BOB CARMANY

I know that I promised you some more CALL PEEKs and CALL LOADs last month but I'm going to delay that lot for a while.

One of the problems of writing one of these "remote columns" is that they are better done several at a time and they have to be done well in advance of the anticipated publication date to allow for the inconsistencies of the two postal systems that are involved. Actually, this column is being written in late March! Oh well so much for the time delay problem!

I have noted some of the most recent additions to the TI programming world in the past several columns. In fact, I have mentioned a couple of them twice -- partly because they were so noteworthy and partly because there have been a couple of updates in the interim (ie. ARCHIVER 2.3 and 2.4, for example). Remember the gloom almost 5 years ago when TI announced that they would no longer be producing our beloved 99/4A? What programming marvels have come since then!!

Although it is nice to remember those early days, the present is the true halcyon age of the TI. There are virtually unlimited programs available to suit every need and taste and the hardware options are equally as endless. Just think about it while you are warming your feet in front of the fire. Oh well, enough of my ramblings!

Let's take a look at some LOADs and PEEKs that might be of some interest.

CALL LOAD(-31962,100,155) Execute RUN

CALL LOAD(-31962,100,126) Execute NEW

CALL LOAD(-31962,100,136) Execute default RESEQUENCE

CALL LOAD(-31962,160,04) Executes RUN without prescan

CALL LOAD(-31961,149) Automatic RUN DSK1.LOAD

CALL PEEK(-31877) VDP Status Register

CALL PEEK(-31878) Highest number sprite in Auto-motion

CALL PEEK(-31879) VDP Interrupt Timer

Now, for a tip or two on programming. If you resequence a program, make sure that you check all of the GOTO and GOSUB and other branching statements. You will find that if they refer to a line that has not yet been typed in, the line number reference will be changed to 36727 --- a major inconvenience for a half-finished program!

Remember to take full advantage of the editing keys available when you are programming in XB. The up and down arrow keys function to step you through the program lines as does <FCTN-8> for recovering lines that generate an error message.

When dealing with files that you suspect have been archived and/or compressed, there are a couple of simple rules to follow. If the file is a DIS/FIX 128 file, it is archived and NOT compressed. If it is INT/FIX 128 then it has been both archived and compressed. The correct procedure is to first uncompress the file and then de-ARC it (unpack the individual files). Remember that when you are dealing with an archived file, you will experience approximately a 5% increase in overall size (when the headers are re-constituted). Archived and squeezed files will expand much, much more --- sometimes more than 100%!! Allow about 360 sectors per file for the finished product if they are archived and compressed.

Well, let me get this dumped to the disk drive and the whole lot mailed out so it will be ready for the appropriate newsletter. 'Til next month . . .

MYARC

HARD-FLOPPY DISK CONTROLLER CARD

AN OUTLINE
by
GARRY J. CHRISTENSEN
Brisbane Users Group

Everyone knows what a floppy disk is and how it can quickly load and save data, not to mention the amount of storage space available. The hard disk takes this a step further.

Myarc have just released a controller card that will give you access to all the advantages of a hard disk. The new controller card is completely compatible with the TI-99/4A and includes the floppy disk controller on the one card. You will be supplied with the controller card, the cables to connect to the hard drive and a 68 page manual in a ring binder.

Also with the card is the Myarc Disk Manager 5 that is written particularly for the new card.

What do you need to upgrade to a hard drive? You need a TI-99/4A or Geneve computer, and Expansion Box, memory expansion, one or more floppy drives, and of course a hard disk drive.

FEATURES :

1. The Hard Floppy Disk Controller Card (HFDCC) will maintain 4 double side, double density floppy drives. It also will access the 80 track drives that are available today. Set aside for future expansion is a setting for 80 track, double sided, quad density drives. These allow the storage of 1.44Mb on one floppy. Lets hope that this update is developed.

The head step rate can be set at 16 or 8 msec for 40 track drives and 2 msec for 80 track drives.

The card will control 3, 140Mb hard drives or any compatible size up to that value.

2. The CRU address of the card can be selected to suit your system. You may replace your current disk controller and put the new one at >1100. This will still allow your ramdisk at >1000 to have precedence if wanted. I don't know if that is necessary as it is reported that the hard disk is 2 to 3 times faster that the ramdisk. I cannot personally verify this.

If you have a CorComp controller or one of the new AT controllers from Sydney, you may not wish to lose some of the advantages of your present system. The HFDCC can be placed at any unused address above >1100. Now it will function as a Hard Drive Controller only. Any accesses to the floppy drives will go through your present controller.

3. Data transfer rates of 5Mbits/sec for the hard drive and 500Kbits /sec for floppy drives.

The data transfer rate of the hard disk means that any programme for the TI-99/4A can be loaded in a fraction of a second. The amount of free RAM in the TI computer (32K) can be filled in 10 msec. Add a short time for finding the data on the disk and for making this data available in the memory and the time is still well under one second.

Some of the literature released by Myarc indicates that the hard drive could support full screen animation at a rate of 10 frames /second. The cartoons that you see on television use 8 frames/second.

4. Streaming tape interface allows you to back-up the contents of the hard drive onto a QIC-02 compatible tape drive.

5. Real time clock is used to date your files and is also accessable by external software.

6. Data bus isolation allows data to be loaded from disk into 32K of static RAM on the card while other

peripheral cards are in use. When coupled with the DMA controller, data can be read from or written to memory while the computer is performing other functions.

7. Compatibility - The card uses the same format as the standard IBM drives. That is, ST506 compatible. Be careful when choosing a drive. There are two formats that the drives can be. One is MFM and the other RLL. This controller card supports MFM only. In my enquiries I found that the only common size that used RLL was the 30M drives. Most other sizes are OK but check first.

8. The card will load data directly into CPU RAM instead of using VDP RAM. The PAB can also be established in CPU RAM to avoid all use of the VDP. This feature is available to assembly language programmers only.

9. Sub-directories can also be created on floppy drives. This will help if you are using the larger drives.

THE MANUAL:

The manual that is supplied with the card covers all that you will need to know about the operation of the card.

It details the system requirements, and the set-up procedure, covering setting the DIP switches, connecting the floppy and hard drives, how to power the system up and down and the setting of the time and date.

The next section provides directions for the operation of the MDM5.

The manual also discusses the structuring of directories and sub-directories on the hard disk, floppy drive emulation and accessing the hard drive through TI Basic.

Assembly language and technical support is given with a description of the pin-outs to the hard and floppy drives, CRU map of the card, DSR memory map, low and high level software interface specifications and details on the structuring of the data on the sectors on the hard drive.

TI BASIC:

There are very few differences between using a floppy drive and using a hard drive. The most obvious is the structuring of the files in the hard drive. You would be aware that the floppy drive establishes a directory of the files that are contained on the disk. Can you imagine the size of a directory when a 40Mb disk is full.

To help make data management easier, hard drives use sub-directories. Consider that the disk can be partitioned into parts, each of these acting like a seperate disk. Each partition can also be divided into seperate parts, which can be sub-divided again, and so on.

The main directory is called the root directory. It can contain 127 files and 114 sub-directories. Each sub-directory can hold 127 files and 114 sub-sub-directories. This can continue until you run out of disk space.

Some examples may help. To load a file that is stored under the root directory, simple use the same syntax as a floppy drive except DSK becomes WDS.

OLD WDS1.LOAD

Lets consider that you have stored the funnelweb disk under the sub-directory FWB. To load it you would use this command.

OLD WDS1.FWB.LOAD

If FWB also had a sub-directory called LETTERS and your letter was filed under the name FRED it would be accessed by WDS1.FWB.LETTERS.FRED

This system can be continued for any length although many programmes that load files have a maximum length set. In these instances, it is best to keep the names of directories as short as possible.

The path taken through the sub-directories is called the pathname. In general format, any file can be accessed by: 'Devicename.Pathname.Filename'.

The other major changes is that the HFDCC does not require any memory for working space and that there are some small changes in the

CALL FILES command.

In addition to the normal Basic commands, some extras have been added. These are listed below with the E/A equivalent.

CALL ILR - CALL INIT
CALL LR - CALL LOAD
CALL LLR - CALL LINK
CALL DIR - disk directory
CALL DM _ load MDM5

One final point to discuss is that of floppy drive emulation. There are many programmes that expect certain files to be stored in a device called DSK1 or DSK.Diskname.Filename. To cover these programmes the HFDCC will emulate both these conditions.

The first method is through 'DSK1 Directory Emulation'. If a sub-directory called DSK1 is created in the root directory, this area will be checked for the file before looking at the real DSK1.

All the programmes and files that need to be in the first disk drive should be placed in this field. Care must be taken that there are not two files of the same name (LOAD for example).

The other method is called 'DSK1 File Emulation'. MDM5 will archive a floppy disk into a special file. You may have as many of these files in the hard disk as you wish and they need not be in the root directory. Only one file can be active at any time. Each time a file is required, it is retrieved from the emulate file.

There is a restriction on these methods. For both, the HFDCC must be the first card accessed with a device name of DSK1. That is, if a ramdisk or other disk controller card has a lower CRU address, the other card will be accessed instead of the hard disk.

The File Emulate method requires that the HFDCC be at CRU address >1100. o other address will be suitable.

'DSK Emulation' allows you to use programmes like Multiplan. In this case, you can create a directory in the root directory called 'DSK'. Then create a sub-directory called the name of the disk and store all the files on the disk in there.

In all these cases, if the file is not found, the controller will then look at the real device.

The HFDCC has been designed to be completely compatible with all the existing software that is available for the TI-99/4A computer. It is a peripheral that will vastly enhance the power of your computer.

If you have any further enquiries, contact Garry Christensen on (07)284-1841 or write to 36 Henzell St, Kippa-Ring, 4020.

MYARC PRICES

An order for hardware form Myarc will be placed in August. If you want any equipment, contact Garry Christensen as soon as possible.

GENEVE 9640	$750
HARD/FLOPPY CONTROLLER	$390
FLOPPY CONTROLLER	$240
RS232/PIO	$135
MYARC MOUSE MY-ART	$165
512K RAMDISK	$375
512K MEM. EXP	$370

HUNTER VALLEY 99ERS EXCHANGE DISK 1988

This disk is a compilation of programs written by members of the Hunter Valley 99ers Users Group. The programs are released as public domain in the true spirit of the Users Group. If any of the programs take your interest and are modified or improved please share your endeavours with us.
My thanks to those that have contributed to this disk.

Paul Mulvaney.

****

HUNTER VALLEY 99'ERS USERS GROUP
MEMBERS 1988 CONTRIBUTION TO PUBLIC DOMAIN SOFTWARE

****

BINARY/DECIMAL TEST. (BINDECTEST) (B or X/B) (Mystery Man)
Ten binary to decimal conversions followed by ten decimal to binary conversions, a good way to brush up on your number systems.

CROSSWORD. (X/B) Gary Jones.
A crossword puzzle with "easy" and "hard" clues, though some say hard and harder is more accurate. Select the level of difficulty and the clues appear, select the co-ordinates and type in the answer.

ELECTRIC CIRCUITS. (ELECT/DEMO) (X/B) Paul Mulvaney.
A demonstration of how a simple light circuit, a two way lighting circuit and a motor control circuit work.

HOME RECORD KEEPER. (HOMERECORD) Brian Rutherford.
One for the cassette people. Allows you to record your financial affairs on cassette.

MULTIPLAN PRINT UTILITIES. Peter Smith.
A group of utility programs for imbedding control characters for the printer into Multiplan spreadsheets. A seperate document file is included. (MPPRNTDOCS)

PING PONG SCOREBOARD. (PINGPONG) (B or X/B) Paul Mulvaney.
An electronic scoreboard for use while playing table tennis (ping pong). This will make it easy to remember the score. This program was the result of the Basic Class instruction.

EPSON PRINTER SETUP. (PRINTSETUP) (X/B) Paul Mulvaney.
A quick utility to set an Epson printer into a number of modes. If you dont have an Epson alter the code to suit your printer.

BULLETIN. (BULLETIN) (X/B) Peter Smith.
A bulletin program to allow messages to be sent to a specific person or to all those registered. The program is set to run with the speech synthesiser. To run without the speech REM (!) the speech statements. There is a seperate document file to explain the operation. (BULLTINDOC)

BOX DEMONSTRATION. (BOXDEMO) (X/B) Richard Terry.
A demonstration of the use of LINKing assembler routines in a program. The assembler routines allow boxes to be drawn on screen and the area inside the box to be cleared very quickly. SUB/BOX puts a box around an area, SUB/CHAR redefines the lower case characters and the box graphics, SUB/FRAME frames the screen, SUB/PCLS 28 column screen clear and SUB/SORT is an assembler sort routine.

SALARY CALCULATOR. (SALARY) (X/B) Paul Mulvaney.
Input your old and your new yearly salaries. It will calculate the percentage increase, the monthly and weekly increases.

DISK NAME PRINTER. (D/N/P) (X/B) Brian Rutherford.
Allows printing of disk names without a full catalog being printed. This is useful for printing disknames on sticky labels to identify a disk.

LOADER. (LOAD) (X/B) Brian Rutherford.
A customised loader that alters the cursor if memory expansion is connected. It may be modified to suit your needs.

ASSEMBLY SQUEEZING

PART 1

by

TONY MCGOVERN

FUNNELWEB FARM

When you first start writing assembly code you find that initially there is a vast arena to work in. As projects get more ambitious the crunch eventually comes, or you may have to squeeze some code into a gap that just seems too small at first. Then it is time to scrunch down your code to fit. In this series of short articles we will look at various little tricks that can be used to save the bytes or words here or there. There are larger issues to be considered, of program organization and identification of repetitive code segments, but we'll just play around on the microscopic scale.

For our first topic let's look at the problem of advancing register pointers. This is often handled directly by auto-increment addressing

```
MOV *RØ+,*R1+
MOVB *RØ+,*R1+
```

Now suppose you want to advance a pointer by 4. The obvious solution is to use

```
AI RØ,4
```

This takes 2 words or 4 bytes. A shorter solution is to use

```
C *RØ+,*RØ+
```

This gets the job done in only 1 word, saving 2 bytes on each use. The comparison C only reads the data pointed to, and you just ignore any setting of comparison flags. Like most things that shorten code, it takes more machine cycles to execute, but this would hardly matter except perhaps in the innermost heart of a frequently executed loop. One little trap in the TI-99/4a is that some memory mapped devices respond even to a read from their address, so you should be sure that RØ does not point to such an address. This is rarely a problem though.

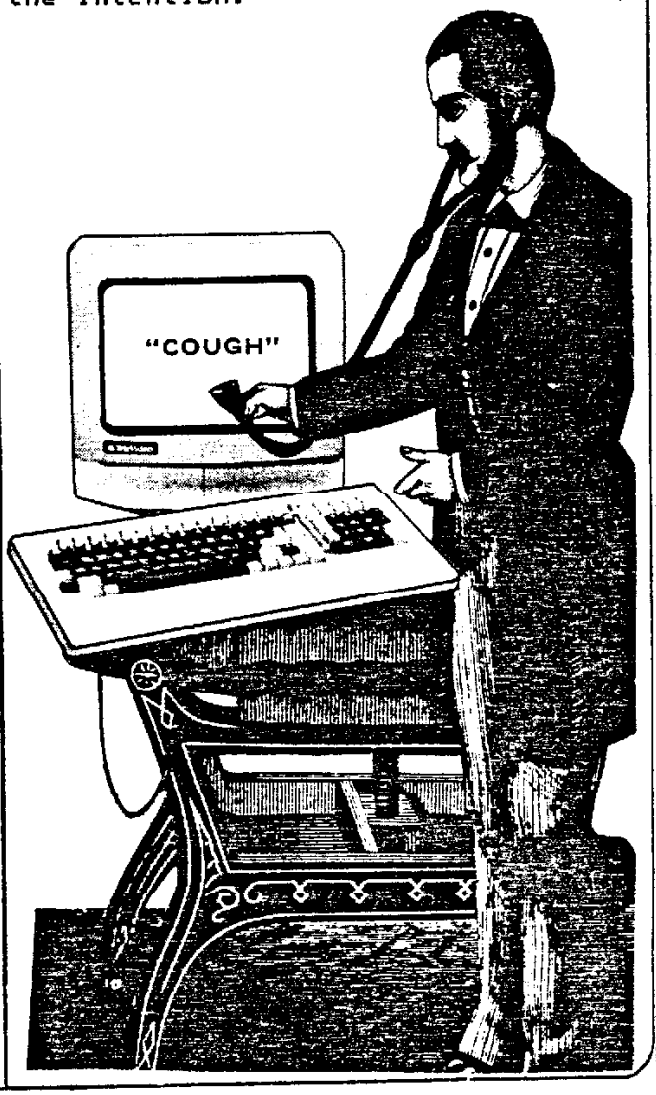
It is possible to come up with some more little byte-savers along these lines. Sometimes you have to keep up with incrementing two register pointers simultaneously, and the code is such that auto-incrementing the register is not done. This often occurs when maintaining pointers to addresses in auto-incrementing devices such as GROM or VDP RAM. Suppose their pointers are in registers R8 and R9 and both must be incremented. The obvious coding is

```
INC R8
INC R9
```

which takes 2 words. Alert readers will already have guessed a shorter method

```
CB *R8+,*R9+
```

to increment both in one word of code. So if you come across strange comparisons being made, remember that comparison may not have been the intention.



BOX ROUTINES

LINKING ASSEMBLY TO XB

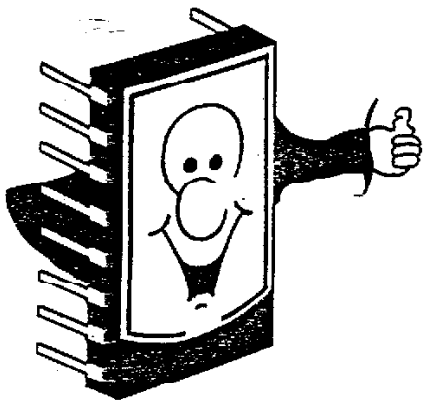
a program by

BRIAN RUTHERFORD

In the last magazine Richard Terry shared his E/A routines with us and at the same time letting on that I had done a set of routines to do much the same thing, only in a different way. Well like Richard this is one of my first sallys into the land of Assembly Language, so whether it is good code or bad I do not know. As I wrote the routines to do specific jobs for a programme I am using for business, the routines are not quite so universal as Richard's. Depending on the number of screen displays you have in your programme, the E/A file can be longer, but you only have one E/A file to load and the XB programme is shorter. It can do the job a little faster if there is more than one box to draw or clear in a particular screen display. Another point is that you have to input your own values in the assembler programme before assembling.

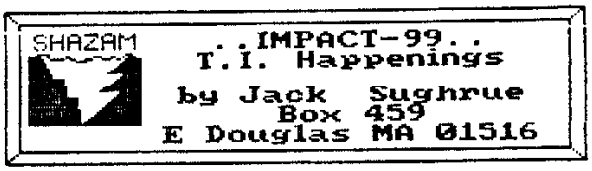
The two routines BOXCHR and BLINE work just as they are, BOXCHR defines characters 130 to 135 as the necessary shapes to draw the boxes with, just CALL LINK("BOXCHR") is enough to set that part up. BLINE is a routine to clear a line of any length on the screen with a CALL LINK("BLINE",screen position, number of position to clear). The screen position is worked out using the formula (ROW-1)*32+(COLUMN-1). Say you wanted to clear part of a line on row twelve, starting at column four, (12-1)+(4-1)=355 and to clear eight spaces you would use CALL LINK("BLINE",355,8). You may have noticed I used a XMLLNK routine to change the floating point number to a integer. I had an awful lot of trouble in getting that to work, the E/A manual page 261 says the data for the table offset should be >1200, I tried this with no success at all, and all the examples I saw were for use in the basic environment not extended basic. After much ringing around and sifting through much paper work I found the answer in a copy of the April 1984 Smart Programmer, in a PEEKV POKEV programme to be used in the extended basic environment by John Brown, and the answer was the data for the XMLLNK should be >12B8 (not 42 Rodney), and no where can I find why that is, again somebody out there may be able to enlighten us.

With the routines to draw and clear boxes you use your own lables, and DEF them at the start of the programme. CARE - the assembler only seems to read across to about column fifty, so if you are like me and have set up seven or eight routines you will need two lines of DEF labels. All the values you need to put in to draw or clear where you want to are in decimals you do not need to convert to hex. Then all you need to do in your extended basic programme is a CALL LINK("your label") to do a whole heap of things at one go. In fact I have one routine that clears thirteen different areas of the screen in one go. Finally, like Richard's, there is no error checking so if you get odd things happening check the values you have put in. If you want to use the routines just follow the comments in the programme - I think they will lead you through ok, and if you still have trouble give me a ring on 498184.



```
* E/A routines to clear a line draw a box or clear a box
* assemble using the R option only
*
        DEF   BOXCHR,BLINE, * then your subprogramme lables
VSBW    EQU   >2020         xb equate for vidio single byte write
VMBW    EQU   >2024         xb equate for vidio multiple byte write
GPLWS   EQU   >83E0         xb equate for gpl work space
STATUS  EQU   >837C         address of status byte
FAC     EQU   >834A         xb equate for floating point accumulator
XMLLNK  EQU   >2018         xb equate for XMLLNK routines
NUMREF  EQU   >200C         xb equate for NUMREF routines
SAVRT   BSS   2             save a space to store return address
MR      BSS   >20           set up space for your work space
* data for the defining the box characters
BOXDEF  DATA  >0000,>000F,>0808,>0808     * upper left corner
        DATA  >0000,>00FF,>0000,>0000     * cross line
        DATA  >0000,>00F8,>0808,>0808     * upper right corner
        DATA  >0808,>0808,>0808,>0808     * side lines
        DATA  >0808,>080F,>0000,>0000     * bottom left corner
        DATA  >0808,>08F8,>0000,>0000     * bottom right corner
* do the characters to draw a box *
BOXCHR  MOV   R11,@SAVRT    save return
        LWPI  MR            load my workspace
        LI    R0,1808       load addr. to put chr$ defintions
        LI    R1,BOXDEF     point to data
        LI    R2,48         no. of bytes
        BLWP  @VMBW         write them
        B     @OUT          branch back to go back to xb
* clear specified line routine needs screen pos. ie. 0 to 767
* and number of columns to clear
BLINE   MOV   R11,@SAVRT
        LWPI  MR
        CLR   R0            clear R0 as not getting an array
        LI    R1,1          get first number
        BL    @GETN         branch to the get the number routine
        MOV   @FAC,R4       move the number from the fac to R4 start scr. pos
        INC   R1            set up to get second number
        BL    @GETN         get second number
        MOV   @FAC,R3       number of col. to clear
        MOV   R4,R0         put start pos. into R0
        LI    R1,>8000      chr$ 32 with xb screen offset added
        BL    @WLOOP        branch to write routine
        B     @OUT          branch to routine to go back to xb
* routine to get the numbers from the xb stack
GETN    BLWP @NUMREF
* change number from floating point to integer
        BLWP @XMLLNK
        DATA >12B8          table offset for xmllnk routine that
*                           changes a floating point number to integer
        RT
* draws the box(s)
yourlb  MOV   R11,@SAVRT    put your own lable for def table instead of "yourlb"
        LWPI  MR
        LI    R0,?          start screen position ie. 0 to 767
        LI    R4,?          number of down rows between corners
        LI    R5,?          number of cross col. between corners
        LI    R6,?          amount to add to get to the start column
*                           again ie. R5+R6=32
        BL    @DOBOX        branch to the box draw routine
* repeat last five lines for as many times as you need boxes under that sub-
* programme lable
        B     @OUT          branch to the routine to go back to xb
```

```
* clears an area of the screen
yourlb MOV  R11,@SAVRT   put your own lable for def table instead of "yourlb"
       LWPI MR
       LI   R1,>8000     char 32 + screen off set
       LI   R0,?         start scr. position ie. 0 to 767 to clear
       LI   R4,?         number rows to clear
       LI   R5,?         number of columns to clear
       LI   R6,?         amount to add to get back to start column
*                        again ie. R5+R6=32
       BL   @CLBOX       branch to the clear routine
* repeat last five lines for as many times as you need to clear boxes under that
* subprogramme lable
       B    @OUT
CLBOX  MOV  R11,R10      save the return address
CLLOP  MOV  R5,R3        put number of column into R3
       BL   @WLOOP       branch to write routine
       A    R6,R0        add amount to get back to start column
       DEC  R4           take 1 from number of down rows to write
       JNE  CLLOP        if havent done all the rows go back & do again
       MOV  R10,R11      restore return address
       RT                return
* draw box subroutine  register 1 carries chr$ to print with
* screen off set added *
DOBOX  MOV  R11,R10
       LI   R1,>E200     upper left corner
       BLWP @VSBW
       BL   @CLINE       top horzontal line
       LI   R1,>E400     upper right corner
       BLWP @VSBW
       A    R6,R0
       LI   R1,>E500
       BL   @DLINE       vertical lines (both)
       LI   R1,>E600     bottom left corner
       BLWP @VSBW
       BL   @CLINE       bottom horizontal line
       LI   R1,>E700     *
       BLWP @VSBW        * bottom right corner *
       MOV  R10,R11
       RT
* cross line subroutine *
CLINE  MOV  R11,R9
       INC  R0
       LI   R1,>E300
       MOV  R5,R3
       DEC  R3
       BL   @WLOOP
       MOV  R9,R11
       RT
* down lines (both) subroutine *
DLINE  BLWP @VSBW
       A    R5,R0
       BLWP @VSBW
       A    R6,R0
       DEC  R4
       JNE  DLINE
       RT
* write loop *
WLOOP  BLWP @VSBW
       INC  R0
       DEC  R3
       JNE  WLOOP
       RT
* back to xbasic routine *
OUT    LWPI GPLWS
       MOV  @SAVRT,R11
       CLR  @STATUS
       RT
       END
```



A "LITTLE" FAIR

I had an interesting TI expérience a couple weeks ago. In a way it was unexpected, though I certainly don't know why.

The event was the Free TI Fair in Lima, Ohio. It was sponsored, organized, and run by a dozen or so men who comprise the Lima User's Group.

The EVENT was the best TI faire I have ever attended, and it succeeded beyond everyone's wildest dreams. (There were between 350 and 400 who attended, about the same number who attended the N.E.Fayuh this year.) But it was not the numbers, alone, that made Lima such a success. Nor the fact that the participants came from all around the U.S. (Chatting with me at my table were people from Louisiana, Kentucky, West Virginia, Massachusetts, Pennsylvania, Canada, Indiana, Illinois, New York, Michigan, and many others I can't recall.) And Lima was an event that did not get the usual hoopla and hype that often attends the big fairs in Chicago, Boston, Dallas, L.A., Las Vegas, etc.)

What really made this a great success was the fellowship. Everybody was there for a good time. There were no luminaries (in the sense that superstars were created for the occasion), though there certainly were a lot of talented and interesting people demonstrating and sharing. I guess "sharing" was the secret word. Though I listened to a lot of people that day, I did not hear a single complaint. No one talked negatively about anyone else. There was no devisiveness; there were no ripoffs. Instead, there were positive vibes rippling throughout the halls of ivy the entire day. Lima gave to all who attended a real TI charge.

The place - Ohio State University, Lima Campus - had to be physically the most ideal place for such goings-on. The huge, clean, artistically beautiful hall provided more than ample room for all the user groups and vendors. It was light and airy and devoid of the squeezing crunch so common to these fairs. The classroom/auditoria had a podium, comfortable seats, a large, easy-to-see monitor, and excellent lighting. The food service, the clean tables to eat at (far from the madding throngs), the additional service machines, all added to the enjoyment.

And the day! It was a perfect, blue-sky, warm Ohio spring day. Attendees drifted in and out the the main building to stroll around the beautiful campus or sit on the numerous benches in sun or shade and delight in just being there.

It was grand! It was recuperative therapy just participating in all that had been provided.

What had been provided?

Everything!

The small Lima group had provided all the tables any group (or individual) needed with ample outlets. They provided signs already up and in place at every single table. And complete systems in many cases, for at-table demos (which went on all day, too). These hosts seemed to be everywhere, on call, to provide the myriad tasks required of well-organized events.

There were excellent demos every half hour: things like Irwin Hott's remarkable setup of TIing for the blind, Jim Peterson's normally wonderful demo (this time his latest NUTS 'n BOLTS), Bud Mills's Horizon Ram, and so on. These events were announced through a system everyone could hear clearly, so there couldn't be a chance of missing anything. Plus, there were ample signs and posters everywhere of all the upcoming events.

For many who were so busy they couldn't fit all the demos in, the Lima Group again provided: FREE videos of the entire five hours of demonstrations and talks!

Not surprising. Everything else was also free. There was no admission charge, so people could come and go freely. There were no charges for tables for user groups, individuals, or commercial outfits. And these people could have as many tables as they wished. No charge, either, for the many signs. There wasn't a charge, either, for the raffles of soft and hardware drawn every half hour. The Lima entourage didn't even charge people for getting ANYTHING they wanted from the vast Lima library (probably one of the biggest in the country).

Two "World Premiers" were made at the fair: the very latest 4.1 of FUNNELWEB sent directly by Tony McGovern and the newest DISK UTILITIES of John Birdwell. Charles Good, who acted as host of the affair, demonstrated both. Both disks will be released to the public soon.

Ohio seems to have more active TIers per capita than any other state in the Union. For me to have an opportunity to go there and meet all these people with whom I had corresponded (some for years) was a thrill I did not want to miss: Charlie Good, editor of the marvelously unique (and decidedly eccentric) BITS, BYTES & PIXELS; Jean Hall, editor of the classy SPIRIT OF 99; Deanna Sheridan, editor of the fresh and informative CLEVELAND AREA TI99-4A USER GROUPS NEWSLETTER; Irwin Hott of CONNI (and his seeing-eye friend, Tonka); and, of course, Gentleman Jim Peterson, "Mr. T.I." There were many, many others I got to see again (people like the legendary Mickey Schmitt, who will probably become to TI Adventurers what Larry Bird has become to basketball).

"How did all this TI excitement take place in the middle of nowhere?" as one of my friends who has never been to Ohio asked when I described the event.

Some background was definitely needed to explain this happening in this particular place.

Lima is a city of 48,000. When you drive straight

from the center in any direction for 15 minutes you are in flat farm country, a scattered house every few miles. It is a hundred miles to the nearest airport (Dayton) and many hundreds of miles from a lot of Ohio's biggest cities. (Ohio has Akron, Toledo, Cincinnatti, Cleveland, Columbus and lots of other cities larger than Lima.)

The Lima Group formed in 1984 and, after almost four years, has 15 local members and five corresponding members. There are only family memberships with full privileges (home or away) at $15. This entitles each member to a newsletter that contains ONLY new material. Disks of the latest PD and Fairware software are often mailed with the monthly issues. Several new disks of material are usually added to the library at each monthly meeting. They still have an active tape library over over 450 very full tapes for those members without drives. The Lima disk/tape catalog is descriptive, rather than just number and/or title, so you can get what you want without guessing.

Dr. Charles Good (paleobotanist and Associate Professor at the Lima Campus) is the spearhead of this very close, hard-working organization. He keeps in direct touch with active TIers around the world. He, along with President Dave Azinpl, organized the Lima Confab (which they call "The Multi-User Group Conference" but everyone else calls the "Lima TI Fair."

This model user group is unusual in more ways than just bringing the mountain to Mohamed, so to speak. First and foremost, even after speding a weekend with them, I saw no signs of in-fighting, no struggle for power, no pretension. Everyone takes turn being president or another office. The libraries of disks and tapes and newsletters are kept at members' houses. Only a call is needed to pick up the whole shebang. So everyone gets to read all the newsletters (BB&P has a growing exchange.) or dub the tapes or copy the disks. Calls let members know what's new and available. Dropping off and picking up stuff at each other's homes just adds to the overall comradeship of this tight-knit group.

When I asked Charlie why Lima, as host of this event, didn't use it to make lots of money for the group, here is what he said:

"People and groups keep sending stuff to us. I really believe that this free exchange of software and other information is the way to keep our user groups alive and healthy.

"This same philosophy of minimal cost is why we didn't charge for our conference. At many TI Faires across the country it seems to me that the organizers feel they are doing the attendees and exhibitors a favor by setting up the show. We feel that those who attend our show are doing US a favor by sharing with us their expertise and bringing to us in Lima their software and hardware to sell. So we will try to make it as convenient as possible for those who attend."

What an attitude!

TI PRIDE!

If what I saw of the people in Ohio is any test, the TI world is in good hands for a long time to come.

The really good news is that a second annual event is scheduled for next year. For those who can make it, I'd recommend going. If you can't make it, do the next best thing: join this great group by mail. It's one of the best TI investments you and the exchange librarian of your user group could make. ($15 a year for the monthly issues and disks and lots more: Charles W. Good, Box 647, Venedocia, OH, 45894. And tell him IMPACT sent you.)

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HELPFUL HINT OF THE MONTH

This is from the new ASGARD NEWS magazine (Asgard Software, P.O.Box 10306, Rockville, MD 20850 - quarterly - $6 per year):

"Print Help For Gemini Users

"Do you have a Star printer?. To be more to the point - do you get ugly white horizontal lines on your screen dumps of GRAPHX or TI-Artist?"

Type in the following program, save it, and run it with your printer on before using your artist programs.

```
10 INPUT "TURN ON PRINTER AN
   D PRESS ENTER..":A$
   20 OPEN #1:"PIO",OUTPUT
   30 PRINT #1:CHR$(27);"A";CHR
   $(6)
   40 CLOSE #1.
```

Problem solved. I load it before using MAX-RLE and dumping stuff for our newsletter. Just great!

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EXPANDING YOUR SYSTEM

by

JOE WRIGHT

Recently there have been a number of people considering expansion of their system from a basic console system to something bigger.

There are three main paths available which could be followed to accomplish this. The first is the second hand market to buy a TI PE-BOX and cards which it accommodates, the second is to buy a MINI-PE system as sold by the Sydney User Group or a Corcomp Micro system, the third is to try your hand at one of the build it yourself systems.

WHAT YOU NEED.
****
What I would consider to be the minimum requirements for a basic expanded system are (in addition to a CONSOLE of course);

(1) 32K Expansion memory.
(2) Disk controller (disk drives are mentioned later)

MEMORY EXPANSION.
The memory expansion mentioned above can be a card which fits into the TI PE-BOX, a MATCH BOX card which you fit inside your console, part of the MINI-PE or MICRO systems or a stand alone unit which plugs into the side of your console.

The memory expansion is 32K of RAM. it is made up of one 8K section and a 24k section. The 8K section will allow you to load Assembly Language routines which can be called from XB or Basic. You don't have to write these yourself, there are many in our library for you. The 24K section will allow you to run larger XB programmes.

If you are considering learning to programme in Assembly Language then I would consider the 32K expansion essential. (Assembly language can also be learnt using the MINI-MEMORY module and a bare console).

If you are considering learning FORTH then the 32K and disk drives are essential.

If you decide to purchase a second hand TI PE-BOX then it will most likely have the 32k in it. If it hasn't then you can still purchase 32k or larger capacity cards from the US. Prices are listed at the end of this article. A cheaper alternative to buying a 32k card is to build the 32k into your console yourself. Good basic soldering skills, being cautious and a soldering mat are all that are required. Plus if needed assistance from within the Group. This can be a very interesting learning exercise. Kits containing all the necessary parts are available through most User Groups. Our Group currently have not got any in stock but they are available from other Australian User Groups.

If you purchase the MINI-PE System from Sydney then it will have the 32k RAM already fitted as does the Corcomp Micro system.

Corcomp are still selling a stand alone (plugs into the side of the console) 32k through TENEX, if stand alone is the way you have decided to go. (See price list below).

DISK CONTROLLER.
The use of disk drives as compared to using cassette for programme and data storage gives a remarkable decrease in access time and also makes your system more "usable".

A programme can be stored and recalled by name as can data files. Using disk also allows the use of relative type data files, cassette only permits sequential. Many more advantages can be listed, capacity and ease of copying to mention just a few more. All in all, as with the 32k expansion, a disk drive brings your computer "of age". The diskette used on the TI system is a 5.25" floppy disk. To use the diskette it must by set-up for the drive to be able to read the data it contains, setting-up the diskette is called initialising the disk. TI use the abbreviation "disk" for diskette. I follow their example. When initialised the disk is set-up into sectors, each sector being 256 bytes. To get a rough idea of disk

capacity divide the number of sectors by 4 to get the disk capacity in kilobytes.

That brief introduction to disk drives and disks is as far as this article goes along that track. There are MANY excellent articles on this topic in the club library from more learned persons than Joe Wright.

There are several disk controllers available. The disk controller can be a card which fits in the TI PE-BOX, part of the MINI-PE or Corcomp Micro systems or a stand alone disk controller from the second hand market (I have not seen too many of these around).

You cannot operate disk drives without a disk controller.

The TI Disk controller which fits into the TI PE-BOX will control up to 3 single sided single density drives (360 sectors)
OR
3 double sided single density drives (720 sectors)

The CORCOMP and MYARC disk controllers which fit into the TI PE-BOX will control the above and up to 4 double sided double density drives (1440 sectors)

The disk controller in the MINI-PE system and the Corcomp Micro will control all the above. as will the PE-BOX disk controller from the Sydney User Group (it is the same controller as the MINI-PE system except it is mounted on a PE-BOX card).

A TI stand alone disk controller (plugs into the side of the console) will control up to 3 single sided single density drives (360 sectors)

DISK DRIVES.
If your are going to buy a drive which is not already part of a PE-BOX (these are normally SSSD), then I would only consider a DSSD as a minimum requirement. Going from single sided to double sided immediately doubles the storage capacity of your existing disks, which means that you will not need to buy disks for some time. The additional sectors on the double sided disk allow greater flexibility when using programmes such as FUNNELWEB, graphics-type programmes etc. More utilities and data can be stored on one disk.

EXTRA NICETIES.
****
My personal opinion is that the following are also required to get full use of your computer but you can survive quite nicely without them.

RS232 INTERFACE.
A printer can be operated from either a parallel interface (PIO) or from an RS232 interface. Most common use is to have your printer connected to the PIO.

The TI RS232 and Corcomp interface cards which fit into the TI PE-BOX has two RS232 outputs and one PIO output. I have not seen the MYARC but I would guess that it is the same. This would allow you to have a printer connected to the PIO and a MODEM connected to one of the RS232 interfaces.

The MINI-PE system from SYDNEY has one PIO and one RS232 interface.

CORCOMP have available (as advertised in MICROpendium) a Stand alone RS232 interface, I have not been able to determine if it also has a PIO but I suspect not.

CORCOMP also have a PE-BOX RS232 card available.

THE NEXT STEP!
****
After getting the above and assuming you still have not run into a cash flow problem (I'll talk about money shortly), or the Cook of the household hasn't called a halt to proceedings AND you are now hooked on your computer, then you will want to make some more equipment purchases.

My first purchase would be a second disk drive - it makes life just so much easier. I would only consider purchasing a double sided drive in this instance.

Then following that I would consider my next most essential piece of equipment would be a RAMDISK of some description. My Horizons are magic although I would wait and see what

Neil Quigg's RAMDISK project develops into before jumping into this area. The SYDNEY USER Group have now developed a RAMDISK which can be used with the MINI-PE system. So if you have either the Sydney MINI PE system or the CORCOMP MICRO system then here at last is a battery backed RAM disk for you at reasonable cost.

An alternative to the RAMDISK would be to purchase a disk controller which can handle DSDD drives, if you have not already got one. This move will give you an immediate doubling of your existing disk capacity, if your drives are suitable.

WHICH WAY????
****
Lets take the easy bits first, the Sydney MINI-PE system sells for approx $400.00, this includes 32k, one RS232, one PIO and Disk controller. The system comes without an enclosure, fitting it to an enclosure is a simple job, well within the ability of most home handy persons. On top of this you will need disk drives.

A second hand TI PE-BOX will cost between $600/$800 depending on what you get with it. For $600-$650 I would expect to get 32k, RS232, interface to connect the console, disk controller (TI), at least one drive, a console, a goodly number of modules and books.

If you decide to look around for a PE-BOX then please talk to our second hand wheeler and dealer before you make your move!!

I have seen a few TI PE-BOXES advertised lately in the above price range, and some much dearer also. The only reason I would head towards a TI PE-BOX would be if I had in the back of my mind to eventually get a GENEVE. For my part I still have not made any commitment to myself on that matter as yet.

So!! my first preference for expansion is to get a TI PE-BOX if one can be found. If not, then I would consider the quickest and least traumatic way into an expanded TI is to buy the MINI System from Sydney, remember that you will need disk drives to go with the system.

OTHER CONSIDERATIONS
****
I recommend that you look at the prices of machines other than the TI before making a decision to spend money on your system. There are plenty of good deals around on systems other than the TI99/4A. Remember to include the price of software that you will need to purchase for those other machines in your considerations. Some of those prices are outrageous compared to prices in the TI market. Also remember that a printer will cost the same for any system you decide on. Also some of those OTHER machine have a poor track record in regard to getting repairs done in the case of a failure, particularly some of the odd ones from back yard people. I hope that I am not considered a traitor to the TI for saying the above but a sense of balance must be maintained.

PRICES.
I have listed below some of the most recent prices I have obtained for the equipment in the TI market. They should be used as a guide only, all prices will need to have shipping and handling added. Prices in US currency as shown at such all others are in AUSSIE dollars.

DISK DRIVES.
A recent issue of TISHUG NEWS carried an advertisement for second hand disk drives;

Two MPI 525A types drives in a case with power supply and cable ready to run.....$299.00
Drive only....$85.00
Available from;
MDS
59A BORONIA St.
KENSINGTON, 2033
N.S.W.

A 60 day warranty applies to the two drive package.

SYSTEMS.

Second hand TI PE-BOX $600/$800 depending what it contained and what came with it. See the wheeler and dealer.

AT MINI PE SYSTEM (SYDNEY SYSTEM) WITHOUT CASE..$400.00 APPROX.

CORCOMP 9900 MICRO SYSTEM.
FROM .....US$299.00 (TEXCOMP)

MEMORY CARDS.
If you require a TI PE-BOX expansion card;

CORCOMP 32K PE BOX CARD....US$99.95
CORCOMP STAND ALONE 32K....US$89.95
CORCOMP 256K PE BOX CARD..US$169.95
CORCOMP 516K PE BOX CARD..US$229.95
CORCOMP STAND ALONE 256K..US$219.00
CORCOMP STAND ALONE 516K..US$279.00
MYARC 256K PE BOX CARD..US$178.00
MYARC 516K PE BOX CARD..US$239.00
2nd HAND 32k P/BOX approx $100.00

MYARC also sell their cards with Extended Basic level IV, add US$50.00 to the above prices.

RS232 CARDS.
The MINI and MICRO systems all have RS232 and PIO. A second hand TI PE-BOX would probably include an RS232 card also.

CORCOMP RS232 STAND ALONE..US$99.95
CORCOMP RS232 PE BOX CARD..US$79.95
MYARC RS232 PE BOX CARD..US$99.95
SECOND HAND RS232 P/BOX.....$100.00

That is about all I have got at this stage. I am now trying to collect some information on build it yourself systems in addition to the R.K. system. Build it yourself under most cases will include etching of the P.C. board. This would be enough to put most people off, one possible chance of avoiding this is the news from Adelaide mentioned in a recent IN THE NEWS regarding a gentleman there who has started doing a lot of work on TI related hardware.

Finally, if enough requests come in I will list prices for more equipment in following articles.

Bye for now.
Joe Wright.

GENEVE 9640 IS IT THE ALTERNATIVE?

by
GARRY J. CHRISTENSEN
Brisbane Users Group

Should I buy a Geneve? A lot of people have asked that question. Many have resolved it, others haven't. Many have expressed their opinion. Of those, some have been informed and others have been mislead. It seems that in recent times, the original reason for the Geneve was lost.

We all support the TI-99/4A home computer. If you don't, you won't be reading this. The Geneve was released as a TI compatible computer, an upgrade for those who wanted more from the TI.

Due to the MSDOS-like operating system used in the native environment, the Geneve was compared to the IBM clones. Was it better? Why use this operating system? Where is all the software for this computer? Why can't Myarc release all the hardware details yesterday? Is all this really anything to do with the Geneve.

Let me say again that the Geneve was devised to be an upgrade from the present TI-99/4A. If you want something to be like an IBM, buy a PC clone. The Geneve allows the TI'ers an opportunity to enhance their system, the same system that they have known and loved for all these years.

Perhaps I am biased. I have already decided what I expect to get out of the Geneve. I could have upgraded in a different way and still have a similar system. This is what my Geneve is to me. (for the moment lets ignore the native mode and consider only the TI emulate mode - GPL mode).

First the physical aspects. I am now using a full 101 key keyboard instead of the little one that is on the TI-99/4A. Rave 99 have a keyboard interface that will allow me to use this same keyboard with the TI.

It costs $150 American, or about $280 Australian by the time I get it. The price of the keyboard varies but about $100 would be a good average.

I also have a GRAM emulator. This allows me to load my modules from disk, write GPL code (if I was that way inclined) and edit the GROMs in the modules or the console. This could also be done with the Gram Kracker or a GramKarte from Mechatronics. I see the GramKartes advertised for US.$200. That's around $350 Aust.

Then there is the 9938 video processor. It gives me access to higher resolution graphics and an 80 column screen. Digit Systems also produce a peripheral that will give the humble TI these features. In Australian dollars they cost $380.

The GPL mode automatically configures a 180K ramdisk and a print spooler. Allow say $200 for the ramdisk and $100 for the spooler.

Here is the all up cost of doing the same as the Geneve using normal means:

Rave interface	$280
Keyboard	$100
Gram emulator	$350
Video card	$380
Ramdisk	$200
Spooler	$100
TOTAL	$1410

The above system still has not given me 3 times the speed of the TI computer. I have nearly all the features but not the speed.

There is further development being done in the GPL environment. Perhaps soon all of the 512K of memory will be available to the programmer.

Now it is time to look at the native mode of the Geneve. I have the features of MDOS (some like it, some don't). There are programmes being released so I can use them where I wouldn't be able to using a extended TI-99/4A.

Well there it is. The Geneve is an upgraded TI and a little bit more.

I have all the programmes that I need to use the Geneve. I have been using them all along. Did IBM have such a selection of programmes available when they released their first personal computer?

Is the Geneve good value? That depends entirely on what you want. If you are considering upgrading, have a good look at the Geneve, then have a good look at the alternatives and make up your own mind. Too many people have their minds made up for them by others. Sometimes those decisions are right. Sometimes...

FOR SALE

1 SS disk drive (bare)	$50
1 DS disk drive (stand alone)	$140
1 P-code UCSD Pascal System	$150
1 TI Logo 1	$40
1 Plato cartridge + 2 disks	$20
1 Home Financial Decision pack	$40

includes following carts:
Home Financial Decisions
Personal Real Estate
Household Budget Management

If you are interested contact
Fred Cugley
phone 08 2583499

1 PE Box with cards twin drives $500
Bernie Elsner
phone 09 2718642

1 FX 1000 printer	$740
1 LQ 850 printer	$890

phone Erik during business hrs
09 3623222

1 as new console $80
Mrs Lambert
phone 09 4477352

XMODEM

FILE TRANSFER PROTOCOL

by

KEITH AMANN

[This article was first published in the Capital PC Monitor and PC World magazine during the Spring of 1983, and has been updated for republication in this newsletter.]

When transferring files between computers using the telephone system, there is always the chance that electrical noise will result in data transmission errors. To ensure proper transfer of files it is necessary to detect data transmission errors and to retransmit data that contains errors. Most people think that asynchronous parity error detection provides that capability. It does not. Parity error detection does tell you when a data transfer error has occurred, but it is up to you to retransmit the data to correct errors. The problem is that parity error detection is not actually performed by most TI-99/4A communication packages. If a package does perform the error detection, it may not inform you of errors in such a way that you know to immediately retransmit the data. To ensure "error-free" data transfer you need a protocol file transfer technique.

A protocol is a set of rules and conventions that apply to a specific area of communications that allow participants to properly communicate regardless of the hardware brand or software package being used. The protocol file transfer is a set of rules for transferring files which specifies a set of ASCII handshaking characters and the sequence of handshaking required to perform certain file transfer functions. Protocol handshaking signals allow communication software to transfer text, data and machine code files, and to perform sophisticated error-checking. The handicap in using protocol file transfer techniques is that the computers on both ends of the communications link must be using compatible software; there is no standard that controls these protocols.

The Ward Christensen XMODEM protocol is one specific file transfer protocol that has become a default standard in personal computer communications because of its widespread use on bulletin boards and because of its inclusion in low cost personal computer communication packages such as FAST-TE.

By providing you with this insight into protocol transfer and explaining in detail the operation of the XMODEM protocol, I hope to add momentum to the development of a "standard protocol" whether it be the XMODEM model or some other model. Users of communication software deserve a standard protocol that will allow them to use the technique with any microcomputer regardles of the software packages employed.

The XMODEM protocol is illustrated in Figure 1. As you can see from that figure, XMODEM does not begin the transfer of data until the receiving computer signals the transmitting computer that it is ready to receive data. The Negative Acknowledge (NAK -- ASCII 21) character is used for this signal and is sent to the transmitting computer every 10 seconds until the file transfer begins. If the file transfer does not begin after 10 NAK's are sent, the process has to be manually restarted.

After a NAK is received, the transmitting computer uses a Start of Header (SOH -- ASCII 01) character to signal the start of a data block transfer. The SOH is followed by two numbers. The first number is the number of the data block to be transmitted, and the second number is the, ones complement of the data block number. The ones complement is the block number XOR 255 or simply 255 minus the block number.

The block number and the ones complement number are then followed by a 128- byte block of data and an error-checking checksum. The checksum is calculated by adding the ASCII values of each character in the 128 character block; the sum is then divided by 255 and the remainder is retained as the checksum. After each block of data is transferred, the receiving computer computes its own checksum and compares the result to the checksum received from the transmitting computer. If the two values are the same, the receiving computer sends an Acknowledge (ACK -- ASCII 06) character to tell the receiver to send the next sequential block. If the two values are not the same, the receiving computer sends the transmitter an NAK to request a retransmission of the last

block This retransmission process is repeated until the block of data is properly received or until 10 attempts have been made to transmit the block. If the communications link is noisy, resulting in improper block transmission after 10 attempts, the file transfer is aborted.

XMODEM uses the block number and the ones compliment block number at the start of each block to be sure the same block is not transmitted twice because of a handshake character loss during the transfer. The receiving computer checks the transmitted block to be sure that it is the one requested and blocks that are retransmitted by mistake are thrown away. When all data has been successfully transmitted, the transmitting computer sends the receiver an End of Transmission (EOT -- ASCII 04) character to indicate the end of file.

The XMODEM protocol offers the TI-99/4A several advantages over other protocols and file transfer methods. First, the protocol is in the public domain which makes it readily available for software designers to incorporate into a communications package. Second, the protocol is easy to implement using high level languages such as BASIC or Pascal. Third, the protocol only requires a 256-byte communication receive buffer which makes it attractive for TI-99/4A owners who only have 32K systems. Fourth, the protocol allows a user to transfer non-ASCII 8-bit data files between microcomputers because it calculates the end of a file based on file size and uses handshake signals to indicate the end of a file instead relying on an end of file marker character (control-Z) to terminate a file transfer. Fifth, XMODEM error-checking is superior to normal asynchronous parity error checking. The parity method of error-checking is 95% effective if the software on the receiving end checks for parity errors. XMODEM error-checking is 99.6% effective, and the software on the receiving end must check for errors. Parity errors detected also do not result in automatic retransmission of the bad data; XMODEM detected errors result in data retransmission until no errors are detected or until 10 retransmissions have been attempted. Finally, the protocol is used by many bulletin boards and having the protocol in a communications package allows the TI-99/4A user to receive error-checked files from these bulletin boards.

XMODEM does not solve all communications problems, but it does provide compatible file transfers between a large variety of computers. Now that we have this common microcomputer link, it is time to apply pressure for a more universal public domain asynchronous communications protocol that can be used between any two computers.

XMODEM Protocol File Transfer

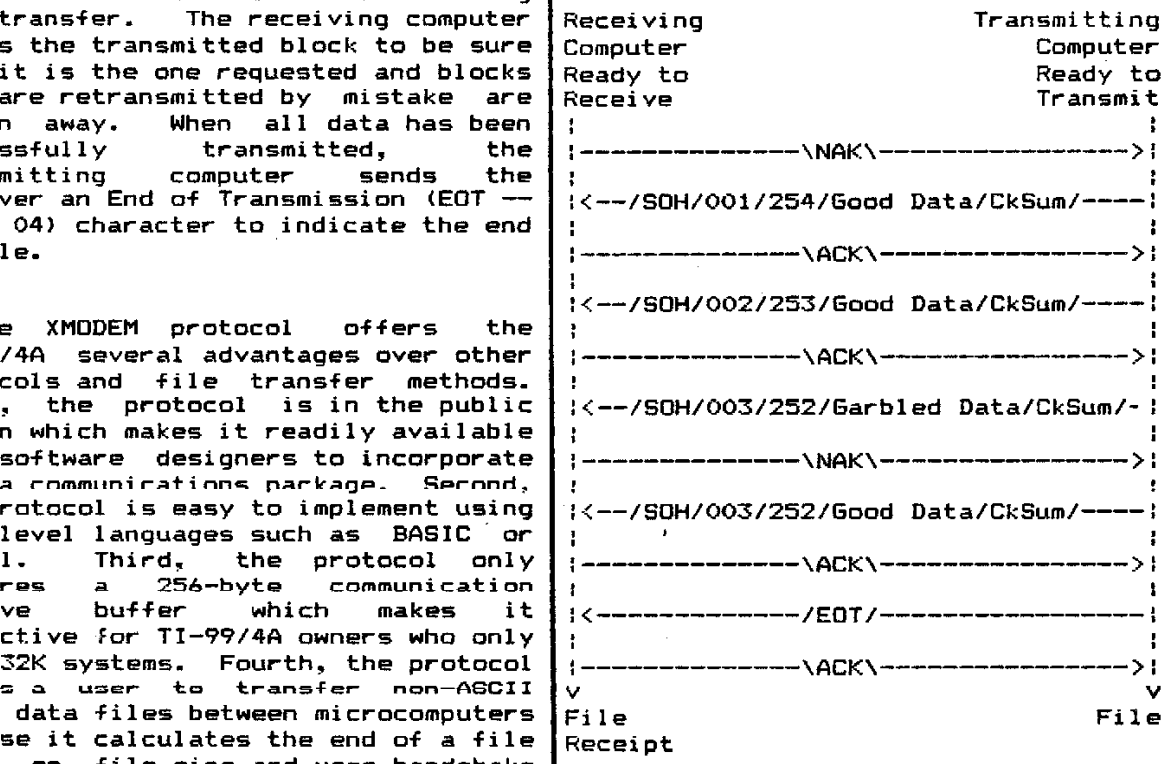
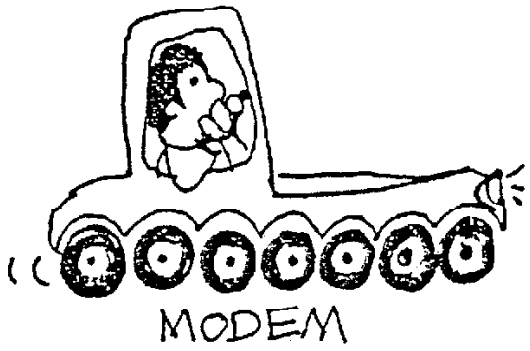


Figure 1.



TERRIFIC TRICK FOR CASSETTE USERS

This tip comes via the April edition of TISHUG News who in turn found it in the Pheonix TIBBS.

Ever had that infuriating experience of entering **SAVE CS1** or **OLD CS1** when you didn't mean to do so!. If you have, then you are not Robinson CRUSOE **AND** here is the way to get out of there.

After having entered one of the above by mistake, press **SHIFT E.** The loading or saving process is advanced to;

PRESS CASSETTE STOP
AND PRESS ENTER

Now press enter to get back to the Basic or Extended Basic editor.

CLEARING THE SCREEN.
****
Also from the same source are the two suggestions for programme statements that can be used instead of **CALL CLEAR.**

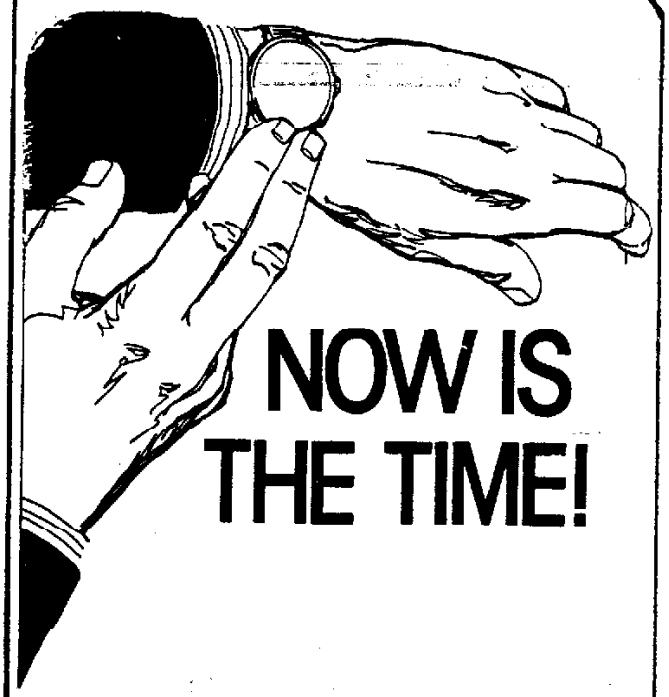
```
10 CALL HCHAR(1,1,32,768)
```

This will clear the screen by sweeping from top to bottom.

```
10 CALL VCHAR(1,1,32,768)
```

This will clear the screen by sweeping from left to right.

Joe Wright.



NOW IS THE TIME!

If you enjoy reading the Hunter Valley 99ers Newsletter and haven't as yet paid your annual subscription **this is your last newsletter.**

Please send your cheque, money order etc **immediately** to the Secretary if you want to renew your membership.

If you have moved on to another computer, or put your TI in the cupboard, please get in touch with our purchasing co-ordinator, Alan Franks (see inside front cover for phone, etc), and maybe someone in our group would be prepared to buy any equipment from you. Naturally we would much rather you kept using your TI and retaining membership of the group, but, as with many things in life, interests change, so please, don't let your computer gather dust - get in touch with our group NOW.

THE INFORMATION PAGE

IN YOUR NEWSLETTER THIS MONTH

PLUS MUCH MUCH MORE!!!!!

COMING EVENTS

Next Committee Meeting: Tuesday 2nd August, 1988
General Meeting: Tuesday 9th August, 1988
Software Library Access Night:Tuesday 16th August, 1988
(come along to Warners Bay and get copies of progs from library)

AGENDA FOR AUGUST MEETING

* * * Members Free for All * * *
see demos of modules, games, utilities, cassette games, etc

CLASSES AVAILABLE FOR MEMBERS

XB Class Tuesday 26th July, 1988 at Warners Bay

ANNUAL SUBSCRIPTIONS

Subscriptions to the Group cover the period 1 July to 30 June following year. Membership enquiries are welcome; please address all enquiries to the Secretary.

The annual subscription is:
Australian Residents...$25
Overseas Residents.....$45 (airmail)

Back issues of our Newsletter are available for $1 plus postage

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