HUNTER VALLEY 99ERS
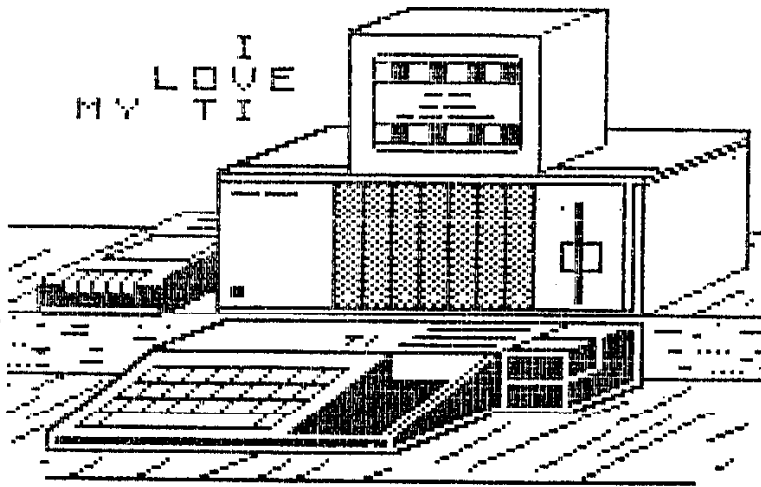# USERS GROUP
HOME COMPUTER NEWSLETTER
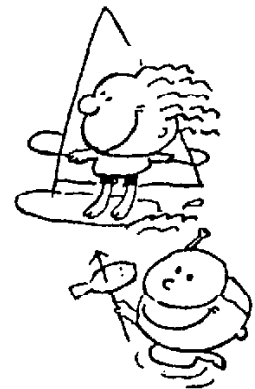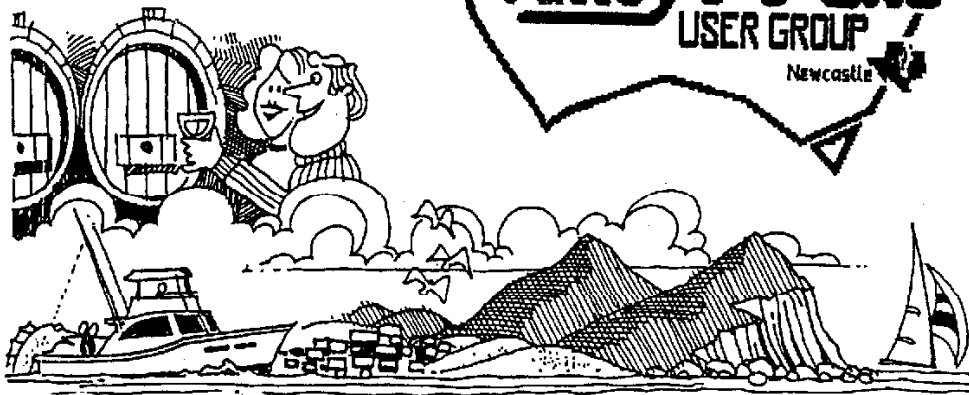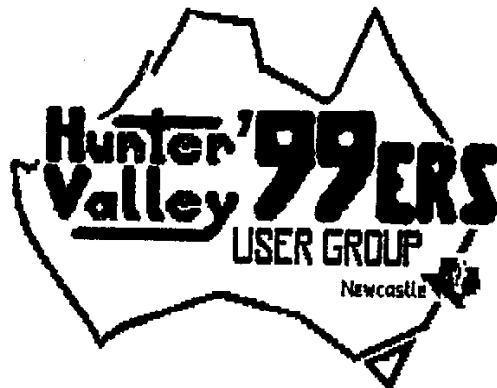
I LOVE MY TI

Hunter

MAY
1989

Hunter Valley '99ERS
USER GROUP
Newcastle

YOUR COMMITTEE

all telephone numbers are STD area code 049

PRESIDENT
Alan Lawrence
35 Bayview St.,
WARNERS BAY 2282
Ph. 486509

VICE PRESIDENT
Allan (Joe) Wright
77 Andrews Rd.,
VALENTINE 2280
Ph. 468120

SECRETARY
Albert Anderson
6 Arcot Close,
TARRO 2322
Ph. 662602   Viatel 496626020

TREASURER
Peter Smith
8 Glebe St.,
EAST MAITLAND 2322
Ph. 336164   Viatel 493361640

SOFTWARE LIBRARIAN
Stewart Bradley
14 Hughes St.,
BIRMINGHAM GARDENS 2287
Ph. 513246

EDITOR
Brian Woods
9 Thirlmere Pde.,
TARRO 2322
Ph. 662307   Viatel 496623070

PURCHASING CO-ORDINATOR
Alan Franks
822 Pacific Highway,
MARKS POINT 2280
Ph. 459170

COMMITTEE MEMBERS
Noel Cavanagh
378 Morpeth Rd.,
MORPETH 2321
Ph. 333764

Rodney Gainsford
56 Sedgewick Ave.,
EDGEWORTH 2285
Ph. 583515

John Paton
1 Parlen Close,
RUTHERFORD 2320
Ph. 326014   Viatel 493260140

CONTRIBUTIONS

Members and non members are invited to contribute articles for publication in HV99 NEWS.

Any copy intended for publication may be typed, hand written, or submitted on tape/disc media as files suitable for use with TI Writer (ie. DIS/FIX 80 or DIS/VAR 80). A suitable Public Domain word processor program will be supplied if required by the club librarian.

Please include along with your article sufficient information to enable the file to be read by the Editor eg. File Name etc. The preferred format is 35 columns and page length 66 lines, right justified.

All articles printed in HV99 NEWS (unless notified otherwise) are considered to be Public Domain. Other user groups wishing to reproduce material from HV99 NEWS may feel free to do so as long as the source and author are recognised.

Articles for publication can be submitted to the Editor, ALL other club related correspondence should be addressed to The Secretary.

DISCLAIMER

The HV99 NEWS is the official newsletter of the HUNTER VALLEY NINETY NINE USER GROUP.

Whilst every effort is made to ensure the correctness and accuracy of the information contained therin, be it of general, technical, or programming nature, no responsibility can be accepted by HV99 NEWS as a result of applying such information.

The views expressed in the articles in this publication are the views of the author/s and are not necessarily the views of the Committee, Editor or members.

TEXAS INSTRUMENTS trademarks, names and logos are all copyright to TEXAS INSTRUMENTS.

HV99 is a non profit group of TI99/4A computer users, not affiliated in any way with TEXAS INSTRUMENTS.

PRESIDENT'S

with

AI Lawrence

Thank you to all those who helped make the HIHE Micro Show the success it was and show the flag for the FOUNDLING - it was pointed out to me an ORPHAN has no parents but Texas Instruments are still BIG and very much alive. Nice to meet some of our members from SA just passing thro'.

WOW we should be called the NOMADIC 99'ers! Yes we are once again on the move ONLY for the big Monthly General Meetings and the night is changed as well as the venue.

Thank you Bruce for finding what we hope will prove more suitable as we no longer have to lug the gear up all the stairs anymore.

*** REMINDER ***
All future Monthly General Meetings will be held on the FOURTH (4th) Tuesday of the month at the:

JESMOND Neighbourhood Centre
44 Mordue Pde
Jesmond

The hall is located behind the shopping centre car park area and beside the bowling club. If coming from Blue Gum Rd drive thro the shopping complex car park at the Kentucky Fried Chook and turn right into Mordue Pde and you are there. Full details have been sent to all local members and we hope that the change of date and place may enable more members to attend.

All other SIG classes and meetings are unchanged and are held 1st, 2nd & 3rd Tuesday of the month at Warners Bay High School

In Town out of Towner
Pleasure to meet Doug Moller from up Townsville way who was passing thro' the Valley and donated some modules etc, to the club. Glad we could also help with some other queries you had Doug.

FAIRWARE
We at the HV99'ers are collecting group donations to sent to various authors as we know how costly it is to buy and send individually. We will continue this policy to help support them in the future by collecting donations and forwarding them on in bulk.

NB We only sell disks for cost of media plus nominal copy fee and the onus is on you the user to forward any fairware, freeware, shareware or by whatever name it is distributed under, to the author by any means. That is why we do not charge $5.00 for a disk, as then the recipients do not think we pass the EXCE$$ to them by some mysterious channel.

TRUE COLOUR SPECIAL
Next month will have a tribute in the mail for a true blue Aussie who in our biased option has honoured the fairware system to others and has also been a contributor to the literary world as well as developing hardware and software - no mean feat!

Ron Kleinschafer.

So no matter if you are a QED'er & QUEST'er, heavily into EPROMing or have a Super Space II and Horizon RAMdisk, Ron has worked at squeezing and development, to give fingertip loading of programs that fit into both the 32k modules.

If you have not sent your donation to Ron NOW IS THE TIME!

The disks are in your Library. Ask our Librarian for your copies now. Soon we will be sending them out to User Groups Worldwide so if we miss your group please forgive us and do write for your copies if required.

Ron is a valuable member of the TI community who also happens to be a member of the Hunter Valley 99'ers and we are honoured to say he also has helped the TI Communicators by designing a modem in earlier days. Yes there a few of us who also have an RK MODEM as well!

Believe it or not, Ron bakes circuit boards the way Cookie cooks!! in a Frypan not Bar-B-Q'ed as rumoured. All his efforts flow on to other members by various means.

So why not all USERS or if you are a small group send your donation to us to pass on?? This will be acknowledged and you will help us encourage another great PROGRAMMER to stay with TI'ers, so if you use it or any other and have forgotten, you will never be too late as we will pass monies on so long as you make clear which Fairware you sent it for. Better still send one LARGE cheque for us to distribute to several if you make use of more than ONE!!! Just let us know the Authors and also how to divide it up, as well as any comments on the programs use to you. See elsewhere for more information to support those who support us.

Thank You

for sale

Peter Schubert Mini PE Box incl 32K, RS232, DSDD Controller - $400

2 * 35 track drives SSSD in Burroughs box $60

1 Schugart 40 track SSSD drive $40

Contact:
Ron Pratt
(049) 921518

QED MODULE AND QUEST RD-200 BOARDS

Good news - we are again looking into ordering more QED module boards and hope to upgrade them to 64K (thanks to Ron K) if enough intrest is shown. We need a minimum of 10 orders to go ahead. Costs to be advised soon.
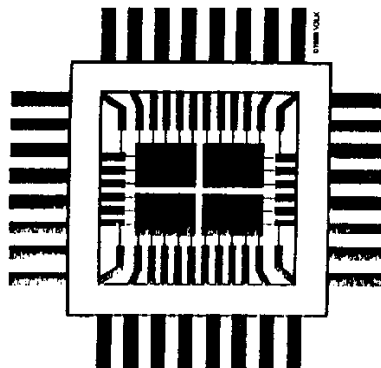
We have also some more Half Meg RD200 RAMdisk boards. Prices are hard to give as major cost is depending on the pricing due to value of the dollar on the 32K chips (17 required for full 512K RAM with 32k Mem Expansion.

The Bare board	$ 50.00
Fully built and socketed without memory chips	$131.00
32k Mem Expansion only	$153.00
$22 per 32k chip costing is :	
512k	$500.00
512k plus 32k Mem Exp.	$530.00
256k	$332.00
256k plus 32k Mem Exp	$354.00
128k	$244.00
8k chip # 6264 1 reqd.	$ 9.00
Ni Cad Battery 3 reqd.	$ 17.00
PAL chips 2 reqd.	$ 26.00

Plus P and P $5.00 where reqd.

All Prices in $ Aust.

Write me or Phone 049 486509

random bytes

with
BOB CARMANY

One of the most frustrating and persistant problems with the TI is the "firehose" cable from the side of the console (or Speech Synthesizer) to the PEB. There have been various 'solutions' proposed to solve the problem. These range from a 'new' more flexible cable to moving the 'guts' of the Speech Synthesizer into the PEB on a special card. Both work but they also cost $$. A simpler (and cheaper) solution is as close as the nearest Tandy (Radio Shack) store. But let me digress for just a minute.

Since my system is composed of stand-alones, the problem with one of the components coming loose and causing a system 'crash' is multiplied. What was needed, I reasoned, was something that would hold the various components of my system together but come apart when I needed to do some cleaning, etc.

The solution to my problem (and the PEB cable dis-connection as well) was as close as the nearest Radio Shack (Tandy) store. Buried in one of their catalogues was a "Hook and loop Fastener" --- Velcro!! It was even offerred in two strengths --regular and heavy-duty (Part # 64-2345 and 64-2360, respectively). This stuff had an adhesive on one side and came four pairs per packet which was more than enough for me to "Velcro" my peripherals together. Best of all, it was just a couple of dollars. Instant solution!!! The peripherals stay put and the "accidental disconnect" problem was permanently solved and I can take them apart for periodic cleaning. I'm sure that if you can't find the stuff at your local Tandy store, a similar product can be found at any comprehensive electronics store. It seems that it is used quite extensively to attach speaker grill cloth to stereo speakers. Tandy also carries 1/2" electrical tape (Part # 64-2348) which makes an excellent substitute for write protect tabs for your disks when cut to the suitable length --- I've been using it for quite sometime now (a 12 meter roll lasts almost forever).

The reason that I mentioned Radio Shack (Tandy) is because it is world-wide (even in Oz) and a virtual "treasure trove" of electronic supplies. In fact, if the stores there are like those here in the USA, you can get just about anything that you need.

One of the least-used programming combinations in XB programming is the ON ERROR/CALL ERR pair. One of the most irritating (to me, at least) problems that I find with most of the XB programs is the complete lack of error handling that most authors include with the programs that they write. A wrong drive designation or program name causes an immediate and inglorious "crash". For our purposes, we will be considering just one of the options available with ON ERROR -- ON ERROR (linenumber). The program structure to use it is simple. Just insert it before the actual disk file is opened in this case.

```
100 CALL CLEAR

. . . .

. . . .

200   DISPLAY  AT(10,1):"ENTER  YOUR
DEVICE/FILENAME"::ACCEPT  AT(12,1)SI
ZE(14):FN$

210 ON ERROR 600::OPEN #2:FN$

. . . .

. . . .

600   CALL ERR(ES,ET)::DISPLAY AT(12,
1)ERASE ALL:"YOU HAVE JUST  ENCOUNTE
RED":"A FATAL I/O ERROR" :: RUN
```

Okay, this is our pseudo-program. Line 200 allows for the input of a device/filename and line 210 has the ON ERROR statement that transfers control within the program to line 600 if an error is found in trying to open the file (ie. a wrong filename or drive #).

Line 600 uses CALL ERR to clear the error (there are actually four parameters that can be called with CALL ERR). ES is error severity (which is always 9) and ET is error

type. If you have any questions, you can consult your XB book for further information. At this point, an appropriate message is displayed on the screen and the program is re-run. CALL ERR has set all of the error values back to zero so there is no problem re-running the program. I chose to simply use "RUN" to re-run the entire program but, as you probably know, in XB you can run a specific line so I could have used RUN 210 instead to input the file information again and start from there. Anyway, there should be no reason for a program to generate an error message and "crash" if you use a bit of error handling.

COPC USERS GROUP

(Confused Operators of Personal Computers)

The following may be useful as a meaningful aid in simplifying computer jargon.

VDU:	A diseased sheep
DEBUG:	De ting killed wid de pressure spray
EMULATE:	A tardy bird
EXTERNAL SORT:	Mistress
CORE:	Strewth!
BALANCED MERGE:	Togetherness a tightrope
MICROFICHE:	Plankton
MONOSTABLE:	Accommodation for one horse
SYNTAX:	Royalties paid to the owner of a house of pleasure
DATA SOURCE:	Makes fiche and chips taste better
REMOTE VDU:	A diseased sheep in the arctic
TESTING:	The longest phase of system development

I trust the above is of some assistance in achieving a better understanding of computer terminology.
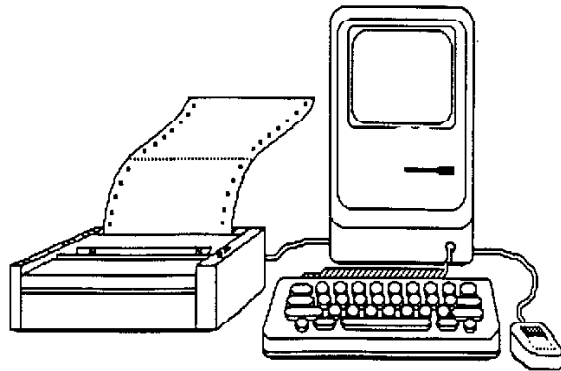
multiplication table program

From the April issue of the same newsletter comes this simple program to aid in teaching children their tables.

```
100 ! Eleven by Nine
110 ! Multiplication Table
120 ! by R W August
130 DIM M(11,9)
140 CALL CHAR(96,"000000FF",
97,"0808080808080808",98,"08
0808FF08080808")
150 DISPLAY AT(2,5)ERASE ALL
:"MULTIPLICATION TABLE" :: C
ALL HCHAR(5,3,96,27)
160 FOR A=1 TO 11 :: FOR B=1
TO 9 :: M(A,B)=A*B :: IF M(
A,B)<10 THEN N=1 ELSE N=2
170 DISPLAY AT(A*2+2,B*3-N):
STR$(M(A,B)):: CALL HCHAR(A*
2+1,5,97):: NEXT B
180 CALL HCHAR(4,4,32):: CAL
L HCHAR(A*2+2,5,97):: NEXT A
 :: CALL VCHAR(5,5,98)
190 CALL KEY(0,K,S):: IF S=0
 THEN 190 :: END
```
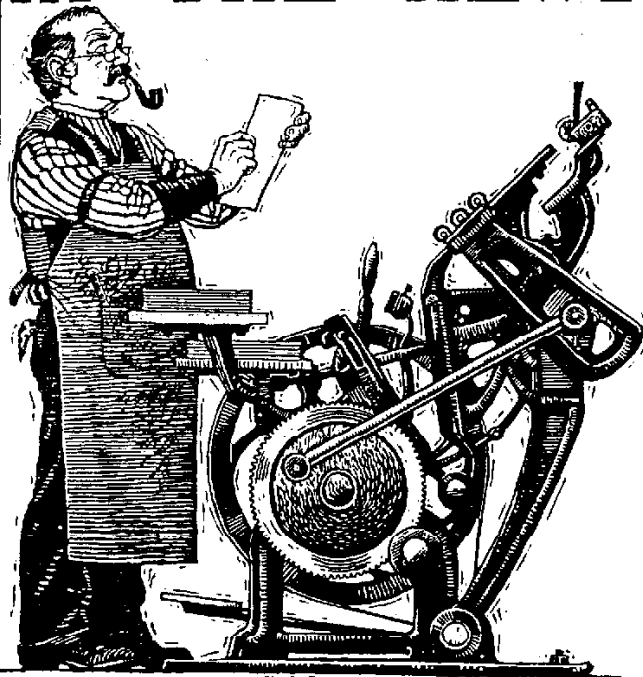
FROM PERTH U.G. NEWSLETTER

IN THE NEWS

compiled by
BRIAN WOODS

OUR NEW MEETING PLACE
     As from 23rd May or monthly
meetings will be held at

The Jesmond Neighbourhood Centre
44 Mordue Parade
Jesmond

     The centre is located behind
Kentucky Fried Chicken in Blue Gum
Road. Because we can only get the
centre on the 4th Tuesday of each
month we have had to change the
monthly program around to fit in.
Our program now is

1st Tuesday - Forth group
2nd Tuesday - Committee meeting
3rd Tuesday - XB group
4th Tuesday - Monthly meeting

     Please note that all meetings
apart from the monthly meeting will
still be held at Warners Bay High
School, in the demountable building.

     Because of the changes the
newsletter will now not be available
till later in the month ie at the
monthly meetings. This will give
the new editor more time to compile
the magazine each month. The
deadline for articles is still the
night of the Committee meeting,
giving the editor two weeks to get
the newsletter together.

ANNUAL GENERAL MEETING
     The AGM of the Hunter Valley
99ers will be held at Jesmond on
Tuesday 27th June, commencing at
7.00pm. It is of vital importance
that YOU attend the meeting and
input your thoughts on the Group's
future. Please fill in the enclosed
nomination form and either bring it
to the AGM or mail it to the
Secretary NOW!!

     June is also renewals time. If
you want to learn more about our
machine, see new hardware/software
available for your machine renew
now. Payment is required by the
30th June so post your cheque soon.
Renewal costs are shown on the back
page. A renewal form is also
included in the newsletter this
month.

NEWCASTLE MICROCOMPUTING EXHIBITION

     Your group was represented at
this exhibition at the University on
Saturday 15th April. There were
four systems running, demonstrating
graphics (on John Paton's monitor)
and games for the kids to try - this
again proved very successful, as
children were not allowed to play
with all the IBM's, Amiga's
etc.Thanks to all the members who
manned our stand and waved the flag
for the TI & the Hunter Valley
99ers.

     During the exhibition we all
took time to check out the
offerrings on the other stands. The
Hunter Valley VZ Users Group was
there again - they are much like the
99ers - proud of what their little
computer can do.

     There were a few bargains to be
had (if you had the money!) - if you
are interested you can probably
still pick them up at the
'exhibition prices'.

NEWTECH 97 Darby Street Newcastle:-
Epson LX800 printer $395
Star NX1000 Colour Printer $525

WORD EXPRESS Warners Bay phone
469100:-
Star NX1000 144cps 9 pin $445

     Naturally there were plenty of
IBM clones available from the

various suppliers on show. There was plenty to pick from in al sorts of configurations, and I must admit, looked pretty impressive. Amstrad and Amiga computers were on show, the most eyecatching (I thought) was the demo game of Dragon's Lair on the Amiga - it looked just like a cartoon you would see on TV - very professional.

AUSTRALIAN TI FAIRE

In the 'Late News' in the March issue of our newsletter it was announced that the Sydney group were going to organize a Faire later this year. Albert received a further letter from the Sydney group telling us that, as the Melbourne group had already announced a Faire for this year, the Sydney group would not hold one until next year.

In the April issue of the newsletter from the Brisbane User Group, their President Garry Christensen suggested that all of the groups attending the Melbourne Faire compile a 'Best of' their newsletter for release at the Faire. What do you think of the idea? Do you have any 'favourite' articles that have appeared in our newsletter over the years? Any suggestions regarding this idea would be appreciated.

FAIRWARE DONATION FOR MAY

The recipient of the Group's May Fairware donation is none other than our very own RON KLEINSCHAFER. Ron has contributed much to the Group over the years. His hardware offerings include the 3 slot PE Box, and a home-made Modem (as use by yours truly!) and has been responsible for software for the GED Module and the Quest RAM disk. Even if you do not use any of his hardware/software, Ron will no doubt have read his exploits in the Black Hole in this newsletter.

The committee feels that this is one person we should all support - he is always coming up with something 'new' for the benefit of 99ers everywhere. Make sure you get your donation to the Secretary soon so that a bulk donation ca be forwarded to Ron ASAP.

PROGRAM WRITER

This month we are proud to release a fairware program written by one of our members, Bob Carmany. For details of the program see the article later in the newsletter. Bob has asked that we send a copy to each of the Australian groups for their library, and that any fairware donation be forwarded to the Hunter Valley 99ers for forwarding on to him. If you can use this program, please, send a contribution for Bob - he is a VERY active member in the group, even though he lives in the US. His contributions to the newsletter and the software library make him invaluable to our group.

GENEALOGY RECORD KEEPER UPDATE

While on the subject of locally written Fairware, Joe Wright tells me that the latest version of his program will be released within the next couple of months. Joe has been spending a lot of time revamping the whole program after he received some feedback from the States and locally.

The main new features include:-
a) Program written in FORTH for added speed.
b) Will hold records for up to 255 people.
c) The amount of data capable of being stored for each person will be doubled.
d) Addition of Christening date/place.
e) Exact co-ordinates of a grave within a cemetery.
f) 3 areas to input your own comments on each person. 20 characters allowed - could input military service, education, sport etc.
g) Updated Detailed Report & 4 Generation Report modified.
h) The new release will include a program that will convert existing records (from previous versions) to the new format.

If you have found a use for Joe's previous effort, you are going to LOVE this one! Stay tuned for the exact release date. Don't forget that this is a Fairware release, so get your donation in to Joe.

HARDWARE REPAIRS

It was decided at the last Committee meeting that members who wanted their hardware repaired through the club would be charged the cost of any parts required plus $5. The 'service charge' is to go

into club funds to allow us to build up a stock of the most often needed parts. Where possible the club will lend the member a console so that the do not have withdrawal symptoms while their machine is under repair.

Members are requested to contact Alan Franks regarding repairs. He will then arrange repairs through one of the groups repair people.

NEWS FROM THE STATES

The following selection of news from the US comes from Garry Cox, writing in the April issue of the Mid-South Users Group in Tennessee.

"I just received a copy of a book that our group ordered called Home Publishing Manual by Harry Brashear of the Western New York 99ers. I must say the book is excellent in describing the different programs that can be used with the TI 99/4A for creating banners, pictures, creative text and practically anything to do with Desktop Publishing... The book also comes with a disk containing a TI Artist Instance printer, a program to organize your fonts and graphics and a columnizer program. Two supplements will be included in the future to those who purchase the book. In all it is 80 pages long and contains all kinds of helpful hints, tricks and example displays using a variety of programs such as TI-Artist, Picasso, Joypaint 99, Graphx, Calendar Maker 99 and many more... The book is great for anyone trying to do any type of publishing on the TI or just for anyone who likes to fool with graphics. The book sells for $US15 including shipping."

Write to:-
Western New York 99ers
c/o H T Brashear
2753 Main Street
Newfane
NY 14108
USA

"McCann Software of PO Box 34160, Omaha NE 68134 has released a new software product called The geometer's Apprentice. Geometer's Apprentice is described as coming in separate versions for the Geneve & the TI. Each version is described as having unique features, but both use the same 3D object structure.

99/4A users can take advantage of the 3D slide creation language to create motion sequences using the 99/4A Bit Map Mode... Objects may be scaled, translated and rotated in space and once created an object may be moved from one drawing to the next. This program also can create files compatible with the Printer's Apprentice... The price for The Geometer's Apprentice is $US39.95.

From Asgard Software, PO Box 10306, Rockville MD 20850 there is also new software released:

The first is The Adventure Reference Guide by Mickey Schmitt. It is a 108 page book listing nearly 200 adventures for the TI with ratings, needed equipment and sources. The book sells for $US14.95 + $US2 shipping and handling.

Artist Borders III by Paul Schiedemantle is a package of 31 borders described a being in geometric and decorative patterns with sport, space and home themes. It requires a program capable of using TI-Artist fonts and sells for $US7.95.

Disk o' Pirates by Ken Gilliland is a 4 disk collection by the author of Disk of Dinosaurs. It is described as including pirate artwork, games, music, utilities, animation pieces and history lessons and biographies. It requires 32K, disk, XB and TI-Artist or some drawing program. The package sells for $US14.95.

FUNNELWEB TIP

From the March issue of the Brea Area Users Group newsletter comes this tip. It is an improvement put into the Editor by Tony McGovern and may not be as well known as some.

"When using TI-Writer, if you change your mind (or forget where the alpha lock is at) and want parts of your text to be in lower case or vice versa, place the cursor at the place where you want to change and use CTRL semicolon (;) or CTRL period (.) and let the cursor auto-repeat over the text. The CTRL ; will change text to upper case and the CTRL . will change it to lower case. It sure is easier than typing over the text.

Another tip in the same newsletter comes in handy for proof-reading:-
        "When printing out your proof sheet to read, insert L before PIO and the line numbers will print out with the text (in the Editor). It helps locate where the errors are."

LEARNING TO USE PR BASE
        Commencing in the April issue, the Ottawa Users Group newsletter is publishing a series of articles on learning to use this program. If you are interested in learning more about this data base make sure you get hold of this particular newsletter. If any out of towners want copies of the articles contact the Editor of the HV 99ers and a copy will be sent to you.

STUFF WORTH MENTIONING
        From his column 'Nick Speaks' in the April issue of the Chicago Users Group Newsletters comes this outline of some of the stuff available for our computer in the US. All prices are in US$'s.

MACFLIX - a program for the TI that will let you display Macintosh HI-RES pictures. Requires 32K and either XB, EA or TI-Writer. Can save portion of the picture to TI-Artist.

FIRST BASE - database written by Warren Agee, distributed by Genial Computerware, PO Box 183 Grafton MA 01519 USA. Features include subfiles, import and export from MS-DOS and math functions.

GRAPHICS EXPANDER - J Peter Hoddie, distributed by Genial Computerware. Graphic utility written in 100% Assembly Language. Use to convert graphics from 1 format to another.

        A small company named Comprodine released the following:-

PICTURE IT - allows you to use instances created in TI-Artist in your TI-Writer - great for some nice letterheads.

FORM SHOP - allows you to create forms using a modified TI-Writer format.

JIFFY FLYER - program has one purpose - to print flyers or whatever to announce meetings, rummage sales, candy sales etc.

Contact Roger Merritt - Comprodine , 1949 Evergreen Avenue, Fullerton CA 92635 for more info.

        From John Guion, 11923 Quincy Lane, Dallas TX 75230:-

New set of ROMs for the TI disk controller - allows 4 drives and better naming $19.95

Upgrade TI RS232 to handle TP output to serial or parallel ports.

Mod for Triton Super XB provides EA/Writer/DM3 within the menu of the cartridge $22.95

Forti Music Card is still being sold in kit form for $65. For info call Steve Tourto (516) 242-1378.

MORE EFFICIENT BASIC
        This is reprinted from the March issue of the Perth User Group Newsletter, who in turn got it from the Boston Computer Society newsletter:-

        "Many times you come across tips on ways to make your programs more efficient. Most times they promise to save a byte here and there and are often so arcane that I tend to stick with what I know. However I recently came across the following piece of elegance."

        "In a game program you will often want to compare the final score and keep whichever is higher. the usual way is:-

2800 IF FINAL_SCORE>HIGH_SCORE
        THEN HIGH_SCORE=FINAL_SCORE

but a better way is:-

2800 HIGH_SCORE=MAX(HIGH_SCORE,
        FINAL_SCORE)

programs that write programs

PART 1
by BOB CARMANY

What kind of a topic for an article is this? I mean, why should anyone care about a program that would write a line or two of code? My thoughts exactly when I started working on a loader a while back. What started as a simple project to create a loader to load both program image and XB programs from a common menu developed into something quite a bit more complex. I started out by looking at some LOAD programs --- just to see how they were constructed. One that I found intriguing was MAKELOADER. It and the rest of the programs of this type read a disk directory and create an on-screen menu for single keypress loading of an XB program. To understand how these programs work, you have to understand what TI did with MERGE programs. MERGE programs (D/V 163 files) were created by TI to allow segments of code to be created for insertion into already existing programs. They can be created from "normal" programs by saving them in the MERGE format (ie. SAVE DSKx.NAME, MERGE). What TI did with the program lines once they were saved is of real interest, though! TI used the characters above 127 to replace the actual reserved words in the program --- the words were "tokenized". This accomplished one thing. It saved a bunch of memory space by saving bytes --a tokenized reserved word (or phrase) took up less space than the original. That is only one of the benefits, though.

Before we can consider looking at how the lines of code themselves are constructed, we must first look at how the line numbers are created. To create the range of line numbers available (1 - 32767) it is important to note that line numbers are stored as a two byte number based on 256. Why 256? That is the total number of combinations available from the 8 bits that the TI uses. The algorithm for the creation of line numbers has been around for several years and variants of it are used in every program that either reads and processes or writes MERGE files. The only requirement is that we print the line number to the open file as a CHR$ value. This algorithm looks like this:

```
PRINT   #2:CHR$(INT(LN/256))&CHR$(LN
-256*INT(LN/256))
```

This statement prints the two-byte line number to open file #2. It will create a whole integer line number.

With every "rule", there is always an exception and there is with this one as well. The above algorithm will create a line number based on the value of LN in the form of a two-byte number. The exception occurs when the line number is a reference in the middle of a line of code (ie. GOTO 100). In this case, the line number is three bytes long. The regular line number algorithm is preceded by a flag which will be presented in the second installment in this series.

Now, for the tokenized reserved words themselves. The following short program (an abbreviated version of TOKEN from PROGRAM WRITER) will create a D/V 163 file with all of the token values and CHR$ equivalents.

```
100 OPEN #2:"DSK2.TOKENS", OUTPUT,
DISPLAY, VARIABLE 163

110 FOR LN=128 TO 255 STEP 1 ::  PRI
NT   #2:CHR$(INT(LN/256))&CHR$(LN-25
6*INT(LN/256))&"="&CHR$(LN)::NEXT LN
```

These two lines of code will open a disk file on drive #2 under the name of TOKENS and then trick the computer into creating a D/V 163 file. It prints the line number and then "=" and the corresponding CHR$ value. In this case, it will be the token value since we are dealing with values in the range of 128 - 255.

If you list the program at this time (after typing 'NEW' and MERGE DSK2.TOKENS), you will notice that several of the lines have 'garbage' following the "=". These are values

that are either not used or are used as flags. Fortunately, the flags are all together and I can identify them for you. CHR$(199) tells the computer that a quoted string is to follow and should be enclosed in parentheses. CHR$(200) tells the computer that an unquoted string is to follow and that it should not be enclosed in parentheses. CHR$(201) tells the computer that a line number reference is to follow (the third byte). At this point, you have the program in memory if you have followed the instructions. All you have to do is LIST the program to disk (ie. LIST "DSK2.TEXT") and you have a D/V 80 file that you can manipulate with a word processor. Just remove the 'garbage' and put something appropriate next to the flag values and run the file through COLIST and you have a complete listing of the token values.

Whew!! We have covered quite a bit of ground so far. Next time we will look at how the lines of code are created using the token values and how the flags fit into the scheme of things.

count the days

a program written by
BRIAN RUTHERFORD

I had a disk full of files and part of each file were two dates in the form DD/MM/YY. These dates which were the dates guests booked in and the date they booked out, and I needed to know how many days between those dates, ie. 07/11/88 to 14/11/88 is seven nights accommodation.

Easy, I thought, take the first days date from the second days date, ie. from the above example 14-7=7. Then the first problem appeared, what happens when the second date is in the next month. No problems I thought again, take the first date from the number of days in that

month, and add the number of days in the second date. I then found some people who stayed for two months and the dates spanned three months, easy set up a loop using the /MM/ part of the dates to form the loop, great... until I realized I had dates spanning the end of one year, and start of the next. That's when I had to go back to the old drawing board and come up with some other algorithm.

The idea I eventually came up with was to work out how many days had passed in the year to the first date and then the second date. Also taking due note of whether it was a leap year or not, and if so add one to the number of days in February DM(2), and to the number of days in the year DIY, in case the year in the second date was greater than in the first date. In which case the number of days to the first date are subtracted from the number of days in the year and the number of days to the second date are added.

This small routine will only work up to the year 1999, because of the check for leap years. Also the year in the second date can only be one year greater than the year in the first date.

```
99 ! NEXT TWO LINES NEEDED A
T START OF ANY PROGRAMME YOU
 USE THE ROUTINE IN. THE DAT
A ARE THE DAYS IN THE MONTHS
100 DATA 31,28,31,30,31,30,3
1,31,30,31,30,31,
110 DIM DM(12):: FOR I=1 TO
12 :: READ A :: DM(I)=A :: N
EXT I

115 ! NEXT SEVEN LINES ONLY
NEEDED FOR DEMONSTRATION PUR
POSES
120 CALL CLEAR
130 INPUT "DAY IN ":FD ! FIR
ST DAY
140 INPUT "MONTH IN ":FM ! F
IRST MONTH
150 INPUT "YEAR IN ":FY ! FI
RST YEAR
160 INPUT "DAY OUT ":SD ! SE
COND DAY
170 INPUT "MONTH OUT ":SM !
SECOND MONTH
180 INPUT "YEAR OUT ":SY ! S
ECOND YEAR

185 ! DIY=DAYS IN YEAR, ED=E
XTRA DAY FOR LEAP YEAR, DBI=
```

```
DAYS IN YEAR TO FIRST DATE,
DBO=DAYS IN YEAR TO SECOND D
ATE
190 DIY=365 :: ED,DBI,DBO=0


195 ! NOW CHECK TO SEE IF TH
E SECOND DATE IS AFTER THE F
IRST. CHANGE TO SUIT YOUR PR
OGRAMME
200 IF FY=SY AND FM>SM OR FY
>SY THEN 120


205 ! CHECK IF SAME MONTHS T
AKE FIRST DAY FROM SECOND
210 IF FM=SM THEN ND=SD-FD :
: GOTO 290


215 ! CHECK FOR LEAP YEAR
220 IF (FY+1900)/4=INT((FY+1
900)/4)THEN ED=1


225 ! ADJUST DAYS IN YEAR AN
D FEBRUARY, THEN WORK OUT HO
W MANY DAYS GONE BY TO FIRST
 DATE
230 DIY=DIY+ED :: DM(2)=DM(2
)+ED :: FOR I=1 TO FM-1 :: D
BI=DBI+DM(I):: NEXT I :: DBI
=DBI+FD


235 ! CHECK IF BOTH DATES NO
T IN SAME YEAR ADJUST FEBRUA
RY BACK
240 IF FY=SY THEN 270 ELSE D
M(2)=DM(2)-ED :: ED=0


245 ! CHECK SECOND YEAR FOR
LEAP YEAR AND ADJUST FEBRUAR
Y


250 IF (SY+1900)/4=INT((SY+1
900)/4)THEN ED=1
260 DM(2)=DM(2)+ED


265 ! NOW WORK OUT DAYS IN Y
EAR PASSED TO SECOND DATE
270 FOR I=1 TO SM-1 :: DBO=D
BO+DM(I):: NEXT I :: DBO=DBO
+SD


275 ! ND=NUMBER OF DAYS FROM
 FIRST DATE TO SECOND DATE
280 IF FY<SY THEN ND=DIY-DBI
+DBO ELSE ND=DBO-DBI
290 PRINT ND
```

three quick reviews

from

AL LAWRENCE

*** MAC-LABLES ***

This a PUBLIC DOMAIN label
maker by the 2 Macs - Ed and Mike
Machonis

Among the things you can do
include:
Print those I luv (heart picture) my
TI-99.

15 Print Strips for your console eg,
Chess, 4A/Talk, Fast Term, Rave
keyboard.

Labels for Oil Changes, Name Tags,
Disk content and comments, Address,
Flexilabel (Multi Purpose label),
Catalog Disks, and many, many more.

XB loading with 20 options on the
opening menu and prints out via PIO
to Epson compatables. If yours is
not, then you will have to modify it
with a sector editor.

The disk contains a Read Me
file explaining the reasons for
releasing it to the Public Domain
and not FREEWARE as is now more
common. It also has a copyright on
it to discourage sales in a
commercial sense, but OK User Groups
may pass on with only Media and copy
fee only !!!

This is a top disk and well
worth having for those people with
the Label Mania - the authors bought
a box of 5000 and had to find a use
for them)

*** 1000 Words ***

Reading in last months "In the
News" (yes we read it cover to cover
and the pages in between) a mention
of 1000 Words, prompted me to
mention that this Disk is also one I
think will benefit the next Editor
or if you have use for any DTP (Desk
Top Publishing) projects you could
be planning in the future.

Software required is TI-Artist from INSCEBOT Inc. to create the picture files required by 1000 words. TI-Writer or Funnelweb etc to print the files created by 1000 Words.

Disk contains demo files, the usual documentation - which I found not the easiest to follow mainly because of my non usage of DTP's in any form.

The above 2 Disks are in the HV99 Software Library. Contact Stewart to get your copy.

QED 4.4 Loader (beta test) for:
    QED/SUPER SPACE II Modules
    +
    QUEST/HORIZON RAMdisks

Review part 2 (see FEB 99'er News for part one)

Thank you Ron for bringing together on the updated disk the opportunity to have in the modules (if you own a RAMdisk) the ability to quickly re-establish the ROS or format the RAM.

Loading is as before ie from F'web or via E/A selecting opt 5 and press enter.

MODULE Menu 2nd option now reads :
2 Funnelweb, RAM Disk Utilities

Selecting 2 you are presented with

Which RAM Disk Utility?
Q)uest RD200 or H)orizon
Select by letter (Q/H)

After a short time the Module Menu appears:

1 FOR TI BASIC

2 FOR EDITOR/ASSEMBLER

3 FOR EXIT MODULE

4 FOR RELOAD MODULE

5 FOR FUNNELWEB

6 FOR QUEST UTILITY (or HORIZON)

Selecting 6 the next screen shows:
(name) RAMdisk/s at CRU >1000 or whatever

Load DSR Y/N

Select Y or N and press enter

Then Check RAMDisk light

PROC'D or BACK

Proceeding then informs you
RAM Disk Sectors > 200 or whatever

Format RAM : Y/N

Emulate DSK # ? (1 to 9)
Enter Disk # then
REDO (more than one of each type) or any other key to exit.

And you are in business again!

NOTE QUEST and HORIZON have each different features and so WILL NOT be formatted, excepting only by the selection of the correct loader.

OOPS in FEB article on formatting RD200's using Q/O

Typo when asked if you want to load the RQS.
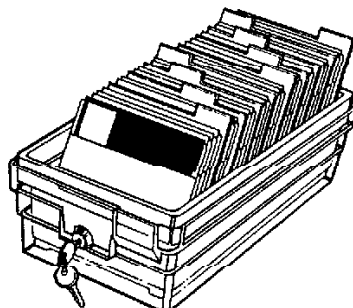Should read :
Press Y the first time (OR if you have blown the DSR and only want to re-establish it).

Pressing N would of course bypass the loading of RQS, if the DSR was intact and you wanted to re-format the QUEST.

not to worry - soon we will all have the RK/QED loader and the ability to have the full QUEST RD200 as 2 256k RAMdisks if necessary.

Hurry up with the release version Ron!!

FUNNELWEB FARM PRESENTS

the funnelweb report

TONY McGOVERN

Some more hardware/software anomalies have recently come to light. It started with a complaint from Al L. to the effect that his Sydney AT multifunction card played up with the Funnelweb editor and with DM-1000. More reports then from Queensland and from Richard T. locally that similar problems were happening with Corcomp disk cards. The symptoms are that the Editor gets a screen filled with rubbish after returning from SD of a high-CRU base RAMDisk, but things are OK if a normal drive is SD'ed first, and remain normal. On DM-1000 the obvious problem is that file copies fail after one or two files. Now both of these programs function perfectly on TI and Myarc controllers, and I know that both are written to respect TI system standards. So what is going wrong ?

I had the Sydney AT card of Al's plugged into the non-AVPC machine here and verified his problems were indeed real. A little work with Debug soon revealed the

problem - when it played up it was because the the disk DSR had trashed an area of the PAD, the 256 byte area of 16-bit scratch-pad RAM in the console, which it had no right to do. Strangely enough it wasn't consistent. Sometimes it would lock into a well behaved mode, and sometimes into ill behaviour. So I don't know whether ti is a DSR software problem, a disk controller hardware problem, or a combination of the two. It's a problem for the designer now. I have also had a brief look at Richard's Corcomp card and observed similar symptoms. This may not apply to all Corcomps as there have been a number of variations made to these over the years.

All I bothered looking for was the corruption of PAD just above >8300. This affects data stored by the Funnelweb editor in PAD for speed, and DM-1000 has workspaces in PAD for speed. Further this area is used in FORTH, and for Basic-XB assembly linkage, and I heard mention of troubles with some of these too. The TI specifications clearly state that a DSR is allowed to use only R0-R10 of the GPL workspace, and the 36 bytes from PAD+>4A (>834A in any 99/4a out there) to PAD+>6D with a few more PAD + >DA to >DF for non-interrupt routines. DSR routines may use more of the PAD while they are in control, but they must first save

the PAD area they use out to a roll-out buffer and restore the PAD area before handing back control. For example the Myarc disk controller uses a software intensive approach and for this to work both the code and the workspace must be in PAD, so the Myarc disk DSR saves and restores the area of PAD used. Another such example is the GPL bit reversal routine in the console.

So the conclusion is that the problems arise, not because of the programs being run, Funnelweb or DM-1000, but because the Sydney AT card and some Corcomp cards at least, violate TI system standards under some conditions of use. I understand the AT card was developed along the lines of the Corcomp, so it is not perhaps surprizing they share a design flaw. Dave Allen and Tom Spillane found something like this with all the RS232 cards while developing the AVPC. The TI RS232 contained an essential bug in interrupt handling, and both Myarc and Corcomp reproduced this bug exactly.

Software development here has mostly been on a much upgraded QD directory program for the AVPC system. This includes all the features of the SD in the Funnelweb editor for the AVPC, with a whole range of new features. The code size has expanded to 32 sectors from 14 in SD or 11 in QD. At present the program exists as a separate program file for development purposes, and integration into an AVPC edition of Funnelweb is a job for the future. It is giving me some ideas for a enhanced QD type of program for the regular 40-col version which would have to remain as a separate file. New features include full interface to the Funnelweb loading system, and direct loading with TI XB present of XB programs, both as program files and longer I/V 254 format. Also the file View allows full bi-directional scrolling, single or auto-repeat, by line or page, through Display files of any record length, and if the full VRAM is present, simultaneous viewing of two files (from independent 64K buffers large enough to hold almost any file encountered) on screen with independent scrolling. All or marked parts of a file may be printed out from buffer.

A largely complete version has been sent to Charlie Good in Lima OH for his May multi user group meeting. An earlier version was on the screen of John Paton's AVPC machine at the Newcastle Micro Show.

One decision I have come to of late is NOT to BUY a Geneve. This is distinct from the previous attitude of thinking that it would be a good idea but just not having gotten around to it. The reason for this is mainly the software and information situation. I find I am not alone in my perception that a small inner circle of software developers are trying to keep it all to themselves, and lock out anyone else from serious software developments. Didn't they learn a thing from TI's debacle ?? As far as I'm concerned they are welcome to play their own little games by themselves. Combine this with unstable and incomplete system software, and the small user base and it becomes a very unattractive proposition to get into as an outsider or new user. A pity perhaps, because a 9995 based machine would be interesting to get to grips with given all our 9900 experience. The only way for that machine to succeed is for Myarc to have a totally open system, and if they haven't done it by now, I can't imagine it will ever happen. As it is, the AVPC is extending the life of the 99/4a so well that I feel that I can afford to wait longer for an upgrade path to become clear. In Australia now the clear way to go at present for a home computer (as distinct from a office machine at home) is the Amiga A500. William has gone that way but I want to see what comes next.

One concern I have had is the heat dissipation on the Myarc RAMDisk. The 5v regulator is just mounted on the circuit board, not even on that large or heavy an area of copper. As a result the circuit board looked to be discolored by heat in that area. The TI cards also mount their regulators on the board but do seem to have a heat conduction path to the metal case and heavier copper foil on the board. The Myarc cards have only that crummy plastic case which is no help. I've been meaning to do something about this for some time

now, but it was only when I saw the heatsink on the AT card which bends back neatly over the regulator to have its main area parallel to the board, that I finally decided that now was the time. A little investigation showed you can't buy a neat one like that in Newcastle (the continuing story of life here) so I bent up a J-shaped one from sheet and installed it. It runs back parallel to the board to give some area and fits comfortably in the case. From what I remember of the Geneve board I saw I think an addition like that wouldn't do any harm there either. Myarc do seem to skimp on heatsinks. I might do something similar for the Quest RAMDisk because the heat sink vanes don't allow a cased card next to it which is a nuisance in a crowded PE box.

I have not yet heard back from anyone pointing out where the previous discussion on access to second RS232 cards was already well known, so I have another little item that surely must have been talked about out there before. I wanted to use <fctn-V> as a command key in QDAV and I realised I had never thought about what key-code it returned. No manual, even the keyboard and keycode section in the Basic manual which is my usual ultimate reference, defines it. The keycode returned turns out on two distinct consoles here to be >7F (decimal 127), the ASCII code for Delete. In all the character sets here it echoes to the screen as a blank, but there is no Delete action in either TI-Writer or Basic. The manual lists Delete (127) as a character returned by the key-board but doesn't define which key produces it. Does anyone know if it is not consistent across all consoles as <fctn-V> ?

BITS & PIECES

from
JOE WRIGHT

Did you read recently of the asteroid which nearly clobbered earth? If it had, arguments like, for example; my car is better than yours; my country is better than yours; the colour of my skin is better than yours; would be meaningless. It would also have definitely upset the large international monopolies to have no countries or people to rip off. Then just to cap things off those humans left after impact could have had a lovely big war to finish the job.

Are humans really so bad a bunch? events over recent years certainly don't give much encouragement. Here is a piece you might like.

"I decline to accept the end of man....I believe that man will not merely endure: he will prevail. He is immortal not because he alone among creatures has an inexhaustible voice, but because he has a soul, a spirit capable of compassion and sacrifice and endurance."

FAULKNER ---- Acceptance Speech for Nobel Prize in Literature 1949.

A LETTER FROM SIMON
****
How pleasing to receive a letter from the son of one of our out of town members. The member, Geoff Phillips lives at Henley Beach near Adelaide. Geoff was in Newcastle recently and made it to the Hunter Institute of Higher Education Computer Exhibition (HV99'ers had a stand, went well) but our paths did not cross I had to leave early to earn a crust. In the letter Geoff's son Simon tells me that he has recently had some good scores on Drive Demon. To those other people who have youngsters fiddling with their computers, please let me know what they are doing.

Fair dinkum! it gladens the heart to get a letter every now and

then, sort of encourages a bloke when the spirits are down. I feel safe in saying that everybody to a person who writes for this newsletter loves to get the occasional letter. Why not write one tonight to, Tony or Bob (Carmany) or Al or Brian or Jack (Sughrue) or Richard or me! any subject even the weather.

Reading recently that letter writing is an art which is slowly disappearing, no great shakes at it myself but we can't let that happen can we?

QED
***

Al Lawrence gave me s sneak preview of Ron K's lastest software for the QED 32k (Superspace) module. This software together with the module, a ram disc and Funnelweb is brilliant. ANY user of the TI 99/4a should have this combination in her or his machine the flexibility it gives the user is quite extraordinary.

MINI-MEMORY AGAIN
****

Hopefully within the next few months I will have time to start writing my own material. In the mean time here is another programme I have taken from a back issue of TIMES. Stephen Shaw over the years has written lots of articles. They all make good reading, the amount of time he must have spent putting them together should be acknowledge. This programme is from an article called SOUND. Once I untangle myself from my current project I will try to get Stephen's article into our newsletter. This programme turns your keyboard into a music player. As well as mini-memory the programme will run in EX. Basic with 32k.

```
100 M=-31744
110 FOR X=1 TO 10
120 READ R,S,T
130 L1(X)=R
140 L2(X)=S
150 A(X)=T
160 NEXT X
170 E=159
180 DATA 132,63,144,141,56,146
190 DATA 134,53,148,137,47,150
200 DATA 134,42,152,143,39,153
210 DATA 139,35,154,140,31,155
220 DATA 133,28,156,139,26,157
230 CALL CLEAR
```

```
240 CALL INIT
250 CALL SOUND(40,500,9)
260 PRINT "PRESS KEYS 1 TO Ø TO
PLAY"
270 PRINT "HOLD KEY DOWN TO SUSTAIN"
280 PRINT "OR HOLD SPACE BAR DOWN TO
   ACT AS A SUSTAIN PEDAL"
290 PRINT "YOU MAY PRESS NUMBER KEYS
   AT THE SAME TIME AS HOLDING
SPACE BAR DOWN"
300 CALL LOAD(M,E)
310 CALL KEY(3,K,S)
320 IF S=-1 THEN 310
330 IF S=Ø THEN 300
340 P=POS("1234567890",CHR$(K),1)
350 IF P<1 THEN 310
360 REM
370 CALL LOAD(M,L1(P),"",M,L2(P))
380 REM NOW WAVEFORM
390 REM A(1)=LOUD A(10)=QUIET
400 REM TRY; FOR T=1 TO 10 STEP 2
410 REM OR FOR T=10 TO 5 STEP -1
420 FOR T=10 TO 5 STEP -.5
430 CALL LOAD(M,A(T))
440 NEXT T
450 GOTO 310
```

Stephen makes the comment that if you find the sound a little "rough" then try the following.

```
420 REM
430 CALL
LOAD(M,A(10),"",M,A(9),"",M,A(8),"",M
,A(7),"",M,A(6),"",M,A(5),"",M,A(6))
440 REM
450 GOTO 310
```

PROGRAMMING IN FORTH
****

If you like me, have decided to learn Forth and then maybe write a programme, you will soon strike problems. Well, maybe -- you will, I did, my problem wasn't with learning the Forth language, although initially that isn't any push over either. The problem is that you soon run out of memory space as your programme expands. This is because of the limited memory available on our beloved TI's. When the Forth kernel only is loaded a bit over 16,300 bytes of free memory are available. This free space also includes space for the stack as well as you programme. As your stack deepens then free space decreases.

This is the first point I want to make. The words you will write for your programme should not leave any junk (ie unwanted) on the stack. You will of course have to leave

some things that you want to pass between words that's fair enough but don't leave junk. This is what I think the term a "clean stack" refers to. Leaving junk unnecessarily decreases the free space available .

The second point here is how deep you let your stack become inside a word. I have read some where that "good" programming practise will limit the stack depth to no more than 6 numbers. We I have to admit that at this point in my Forth programming endeavours I have got out to 8 on a few occassions. However that if my unofficial absolute maximum. I always try for no greater than 4 and manage to achieve that on most occasions.

The TI Forth manual Chapter 4 page 6 shows the memory map for high and low memory expansion. You will notice that the stack grows from HEX FF9F back into the User Dictionary space ie. into you programme.

Another problem I ran into which Richard Terry helped my with was where to put "things". By things I mean user screen, menus etc. Creating them as text inside the programme seemed to me to be an unnecessary waste of programme space. VDP memory has lots of unused memory when in text mode which can be used to store "things" in. Access is simple with VMBR and VMBW. Chapter 4 page 3 in the TI Forth Manual shows this free memory. A section from HEX 1400 to HEX 35D7 is unused. That is a total of HEX 21D8 bytes, 8864 decimal. You will probably want to use a bit of this for a buffer area for file handling, but the majority of it will remain. You could easily hold 5 or 6 full screen displays in this area. Since each screen will be 960 bytes decimal you save lots of programme memory space with each screen stored in VDP.

It would be a fairly simple matter to write a routine to shift either the data to the screen image table or move the screen image table to the data.

VARIABLES
Defining variables also takes programme space away from you. This

part now will no doubt have Forth purists fuming. On our limited TI a way has to be found around this problem. My answer is to simply define all my variables as constants placing them in the Disk Buffers area at HEX 2020 (chapter 4 page 6). From this point on though you have to manage your memory usage the same as anybody programming in assembly language would have to. Doing this removes from you some of the ease of programming which Forth offers, but! our machine is a special one off case. If I was programming on a VAX or a PC or Amiga with swags of memory then I would stick with what Forth offers because it makes life much easier. Doing what I have suggested makes life hard especially when you are testing words and editing screens as well. It is easy to mangle a screen, but the need for memory space is pressing.

NAMING
Naming of words you define is important. The words should have names with meaning. This will make life much easier for you when you go back to a programme after a time away from it. By the same token though the words should not be overly long. Each letter you add to the length of a name takes one more byte from your free space. I can assure you that finally you get down to counting bytes as your programme gets bigger and free space starts edging below a couple of hundred bytes.

MELBOURNE
****
Peter Gleed and his band of merry men are to hold another TI show. Great you can count me in again so long as my work commitment allows. Thoroughly enjoyed the last one Peter! I would love to pass through Rutherglen on the way down and get some more Buller's and Morris Port.

FINISH
******
That's it for this month, AGM next month. Hope you nominate for a job within the Group.

THE INFORMATION PAGE

IN YOUR NEWSLETTER THIS MONTH

Random Bytes   B.   Carmany
In the News - a round-up of TI happenings   B.   Woods
Programs That Write Programs   B.   Carmany
3 Quick Reviews   A.   Lawrence
The Funnelweb Report   T   McGovern
Bits n Pieces   J.   Wright

PLUS MUCH MUCH MORE!!!!!

COMING EVENTS
Next Committee Meeting: Tuesday 13th June, 1989
General Meeting: Tuesday 27th June. 1989

AGENDA FOR JUNE MEETING
Annual General Meeting

CLASSES AVAILABLE FOR MEMBERS
XB Learners Group Tuesday 20th June 7.00pm Warners Bay High.
FORTH Learners Group Tuesday 6th June - contact Joe Wright.

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)

ANNUAL SUBSCRIPTION NOW DUE

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

C#97

Mr R Carmany
1504 Larson St
GREENSBORO NC 27407
USA