# September 1984

# Sydney News Digest

## *i* inside information

The Texas Instruments Home-computer User's Group, known as TISHUG is a non profit, self supportive group of Texas Instruments computer owners and users. Information regarding membership and payment of dues should be directed to the *Secretary*, address below.

## DISCLAIMER

The Sydney News Digest (SND) is the official newsletter of TISHUG, and whilst every effort is made to ensure the correctness and accuracy of information contained therein, be it of a general, technical, or programming, nature, no responsibility can be accepted by TISHUG as a result of the applying of such information.

## THE NEWSDIGEST—

The SND is published eleven times per year (no January edition), by voluntry staff, from material provided by group members, other user-groups and other related sources.

Contributions and all correspondence (other than membership) should be addressed to the EDITOR, LIBRARIAN, ADVERTISING, etc., and submitted at the group meetings or posted to the appropriate person at the *general* address, below.

Copy for publication may be typed, hand printed, or be on tape or diskette media as files suitable for use with TI-WRITER (ie, DIS/FIX 80 or DIS/VAR 80). Please include sufficient information to enable the files to be read —filename, etc. Persons wishing to contribute on a regular basis should contact the editor who will make available a suitable public domain word processor program. *The copy deadline for an issue is the first Saturday of the month (ie, meetng date) prior to the month of publication.*

Any material, written or electronic, submitted to SND or Library Service is to be considered TISHUG property and to be used at the committee's discretion.

## SOFTWARE LIBRARY SERVICE

TISHUG operates a Public Domain Software Library, containing programs written by TISHUG members and from other user groups as well as miscellaneous public domain sources.
These programs are made available to members in two ways:-
> 1> by monthly issue – a selection of programs is made available at general meetings for a production/media cost fee.
> (See TISHUG SHOP column elsewhere for details of releases).
> 2> as a reward for members contribution to the activities of TISHUG by
> (a) submission of an original program (own work) members recieve three programs of their choice, and,
> (b) submission to SND, or other activity as the committee may otherwise determine, programs of the contributer's choice will be made available.

*As the Library is maintained on a voluntry basis, no individaul requests for software (other than for the above reasons) can be honoured at the present time.*

## COURTESY TO YOUR FELLOW TISHUGERS

When you strike a programing problem, require information, or just want to chat (modem or otherwise) please look at the clock before you pick up the 'phone! And always ask if it is a convenient time for your call.

## YOUR COMMITTEE

CLUB CO-ORDINATOR:
  Peter Varga          023897025
HON.   SECRETARY:
  John Robinson        028480956
TREASURER:
  Terry Phillips       027976313
LIBRARIAN:
  Terry Phillips       027976313
ASTNT LIBRARIAN:
  Andrew Nutting       026741853
FOUNDER/EDITOR:
  Shane Andersen    (W)02291631
PUBLIC RELATIONS:
  Cris Ryan            028480480
ADVERTISING:

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  Graeme Holliss       02992229
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## IMPORTANT TISHUG ADDRESSES:—

*General address*
*(for all letters*
*except membership)*

TISHUG,
PO BOX 595,
MARRICKVILLE,
NSW, AUSRALIA, 2204.

*Membership address*

The SECRETARY,
TISHUG,
PO BOX 149,
PENNANT HILLS,
NSW, AUSTRALIA, 2120.

*Monthly Meetings*
*first Saturday*
*of the month*

St. John's Hall,
Victoria Street,
DARLINGHURST.

## Secretary's Notebook with JR ⊤ISHUG

Hi! Great news we are still growing and it is necessary for us to increase the number of copies of this issue to 1200. Another month has passed and it is time to load TI-WRITER yet again....but wait a minute the display is now showing true lower case letters. Of course I have to remind all you lucky members who have purchased the original TI-WRITER software that William H. Barnlea, Texas Instruments' Manager of Home Computer Software has sent to all registered Users Groups three diskettes with enhancements for TI-WRITER, MULTIPLAN and the source code for TI-FORTH. He writes: "This will be the last letter you will be receiving from me, for next month I will be transferred to Dallas to begin working for TI's Information Systems and Services Group. I have enjoyed your newsletters, personal letters and phone calls. I wish you continued happiness working with your TI-99/4A." I am sure you will join me in wishing WHB success in his new job. In addition to the provision of true lower case letters, the irritating form feed while using the Formatter has been eliminated, and printer defaults in the Formatter can now be added. MULTIPLAN has been speeded up, plus auto-repeat is now available when moving the cursor around the screen. Any member wishing to upgrade may purchase a single disk for $5 to cover the cost of media and copying. It is a simple task to replace the appropiate files using your Disk Manager. Again the Forth Source Code is available for $10 (2 disks and documentation).

I recently paid a visit to IMAGIC at DEE WHY to see for myself what stock they now have on hand. I was pleasantly surprised to see that most titles were now available in good numbers. Included were over 4000 Extended Basic cartridges . The only problem titles are Mini Memory, TI-WRITER, and some of the older software such as Chess. Negotiations are underway with Control Data to have more software released for use with the PLATO module.

We held our 30th Co-ordinating meeting on Tuesday July 24th. We examined the monthly software from 6-6.30 and then continued business until 10.00pm. Unfortunately we have received notice of two resignations, Paul Mansell, Advertising Executive and Peter Lynden, Education Co-Ordinater. Greg Hope has kindly volunteered to take over the responsibilities of the Advertising Executive until the next election in November. Ian Docherty has agreed to join the Committee but we still need a replacement for Peter, who also had the role of Assistant Editor. Poor Shane was left on his own to prepare the August issue and it is absolutely essential that we find some helpers for this and future issues. For those of you interested in helping us please leave your name and telephone number on the answering service 8480956 or leave a message on the Bulletin Board.

I will give you a brief rundown of the business discussed at the 30th meeting. It was agreed that Tim Woolmer from Glebe would receive a $30 voucher for the purchase of software from Computerwave. You will recall Tim was our 1000th member. We intend to purchase a computer system for the Bulletin Board so that the service is available on a regular basis and Shane will be able to use his own computer at his convenience. I tried to dial the BBS without success last night as it was continually busy. We agreed to upgrade our tape duplicating machine and have spent over $1600 to purchase a 4 deck machine which will enable Terry to duplicate monthly and licensed third party software more efficently. We sold the old machine for $200 and have purchased a second hand KAGA Amber screen monitor, which you will have seen if you attended the August General Meeting. We have also purchased a 3M Portable Overhead Projector which will save rental costs in the future. New membership fees will remain at $30 so that the joining fee has been effectively reduced to $8. The renewal membership fee is now $22. If you have recently sent in your renewal and have paid only $20 we will change the month of expiry to one month earlier. A long

discussion took place around the question of third party software distribution. We finally agreed Challenger and Pewterware programs would be sold to members for $10 each or $25 for three. We rejected a proposed licensing agreement with Vaughan Software and we have therefore returned the code to this company. If any member wishes to purchase a Vaughan program it will be necessary to import it privately and be slugged by The Bureau of Customs.

Here is my solution to the password problem I posed two months ago:

```
1000 REM PLACE PASSWORD WITHIN QUOTES BY DEPRESSING
CONTROL KEY AT THE SAME TIME
1010 PWA=" "
1020 INPUT "ENTER PASSWORD: ":PW$
1030 IF PW$=PWA$ THEN 1070
1040 PRINT "PASSWORD INCORRECT YOU ARE
NOT ALLOWED TO RUN THIS     PROGRAM!"
1050 STOP
1060 REM XXXXXXXXXX IS FILENAME PICKED UP FROM LOAD
MENU
1070 RUN "DSK1.XXXXXXXXXX"
```

The best solution was submitted by Jim Peterson of TIGERCUB SOFTWARE, 156 Collingwood Avenue, Columbus. Ohio 43213. USA. :

```
120 FOR J=1 TO LEN(P$)
130 CODE=CODE+ASC(SEG$(P$,J,1))
140 NEXT J
141 PRINT CODE
142 BREAK
```

Now run the program, type in your password with the control key pressed . The number that prints out will be the sum of the ASCII codes of all the letters of the password as typed with control key down. Delete lines 141 and 142, then find a line in your program where a value is assigned to a variable name- preferably a very essential variable with a value that cannot be deduced from the program logic. Suppose the line is 1210 Y=64. If you used say POPSICLE as your password. the value of CODE is 1119. 64 multiplied by 1119 is 71616, so let's change line 1210 to read Y=71616/CODE.

Software Specialities Inc. PO Box 3304, Evergreen, Colorado 80439 write to us and advise that they have several new cartridges in various stages of completion. They would like our members to drop them a line and tell them what software you would like to see on the market. A copy of this newsletter will be sent to them and to start the ball rolling I would advise them that I see an urgent need for a decent database program, and an eighty column display.

SSI has recently released a cartridge called "MIDNITE MASON". You are the forgetful mason who has left his tools all over the building. You are back to collect your tools but the clock has struck midnight and the building is now haunted with various ghosts. You have to gather as many tools as you can before you become Ghostly Ghoulash!

The Australian Beginning advise rates have been changed to persuade customers to call after midnight! These are the new rates:

```
From 8.00 am to 5.30 pm....$11.50/hour
From 5.30 pm to 10.00 pm....$7.00/hour
From 10.00 pm to midnite....$5.25/hour
From midnite to 6.00 am.....$4.00/hour
From 6.00 am to 8.00 am.....$5.25/hour
```

I understand the usual 20% discount still applies to TISHUG members.
Times are evaluated as local Melbourne time whether it be Eastern Standard or Eastern Summer Time.

Unfortunately the minimum 50 cent charge is being retained for each call.

Ken Williams from Wahroonga writes: " I write this letter via my new BROTHER EP44 typewriter. This gem is a piece of electronic wizardry that has so many and unusual features which should interest those of you contemplating buying a printer. It is very compact and attractive, is Battery/Mains operated and can be used as a typewriter, 80 column printer, or a communications terminal via a modem. It can handle single or roll paper either plain or thermal. A built-in RS232 interface , 4K RAM with battery back-up is standard. Around four A4 pages may be stored at any one time. Many unusual type characters and symbols are available but 8 bit graphics are not possible."

Ken goes on to thank TISHUG for the $50 monthly software award. Ken wasn't at the August meeting but the members present voted him the winner for the month of August software competition.  Details of all recent entrants and winners are given in Terry's Column.

Running out of memory......

Happy Computing,

John Robinson.
Hon. Secretary.

CONTROL YOUR BASIC
BY DAVID STOREY
CHANNEL 99.

This month I will be talking about the GCHAR statement.

I will also include a short program to demonstrate how it could be used.

First let's look at the Syntax for the GCHAR:-

(CALL GCHAR(ROW,COLUMN,numeric-variable)

Because this is a sub-program we have to include the word CALL before you enter GCHAR part of the statement.

So now we have CALL GCHAR, then we place an open parenthesis.  The next part that you enter is the row (this is the row at which you need to be checking) this can be fixed or it can be a numberic variable.

Now we enter a comma followed by the column, this can also be a numeric variable.  So now we have the X-Position and the Y-Position.

The third part of the statement returns the ASCII code of the character located at the specifid location.

So now let's look at the program that will demonstrate this.  Keeping it as simple as possible.

```
100 CALL CLEAR *clear the screen
110 PRINT "PRESS ANY KEY FOR NEW CODE"
120 CHAR=CHAR+1 *starts char.  at 0 and increments by
one
130 CALL HCHAR(24,14,CHAR) *puts character (char) on
screen
140 CALL GCHAR(24,14,A) *finds ASCII code, puts it in
A
150 PRINT A *prints the ASCII code on the screen
160 CALL KEY(3,K,S)
170 IF S=0 THEN 160 ELSE 120 *check's for key pressed
```

Run the program and it will print the ASCII code number then the character on the screen.

You will note that I have started the character code at 1.  You might ask why, well although the basic book only shows characters 32 to 159 for basic, and 30 to 143 for Extended Basic you really have characters 0 to 255 the only thing is that in Basic you cannot use them.

If you would like to add this line into the program you can see how you can make a border around the screen.

```
105 CALL COLOR(1,2,7)
```

So now we know that CALL GCHAR(24,14,A) finds the ASCII code in row 24 column 14.

So how can we use this statement? This leads me to the reason I chose CALL GCHAR, I was asked by a member who was working on a program that would place large numbers on the screen.

The problem was that some of the number's were over lapping, wiping out part or all of the previous numbers.  This happened because the placement of the number on the screen were at random.

So I suggested the use of CALL GCHAR to check to see if there was a previous character at that location the new number was to be placed.

The program that follows shows how I did this.  I have just used blocks as the display, as to define the characters would take up to much space.

```
100 CALL CHAR(96,"0003070C18000000")
110 CALL CHAR(97,"0F1F3030303F3F00")
120 CALL CHAR(98,"00C0E03018181830")
130 CALL CHAR(99,"E0C0000000F8F800")
140 CALL COLOR(9,2,1)
150 CALL CLEAR
160 PRINT "PRESS ANY KEY TO SEE DISPLAY"
170 CALL KEY(3,K,S)
180 IF S=0 THEN 170
190 A=0
200 CALL CLEAR
210 RANDOMIZE
220 ROW=INT(22*RND)+1
230 COL=INT(30*RND)+1
240 CALL GCHAR(ROW,COL,PS)
250 IF PS<>32 THEN 220
260 CALL GCHAR(ROW+1,COL,PS)
270 IF PS<>32 THEN 220
280 CALL GCHAR(ROW+1,COL+1,PS)
290 IF PS<>32 THEN 220
300 CALL GCHAR(ROW,COL+1,PS)
310 IF PS<>32 THEN 220
320 A=A+1
330 IF A>30 THEN 160
340 CALL HCHAR(ROW,COL,96)
350 CALL HCHAR(ROW,COL+1,98)
360 CALL HCHAR(ROW+1,COL,97)
370 CALL HCHAR(ROW+1,COL+1,99)
380 GOTO 220
```

**SEAT OF
NATIONAL
GOVERNMENT
CANADA**

FILE PROCESSING
BY YVES ISABELLE
CHANNEL 99 CANADA USER GROUP

SPECIAL NOTES

1. If a file exists on a diskette as DSK1.WORDS and an
OPEN statement is executed with the open mode as OUTPUT
with the same file name as the one that already exists,
then the existing file will be lost on the first PRINT
to that file.
This can be avoided by using the UPDATE or APPEND
MODES.

2. When using relative file to store or retrieve
information, be aware of what I call FILE BLOWOUT.
This will occur when writing a record with a very high
record number. The computer ensures that there is a
record created from 0 to the highest record number
1000, then blanks and all the blanks require disk
space, therefore, your file will blow up in size to the
remaining available space on the disk.

3. A relative file, once created, can be opened as
sequential file. This means that records will be read
one after another starting with record 0.

4. Virtually all devices are considered as files when
it comes to passing DATA to and from them. Even the
console and the screen are files. They are
automatically opened the instant you select TI Basic or
Extended Basic. File number 0 has been reserved for
these two devices.

5. The default record length is as follows for various
devices:-
Diskette Files   80
Cassette Files   64
RS232            80
Thermal Printer  32

TYPICAL EXAMPLES

OPEN #1:"PIO" (This will output to the paralle IO
port)

OPEN #1:"PIO",SEQUENTIAL,DISPLAY,UPDATE,FIXED 80 (Same
as above)

Use default whenever possible, this will save space.

OPEN #1:"DSK1.DISKA.FILEB", RELATIVE,100,DISPLAY,
OUTPUT,FIXED 80 (This statement tell the computer to
scan all available disk drives for a disk named DISKA
and once found, it will establish a file by the name
FILEB. If that file already exists, it will be
overwritten, with random records of the FIXED 80
length.

OPEN #1:"DSK1.FILEB" this is equivalent to
OPEN #1:"DSK1.FILEB",SEQUENTIAL,DISPLAY,UPDATE,FIXED
80

INPUT AND PRINT STATEMENT

The syntax for input and print is as follows:-

PRINT [*file number[REC record-number]:][print-list]
INPUT [*file-number[REC record number]:][variable-
list]

These two statements are the only statements that can
extract or change the content of a file. The
file-number is always required unless you are inputting
via a keyboard or outputting via the screen. The REC
number is only required if you have OPENed the file as
RELATIVE. This REC is the extract record that you wish
to print to the file or input from the file.

MEMORIES-MEMORIES
BY TOM ARNOLD
CHANNEL 99

When you first purchased your 99'er you thought it had
16K of Random Access Memory (RAM), didn't you? How
wrong you were! In Basic the 99/4A computer has about
14K or 14536 bytes of usable RAM.

What happened to the other 2K you ask? Well it's called
"overhead", (or the amount of space required to
operate.

All computers use some RAM to operate their various
systems. In fact the 99/4A is relatively effecient in
this. By comparison the Commodore 64 has only 38K of
usable RAM. It requires 26K just to run itself!

As you add to you 99/4A you will use up additional RAM,
however, Extended Basic gives you a lot more ROM (Read
Only Memory) but you lose another half K of RAM.

A disk drive will cost you a steep price of 2K of RAM.
With Extended Basic your system is down to 11.5K! Now
you know why the 32K memory expansion looks so
attractive.

You can however regain 1K of RAM with the use of "CALL
FILES(1)". This is clearly explained in the disk drive
manual, but for some reason most people never read
them.

With the disk drive controller the computer sets aside
enough memory to use three files.

Since most of the time only one file is used, this
resevoir can be tapped. First, in command mode type:-
CALL FILES(1) <ENTER> then type:- NEW <ENTER>.

Your memory size will increase from 12K to 13K RAM.
When you add the 32K memory expansion, we expect a 48K
RAM computer (16+32) but again this isn't so.

Your operating RAM memory will be a total of 35.3K.
Unless you are generating large files you won't exceed
this anyway.

One last fact, in Basic the maximum size is 13K with a
disk drive and CALL FILES(1). As a Basic program
cannot access the memory expansion you will be unable
to run a program larger than 13K RAM.

With Large Programs your only choice is to covert the
Basic program to Extended Basic (Maybe it will already
run) or keep the program on cassette tape and operate
the computer without the disk drive.

The following table will give you a guide to the
various configurations and their respective available
RAM.

| | COMPUTER | WITH DISK DRIVE | DISK DRIVE & CALL FILES | DISK DRIVE & 32K RAM |
|---|---|---|---|---|
| B A S I C | 14536 BYTES 14K | 12448 BYTES 12K | 13480 BYTES 13K | 12448 BYTES 12K |
| E X T . B A S | 13928 BYTES 13.5K | 11840 BYTES 11.5K | 12876 BYTES 12.5K | 36328 BYTES 35.3K |

BASIC with DISK DRIVE, 32K RAM AND CALL FILES...
     13480 BYTES . . . 13K

EXT.BASIC with same ... 37364 BYTES . . . 36.3K

# SPACE

# EMPIRES

TO ALL INTENDING PLAYERS (OR THOSE WHO ARE PLAYERS BUT NOT YET ADEPT, AT THE GAME) THIS ARTICLE IS DIRECTED!!

WARLORDS ATTENTION!

THIS IS AN OFFICIAL COMMUNIQUE FROM THE REALM AND OFFICIAL TERRITORIES OF: "THE EMPIRE OF GOWFAR"!!

THE FOLLOWING IS THE CONVENTION UNDER WHICH ALL WARLORDS OPERATE, OR, FOR THOSE WHO JUST WANT TO KNOW HOW TO PLAY..... HERE'S HOW YOU DO IT.

FIRSTLY, LET US TAKE STOCK OF THE EQUIPMENT NEEDED, IF YOU INTEND TO PLAY BY MODEM (FOR THOSE WITHOUT MODEM, THE GAME MAY ALSO BE PLAYED BY MAIL).
1) TI99/4A KEYBOARD.
2) PERIPHERAL EXPANSION BOX.
3) TERMINAL EMULATOR CARTRIDGE(1 OR 2).
4) RS232
5) MODEM
6) PRINTER. WHILE NOT A NECESSITY, THE PRINTER IS, CERTAINLY, A VERY BIG HELP, ESPECIALLY WHEN THE PRINTOUT GETS LARGE.
7) BY THE TIME THIS ARTICLE IS IN PRINT, A "T.A.B." MEMBERSHIP WILL BE NEEDED, AS TELEBRAILLE (WHO RUN SPACE MPIRES) WILL BE DROPPING IT'S AUSTPAC LINE. FOR THOSE WHO PLAY BY MAIL, T.A.B. MEMBERSHIP IS NOT NECESSARY. FOR THOSE OF YOU LUCKY ENOUGH TO HAVE THE NECESSARY EQUIPMENT AND T.A.B. MEMBERSHIP, PLAY IS NOW POSSIBLE. FOR THOSE WHO DON'T, YOU MAY BE ASKING YOURSELF, AT THIS POINT WHETHER ALL THIS EXPENSE IS WARRANTED. OF COURSE, THIS IS, STRICTLY, YOUR OWN CHOICE BUT MODEM COMMUNICATION IS A REAL THRILL, FOR THOSE WHO CAN DO IT.
WHEN THIS ARTICLE IS PRINTED, THE WAY TO PLAY WILL BE TO LOGON TO T.A.B. AND THEN TYPE "MAIL/GAMES". YOU WILL THEN BE PUT IN THE TEXT EDITOR AND ASKED WHETHER YOU WISH TO "<O>RDER OR <J>OIN", YOU WILL

THEN BE ASKED YOUR GAME NAME, GAME NUMBER AND PLAYER PASSWORD. THEN, YOU WILL TYPE IN YOUR ORDERS OR JOIN A GAME

YOU ARE GIVEN A STARTING HOME WORLD AND THIS IS CAPABLE OF BUILDING 30 SHIPS, INITIALLY, WITH WHICH TO EXPLORE (AND CONQUER, IF YOU WISH) YOUR GALAXY. THERE IS PROVISION TO DECLARE A PLAYER AS AN ALLY, WHICH IS A WISE MOVE FOR NEW PLAYERS. USUALLY, THOUGH, IT TAKES AROUND 3 MOVES TO FIND ANOTHER PLAYER ON YOUR WORLDS, OR TO ENCOUNTER ANOTHER PLAYERS' WORLD. WHEN ENCOUNTERING ANOTHER PLAYER, ON YOUR WORLD, IT IS ALWAYS ADVISABLE TO LEAVE THAT PLAYER A MESSAGE (MAILED THROUGH T.A.B. AT THIS MOMENT, THOUGH THAT MAY CHANGE IN THE NEAR FUTURE) AND ASK HIM WHAT THE HECK HE IS DOING ON YOUR WORLD. SHOULD YOU RECEIVE NO REPLY, THEN IT SEEMS HE MAY HAVE DESIGNS ON YOUR EMPIRE. IT HAS HAPPENED THAT PLAYERS HAVE BEEN SHOT OUT OF THE GAME, DUE TO NOT TAKING NOTICE OF BUILD UP'S OF OTHER PLAYERS SHIPS IN THEIR REALM & THEN BEING AMBUSHED!! IF YOU LOSE ALL OF YOUR WORLDS, INCLUDING YOUR HOME WORLD, THEN YOUR EMPIRE IS NON-EXISTENT AND YOU ARE O-U-T!!!!!!!!!

HOWEVER, SO YOU UNDERSTAND HOW TO PLAY, MAYBE IT WOULD BE WISE TO HAVE A LOOK AT A SAMPLE PRINTOUT & DISSECT **IT.**

LET US LOOK AT PART OF MY PRINTOUT, FOR TURN 12:

```
W 203     (16,158,178) <GOWFAR>
(I=30,RMP=9,POP=169,HF=23,RMS=8
)
W217      (13,32,219) <CAPTIN>
(I=1,RMP=3,POP=26,HF=4,RMS=15)
          F22<GOWFAR>=3/3,M
F129->W13
```

**I WILL EXPLAIN THIS, FROM LEFT, TO RIGHT:**

W 203. THIS REPRESENTS THE NUMBER OF THE WORLD YOU ARE ON. IN THIS CASE, THIS IS MY HOME PLANET, WORLD 203.

(16,158,178). THESE NUMBERS ARE THE WORLDS TO WHICH YOU CAN SEND YOUR EXPLORATORY/COMBAT FLEETS. HOWEVER, BE WARNED THAT THE ADJACENT WORLDS (NUBERED) MAY BE HELD BY AN ENEMY PLAYER OR MAY NOT BE HELD BY ANYONE OR IT MAY BE A *** BLACK HOLE!! A SIMPLE WAY TO FIND OUT WHAT IS ON THE OTHER WORLD, WITHOUT ANYONE ELSE KNOWING YOU ARE THERE, IS TO SEND A PROBE SHIP TO REPORT ON THE PLANET, THOUGH THIS SHIP AUTOMATICALLY DESTROYS ITSELF, WHEN IT REPORTS. I WILL EXPLAIN LATER, HOW THIS IS DONE.

<GOWFAR>. THIS IS THE NAME OF THE PLAYER WHO, PRESENTLY, CONTROLS THE PLANET. SHOULD YOU WISH TO CAPTURE THE PLANET, YOU MUST SEND SHIPS IN EXCESS OF THREE TIMES THE TOTAL OF ALL OTHER SHIPS, ON THE PLANET.IF THE PLANET IS NOT CONTROLLED, THE NAME WILL APPEAR AS <>.

(I=30,RMP=9,POP=169,HF=23,,RMS=8). THIS LOOKS VERY CONFUSING, DOESN'T IT? WHAT THIS MEANS IS:
I=30. INDUSTRY=30, MEANING 30 SHIPS CAN BE BUILT, BY THE PLANET, DEPENDANT ON THE REST OF THAT LINE.
RMP=9. ONE OF THE DEPANDANTS! THIS IS "RAW MATERIAL PRODUCTION"=9 AND MEANS THAT 9 UNITS OF RAW MATERIAL WILL BE PRODUCED, BY THE PLANET, IN A TURN, WITH WHICH TO BUILD SHIPS.
POP=169. POPULATION ARE NEEDED TO PRODUCE RMP, SO, ON A CONTROLLED WORLD, THE POPULATION WILL INCREASE BY APPROXIMATELY 10%. FOR EVERY INCREASE OF 100 POP, THE RMP WILL BE INCREASED BY ONE, SO IF MY POP GOES UP ANOTHER 100, NEXT TURN, MY RMP WILL GO UP, BY ONE, MEANING I HAVE ONE MORE UNIT OF RMP, WITH WHICH TO BUILD A SHIP.POP CAN BE KILLED, BY AN ENEMY, BY THE ENEMY FIRING AT YOUR POP, BUT ONLY 2 POINTS ARE GAINED, BY THIS, BY THE ENEMY AND IT REQUIRES A FLEET OF TWO, OR MORE, SHIPS, TO KILL ONE UNIT OF POPULATION. SHOULD THE ENEMY KILL POP, HE IS LESSENING HIS CHANCES OF WINNING THE GAME BY REDUCING THE AMOUNT OF POP, TO PRODUCE RMP.

HF=23. THIS IS THE NUMBER OF HOME FLEET SHIPS ON THE PLANET. THESE SHIPS CAN ONLY FIRE AT ENEMY SHIPS. TO ENABLE EXPLORATION, OF THE GALAXY, THESE SHIPS MAY BE TRANSFERRED TO YOUR EXPLORATION/COMBAT FLEETS, PROVIDING THAT BOTH ARE PRESENT, AT THE SAME WORLD. OBVIOUSLY, AN ENEMY, WITH A FLEET OF 10 (WHICH IS A VERY SIZABLE NUMBER) WOULD BE DESTROYED, IN ONE TURN, BY MY HOME FLEET, ON THIS PLANET.

RMS=8.THIS IS THE STORE OF CURRENTLY UNUSED RAW MATERIAL, ON THE PLANET. I CAN BUILD 8 SHIPS, THIS TURN. ACTUALLY, AS THE RMP=9, I CAN ADD THE TWO OF THESE TOGETHER AND BUILD 17 SHIPS, IF I SO WANTED.

WHILE IT IS POSSIBLE, FOR MY PLANET TO BUILD 30 SHIPS, I CANOT DO SO, THIS TURN, BECAUSE I HAVE ONLY 8 RMS CURRENTLY AVAILABLE AND 9 TO BE PRODUCED, NEXT TURN. THEREFORE, THE AMOUNT OF RMS, ON ANY PLANET, INFLUENCES THE AOUNT OF SHIPS THAT CAN BE BUILT.

## TI.SHUG
### MONTHLY SOFTWARE AWARDS
**************************

Each month, we conduct a SOFTWARE COMPETITION, all entrants receive a selection of any three of their choice from the Library, and can, if chosen to be the winner of that month's contest, win up to $50 CASH...Here are the details--->

THE AWARD OF THE MONTH: For the best program supplied, which will have a value of $50 Entries will be limited to financial TI.S.H.U.G. members, and anyone can enter.

THE JUNIOR AWARD OF THE MONTH: For original entries by our YOUNGER SET under 18 members. These must be written by you, and MUST WORK (you loose points for program bugs - infact, that goes for all entries in every category). The prize will be $30 per month, unless JENNY of YOUNGER SET is conducting another JUNIOR SOFTWARE AWARDS, then the prizes could be even more in value.

ROOKIES AWARD OF THE MONTH: For any member of this group who has had his or her computer for less than 6 months. The prize will be $20.

Like all competitions, there are conditions and rules, which are as follows:
(1)The entry must be of your own work, not a copy of someone elses program.
(2)The program must run on any commercially available TI-99/4 or 4A equipment which is available in Australia.

(3)All entries are available for distribution as FREE CLUB SOFTWARE.
(4)Entries must be forewarded to our LIBRARIANS ADDRESS: P.O.BOX 595, MARRICKVILLE, N.S.W. 2204 or handed to TERRY PHILLIPS at the MONTHLY MEETING.
(5)The initial Judging panel will consist of three Committee Members, who have not submitted any entries for that contest.
(6)If this judging panel feels there is no entry of sufficient standard, or if the number of entries is insufficiet, they will defer judging for a month. This means Awards will only apply to good quality entries. If the panel has entries which have potential, but are not 'robust' and so are not suitable for distribution, they will advise the entrant and suggest possible modifications.
(7)The panel will select the 3 best entries in each class for presentation to the next MONTHLY MEETING. (YOU WILL THEN BE THE FINAL JUDGE). If there are more than three(3) outstanding entries in any group, they may, at their discretion increase the number.

(8)No one entry may win more than one award.

So, there you have it. You may have noticed, that over the past couple of months, there has been no judging of these awards. The reason is, that there has been very little responce. We don't want to believe that you have no talent for writing programs, and we are sure that you are interested in receiving all that wonderful money, SO, LET'S GET CRACKING and get those wonderful works of art you have designed, which you call a program.

IF YOU LOOK AT THE NEXT WORLD, I HAVE SHOWN YOU, YOU WILL SEE THAT IT IS OWNED BY PLAYER <CAPTIN>. YOU WILL ALSO SEE "F22<GOWFAR>=3/3,M". THIS IS HOW AN EXPLORATORY/COMBAT FLEET (ONE THAT CAN MOVE FROM WORLD TO WORLD) IS REPRESENTED, ON THE PRINTOUT. AS THIS WORLD IS NOT ONE, WHICH I CONTROL, I WOULD NOT HAVE RECEIVED A PRINTOUT, ON IT, IF MY FLEET HAD NOT EITHER STOPPED AT OR FLOWN BY THAT PLANET. THE "3/3,M" MEANS THAT I HAVE 3 SHIPS, IN THE FLEET (REPRESENTED BY THE FIRST 3), THE FLEET HAS, AT SOME STAGE, PICKED UP 3 RMS, FROM A PLANET, CONTROLLED BY ME AND THAT IT HAS MOVED (REPRESENTED BY THE "M") FROM ANOTHER PLANET, BUT DOES NOT TELL YOU WHICH ONE. THE "F129->W13" MEANS THAT FLEET 13 (NOT NECESSARILY CONTROLLED BY ME) HAS MOVED TO WORLD 13.

THE TWO MAIN THINGS TO REMEMBER ARE:
1) LOOK AT YOUR INDUSTRY; EG, I=30
AND
2) LOOK AT YOUR RMS; EG, RMS=8.
BOTH THE ABOVE ARE THE MOST IMPORTANT THINGS TO REMEMBER, INITIALLY. SHOULD YOUR HOME WORLD HAVE AN INDUSTY AND RMS OF 30, THEN YOU CAN BUILD 30 SHIPS, IN ONE TURN, ONTO ANY EXPLORATORY/COMBAT FLEET THAT HAPPENS TO BE AT THE PLANET AND TELL THE FLEET TO MOVE TO ANOTHER PLANET, ALL IN ONE TURN.
A WORD OF WARNING, DO not(!) GET MIXED UP, BETWEEN THE RMP AND THE RMS, AS I DID, IN MY FIRST GAME! THIS WILL LIMIT YOUR CHANCES OF WINNING.

AT THE TIME OF WRITING THIS ARTICLE, I HAD NOT HEARD BACK FROM JIM EADIE (THE SPACE EMPIRES OWNER) AS TO WHETHER I WAS ALLOWED TO PRINT A COPY OF ALL THE ORDERS AND THEIR MEANINGS, IN OUR NEWSLETTER, AS IT IS SUBJECT TO COPYRIGHT BUT WATCH FURTHER ISSUES, AS, IF I FINALLY DO GET THE OK, I WILL HAVE THEM PRINTED, AT A LATER TIME.

FINALLY, IF YOU SHOULD SEE A PLAYER NAMED GOWFAR APPEAR ON YOUR PLANET, PLEASE BE KIND TO ME!!

HAPPY EMPIRING!!!!!!!!!!!!

FROM GREG(GOWFAR)
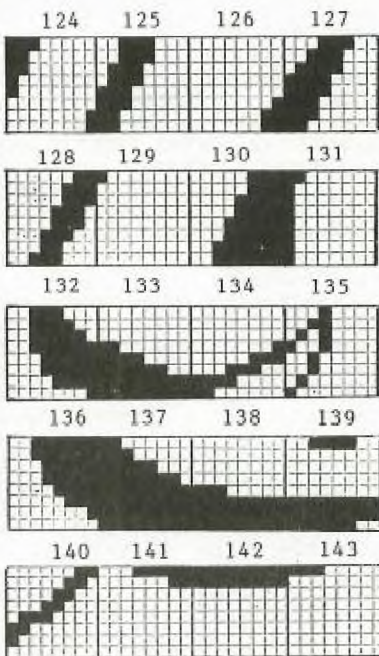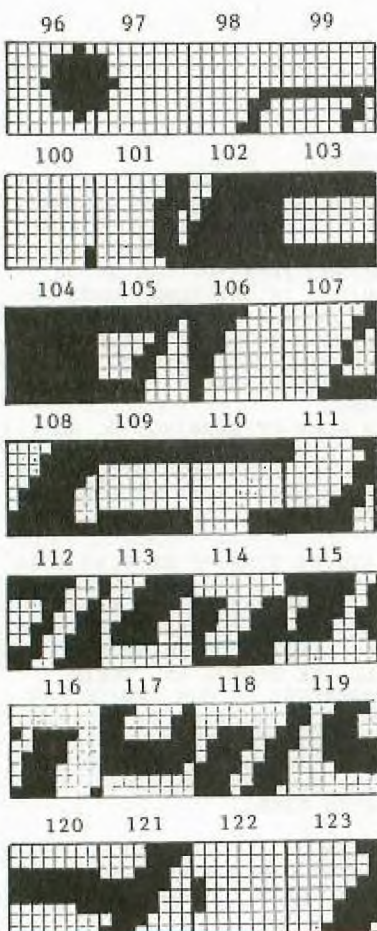
## LOGO EMBLEM
### by MIKE SLATTERY

Here is an interesting LOGO design for all those with TI LOGO to enter. Start by defining the tiles shown adjacent using the "MAKECHAR N" option where N in this program is 96 to 143. Each tile is defined separately. When the tile has been defined on the screen, use SHIFT BACK to store the tile in memory. Then call the next tile for defining.

When all tiles have been defined, type in the following program using the procedure option "TO (name)". I have used DESIGN as the procedure name. Type in "TO DESIGN", press ENTER and when the screen shows

        TO DESIGN
        END

press ENTER again and type in the program. Be sure to leave spaces between the letter and number groups otherwise you will get an error message.

When the program has been typed in, press SHIFT BACK and then type DESIGN and press ENTER. The design will then be drawn on the screen. Try changing both the foreground and background colors. Can you get the program to change colors while running.



96  97  98  99



100  101  102  103



104  105  106  107



108  109  110  111



112  113  114  115



116  117  118  119



120  121  122  123

---



124  125  126  127



128  129  130  131



132  133  134  135



136  137  138  139



140  141  142  143

```
TO DESIGN
CS CB 2
PT 96  14 9      PT 97  15 9
PT 98  13 10     PT 99  14 10
PT 100 10 11     PT 101 10 12
PT 102 11 11     PT 103 11 12
PT 104 12 11     PT 105 12 12
PT 106 13 11     PT 107 13 12
PT 108 14 11     PT 109 14 12
PT 110 15 11     PT 111 15 12
PT 112 16 11     PT 113 16 12
PT 114 17 11     PT 115 17 12
PT 116 18 11     PT 117 18 12
PT 118 19 11     PT 119 19 12
PT 120 20 11     PT 121 20 12
PT 122 21 11     PT 123 11 13
PT 124 12 13     PT 125 13 13
PT 126 10 14     PT 127 11 14
PT 128 12 14     PT 129 13 14
PT 130 10 15     PT 131 11 15
PT 132 12 15     PT 133 13 15
PT 134 14 15     PT 135 15 15
PT 136 10 16     PT 137 11 16
PT 138 12 16     PT 139 13 16
PT 140 14 16     PT 141 11 17
PT 142 12 17     PT 143 13 17
END
```



---

Try the following program if you have the memory expansion.

The CALL LOAD statement turns a bit or bits on or off at address >83C2. This address is located in the scratch pad RAM and is called the "INTERRUPT FLAG".

You must include CALL INIT before using a CALL LOAD. Here's a breakdown of this one byte flag.

| BIT | USE |
|---|---|
| 0 | ON DISABLE ALL OF THE FOLLOWING. |
| 1 | ON DISABLE SPRITE MOTION. |
| 2 | ON DISABLE AUTO SOUND PROCESSING. |
| 3 | ON DISABLE QUIT KEY (FUNCTION =) |
| 4-7 | NOT USED |

```
>83C2 = 33730
33730-65536=-31806

CALL LOAD(-31806,128)=BIT 0 ON
CALL LOAD(-31806,64)=BIT 1 ON
CALL LOAD(-31806,32)=BIT 2 ON
CALL LOAD(-31806,16)=BIT 3 ON
CALL LOAD(-31806,0)=ALL BITS
                          OFF
CALL LOAD(-31806,48)=BITS 23 ON
CALL LOAD(-31806,80)=BITS 13 ON
CALL LOAD(-38806,96)=BITS 12 ON
```

Now try typing CALL INIT :: CALL LOAD(-31806,16) and press quit (FUNCTION EQUALS). CALL INIT :: CALL LOAD(-31878,x) will allow x number of sprites to move. if x=0 then no sprites move.

```
100 CALL INIT :: CALL SCREEN(2)
:: CALL LOAD(-31806,64):: CALL
MAGNIFY(4)::CALL CHAR(64,RPT$("
F",64))
110 A=10 :: FOR I=1 TO 10 ::
CALL SPRITE(#I,64,I+2,I*16,110,
0,I*A) :: NEXT I
120 RANDOMIZE :: CALL PEEK(-318
80,B):: IF B<25 THEN CALL LOAD(
-31806,64):: A=-A :: CALL COINC
(#1,#2,30,C)ELSE 120
130 CALL SOUND(-100,660,(NOT C)
*30):: FOR I=1 TO 10 STEP 2 ::
CALL MOTION(#I,0,I*A,#I+1,0,I*-
A) :: NEXT I :: CALL LOAD(-3180
6,0):: GOTO 120
```





# IBM?

# What's Next
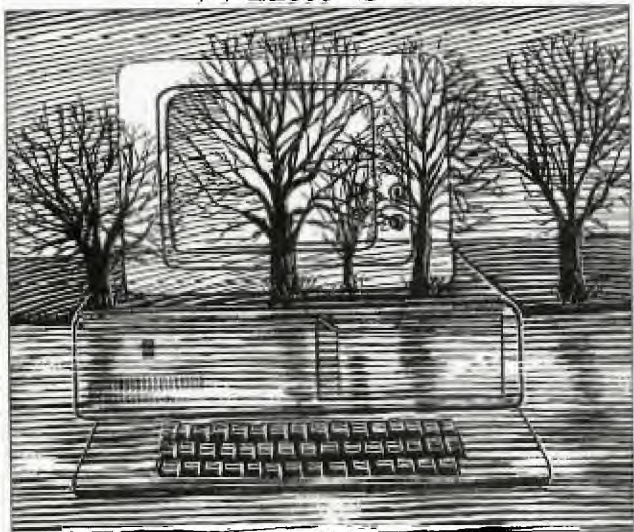


## Let's show you

REPRINT FROM AN ARTICLE BY KENNITH E. BURCHETT PASSED ON TO EDITOR LLOYD MAPLE ROCKY MOUNTAIN'S USER GROUP.

With today's vast computer market, it's not unusual for someone to have one kid of computer at home and a different one at work.

Having a TI99/4A of my own and an IBM PC at work soon made me want to adapt programs from the smaller unit to the faster machine.

Texas Instrument's decision to drop the TI99/4A and IBM's announcement of the PCjr was an added incentive to find a simple file-transfer method for these two popular brands.

### MAKING THE CONNECTION.

First, you have to connect the asynchronous communications support adapter on the IBM PC to the RS232C interface card on the TI99/4A.

You can use a direct cable or a telephone coupler (modem). If you use a cable, you can buy one or make one from bell wire and two DB-25 connectors - one male and one female.

The required pin connections are shown in FIGURE 1. Note that pin 4 and 5 on the IBM PC side are wired together to automatically turn on the clear-to-send input line.

This cable hookup successfully moves files from TI99/4A cassette storage to IBM PC disks and works equally well in disk-to-disk transfers.

The file transfer process is easier when you use the communications program in Listing 1.

Prepare a disk containing DOS, Basic, PCTICOM and the following AUTOEXEC.BAT file: Basic PCTICOM.BAS/C:16000.

A 16Kb buffer for receiving data is set aside to eliminate any possibility of a communication buffer overflow.

The size allocated may vary with the system, however, it needn't be larger than the memory of the TI99/4A to do the job. The maximum allowable is 32767 bytes.

One final note - some Basic program lines may be divided in the process of being translated, resulting in a Direct Statement in File Error Message when you try to run them.

Therefore, it's useful to include a copy of the EDLIN editor provided with MS DOS on the utility disk. I find that, with just a few changes, most programs written on the TI99/4A can be converted to run on the IBM PC.

In order to be transferable files, must be ASCII text files. Default storage for TI files is Display (the equivalent of ASCII code).

The PCTICOM program has all the necessary features of the asynchronous communications support program (ASCP) to control data transmission, with the added convenience of being able to control the print setup, and without the comparatively long initialization time required by the ACSP.

By configuring the IBM PC to the communication defaults of the TI99/4A and using the TI's simple List "RS232" command, you can accomplish the whole transfer process very quickly.

```
100 CLS :: LOCATE 4,12
110 PRINT"===============================PC TICOM========
===============" 
120 LOCATE 5,12:L=1
130 PRINT "Program to transmit text file from a TI99/4A
to an IBM-PC."
140 PRINT TAB(12)"File to be transferred must be in
TI99/4A memory"
150 LOCATE 7,12
160 PRINT "Use CTRL BREAK to interrupt PC processor,
CONT to continue."
170 PRINT TAB(12)"Use direct GOTO 100 to start over
after CTRL BREAK."
180 'By K. Burchett, January 1983.  Ref: J.C. Schmidt,
Microcomputing,
190 'November 1983, IBM Basic Manual, 1982, TI RS232
Reference, 1982
200 KEY OFF:CLOSE:LOCATE 9,12:ON ERROR GOTO 500
210 PRINT "==========================================
=================="
220 LOCATE 12,28:PRINT " 1.  Transfer File"
230 LOCATE 14,28:PRINT " 2.  Return To Basic(A)"
240 LOCATE 16,28:PRINT " 3.  Return To DOS"
250 LOCATE 19,14:INPUT Enter choice: ";C
260 LOCATE 20,1:CLS:ON C GOTO 280,540,560:GOTO 100
270 '
280 '=========================== Process File===========
=====
290 INPUT "Print transferred file on the screen (y or
n)";P$:PRINT
300 INPUT "Print transferred file on a printer (y or
n)";H$:PRINT
310 IF H$<>"y" AND H$<>"Y" THEN 340
320 INPUT "Number of lines per page
(continious=0)";L:P=1:PRINT
330 INPUT "Number of characters wide (maximum=255,
TI=28)"WI:PRINT
340 INPUT "Save transferred file on diskette (y or
n)";S$:PRINT
350 IF S$<>"y" AND S$<>"Y" THEN 380
360 PRINT "Enter filename for file to be received. Add
.BAS suffix if"
370 INPUT "file is BASIC program: ";FILE$:OPEN FILE$
FOR OUTPUT AS #2
380 WIDTH "lpt1:",WI: OPEN "COM1:300,0,7,,CS,DS,RS" AS
#1:CLS
390 IF P=1 THEN PRINT "Ready Printer"
400 PRINT "enter LIST RS232/1(in quotes) at TI99/4A
":PRINT
410 LINE INPUT #1,A$:IF LEFT $(A$,1)=CHR$(10) THEN
A$=MID$(A$,2)
420 IF P$="y" OR P$="Y" THEN PRINT A$
430 IF P=1 THEN 440 ELSE 460
440 LPRINT A$:CTRH=CTRH+INT(( LEN A$)/WI))+1:IF CTRH<L
OR L=0 THEN 460
450 PRINT:INPUT "Page change. Press ENTER to continue.
";D$:CTRH=0
460 IF S$="y" OR S$="Y" THEN PRINT #2,A$
470 FOR T=1 TO 3000:IF LOC(1)>1 THEN 410
480 NEXT T:PRINT :PRINT :PRINT "*****Transfer
completed*****"
```

```
490 CLOSE :FOR I=1 TO 5000:NEXT I:CTRH=0:CLS:GOTO 100
500 IF ERR=69 THEN PRINT "**Overflow**":RESUME
510 IF ERR=25 OR ERR=27 THEN 520 ELSE 530
520 INPUT "Device Error.  Check Printer.  ENTER to
continue.";K$:RESUME
530 ON ERROR GOTO 0
540 CLS:PRINT "End of session.  BASIC(A)
resumed":WIDTH"1pt1:" ,255
550 END : '======================================
===================
560 SYSTEM
```



```
Connect
to
TI-99/4A

    2
    3


    7

Male
DB-25
Connector

    2
    3
    4
    5

    7

Connect
to
IBM PC

Female
DB-25
Connector
```

fig. 1. Cable connecting the TI-99/4A and IBM PC

# TECHO TIME

WITH ROBERT

Mark Williams from Springwood has a mini-memory programme for operating a teleprinter through the cassette port. Mark can be contacted on (047) 51-3122. I also believe that a small fee may be involved.

I believe that Technical manuals will be available through the club soon. As these manuals are distributed by Imagic and also contain circuits of the Expansion Box and associated cards we cannot sell copies of these particular circuits until some arrangement can be made with Imagic about this matter.

Peter Schubert should have a working 32K memory card simple Modem card for the Expansion Box soon.

Anyone wishing to contribute articles or if you have a technical problem you can contact me (ROBERT) ON 602-4168 BETWEEN 5.00-8.30 PM or send a letter to

"TECHO TIME" P.O. BOX 595 MARRACKVILLE 2204.

For those Registered users of the new TI.S.H.U.G.BBS, I can now be contacted through this system as USERNAME: TECHOTIME.

```
10 !MAGNIFY - A THREE LINE PROGRAM BY CRAIG MILLER OF M
ILLER GRAPHICS
20 CALL CLEAR :: CALL CHARPAT(49,A$,50,B$,51,C$,52,D$):
: CALL CHAR(96,A$&B$&C$&D
$,100,RPT$("FEFEFEFEFEFEFE00",4))
30 DISPLAY AT(11,7)BEEP:"CALL MAGNIFY(1)" :: CALL SPRIT
E(#1,96,16,99,1,0,4,#2,10
0,2,100,1,0,4):: A=49
40 CALL KEY(0,K,S):: IF K<49 OR K>52 OR K=A THEN 40 ELS
E CALL MAGNIFY(K-48):: DI
SPLAY AT(11,20)BEEP:STR$(K-48)&")" :: A=K :: GOTO 40
50 !Simply press keys 1 through to 4 and see what it do
es -IN EXTENDED BASIC.
```

```
1 REM FROM CIN-DAY USER GROUP AND ED YORK
100 CALL CLEAR :: CALL SCREEN(5):: FOR A=1 TO 14 :: CAL
L COLOR(A,16,5):: NEXT A
:: CALL CHAR(42,"FF81BDA5A5BD81FFFF818181818181FF")
110 CALL CHAR(44,"8142241818244281242424FFFF242424")::
B=1 :: FOR C=1 TO 12 :: F
OR D=1 TO 32 :: CALL HCHAR(B,D,42):: NEXT D :: B=B+1
120 FOR D=32 TO 1 STEP -1 :: CALL HCHAR(B,D,42):: NEXT
D :: B=B+1 :: NEXT C :: E
=24 :: FOR F=1 TO 12 :: FOR G=1 TO 32 :: CALL HCHAR(E,G
,43)
130 NEXT G :: E=E-1 :: FOR G=32 TO 1 STEP -1 :: CALL HC
HAR(E,G,43):: NEXT G :: E
=E-1 :: NEXT F :: H=1 :: FOR I=1 TO 16 :: FOR J=1 TO 24
140 CALL HCHAR(J,H,44):: NEXT J :: H=H+1 :: FOR J=24 TO
 1 STEP -1 :: CALL HCHAR(
J,H,44):: NEXT J :: H=H+1 :: NEXT I :: K=32
150 FOR L=1 TO 16 :: FOR M=1 TO 24 :: CALL HCHAR(M,K,45
):: NEXT M :: K=K-1 :: FO
R M=24 TO 1 STEP -1 :: CALL HCHAR(M,K,45):: NEXT M
160 K=K-1 :: NEXT L :: GOTO 110
```

```
1 REM FROM CIN-DAY USER GROUP AND ED YORK
2 REM The same Pattern program, now in TI BASIC.
100 CALL CLEAR
110 CALL SCREEN(5)
120 FOR A=1 TO 14
130 CALL COLOR(A,16,5)
140 NEXT A
150 CALL CHAR(42,"FF81BDA5A5BD81FF")
160 CALL CHAR(43,"FF818181818181FF")
170 CALL CHAR(44,"8142241818244281")
180 CALL CHAR(45,"242424FFFF242424")
190 B=1
200 FOR C=1 TO 12
210 FOR D=1 TO 32
220 CALL HCHAR(B,D,42)
230 NEXT D
240 B=B+1
250 FOR D=32 TO 1 STEP -1
260 CALL HCHAR(B,D,42)
270 NEXT D
280 B=B+1
290 NEXT C
300 E=24
310 FOR F=1 TO 12
320 FOR G=1 TO 32
330 CALL HCHAR(E,G,43)
340 NEXT G
350 E=E-1
360 FOR G=32 TO 1 STEP -1
370 CALL HCHAR(E,G,43)
380 NEXT G
390 E=E-1
400 NEXT F
410 H=1
420 FOR I=1 TO 16
430 FOR J=1 TO 24
440 CALL HCHAR(J,H,44)
450 NEXT J
460 H=H+1
470 FOR J=24 TO 1 STEP -1
480 CALL HCHAR(J,H,44)
490 NEXT J
500 H=H+1
510 NEXT I
520 K=32
530 FOR L=1 TO 16
540 FOR M=1 TO 24
550 CALL HCHAR(M,K,45)
560 NEXT M
570 K=K-1
580 FOR M=24 TO 1 STEP -1
590 CALL HCHAR(M,K,45)
600 NEXT M
610 K=K-1
620 NEXT L
630 GOTO 190
```

```
85 CALL S      . 4)
90 CALL CLEAR
95 PRINT "THIS IS A GAME OF"
100 PRINT TAB(28);"RUSSIAN R
OULETTE"
105 REM TI-99ER VERSION
106 REM BY M.J. WRIGHT
110 PRINT
130 PRINT
135 PRINT "HERE IS A
(REVOLVER)"
140 PRINT "TYPE `1' AND PRES
S ENTER TO SPIN CHAMBER AND
PULL TRIGGER"
150 PRINT "TYPE `2' TO GIVE
UP"
160 PRINT "GO";
165 RANDOMIZE
170 LET N=0
180 INPUT I
185 DATA I
190 IF I<>2 THEN 220
200 PRINT "    CHICKEN!!!!"
205 GOTO 340
210 GOTO 290
215 INPUT N
220 N=N+1
230 IF INT(RND>(1)*.8333333)
THEN 270
240 IF N>5 THEN 310
250 PRINT "-CLICK-"
260 PRINT
265 GOTO 180
270 PRINT "BANG!!!!!!!YOU'RE
DEAD!"
271 CALL SCREEN(7)
280 PRINT "CONDOLENCES WILL
BE SENT TO YOUR RELATIVES"
281 FOR X=1 TO 500
282 NEXT X
290 CALL CLEAR
300 PRINT "***NEXT VICTIM***
"
301 FOR X=1 TO 500
302 NEXT X
305 GOTO 85
310 PRINT "YOU WIN!!!!!!!!"
320 PRINT "LET SOMEONE ELSE
BLOW HIS   BRAINS OUT"
330 GOTO 130
340 END
```

## The Communicators

The photogram seen here to the right of this column, is the BASE STATION of club member, and BBS USER:SWAVEK.

He is one of the many, who constantly uses our new TI.S.H.U.G.BBS, reading all the very latest news well before it gets to print in this publication.

If you havent used the BBS as yet, because you don't have a modem, have a chat with a member of the club who does, and ask if you can come on-line.

There are programs to down-load, News & Views, Jokes, WHO's WHO listing for Electronic Mail, Electronic Shopping, and many other features all waiting for you.

PLEASE NOTE: MESSAGE FOR BBS USERS...

THE HOURS HAVE BEEN CHANGED

As of Monday the 13th August, the TI.S.H.U.G.BBS changed it's hours of operation...

MONDAY:    7PM TO 7AM
TUESDAY:   7PM TO 7AM
SATURDAY:  7PM TO 12 MIDNIGHT
SUNDAY:    9AM TO 12 MIDNIGHT

Please remember that on the second week-end of each month, the BBS is turned off for the production of the SYDNEY NEWS DIGEST.

The hours have been changed for two reasons...Firstly, the system has been on all through the day, with hardly anyone using it. Secondly, It was felt that the new hours would be better, especially for those who can't get on during the peek times, and may want to try later on in the wee hours of the morning.

A special social activity is planned, for all Registered uses of this BBS, in an effort for you to better get to know each other, and hense start sending messages to each other on the ELECTRONIC MAIL section of this service. This social activity is planned or SEPTEMBER 22nd,at 6:30 pm.

please try to keep this evening clear. Software will be available for you to down-load, so bring a couple of blank disks,and some liquid refreshments. Light

refreshments will be available The meeting place will be a Shane's home in Marrickville, but you are asked to R.S.V.P by phone (w)291631 or on the BBS no later than a couple of days prior to this activity.

WHY DOES OUR SYSTEM CRASH SO EASILY?

Firstly let me mention that most other Electronic Bulletin Boards run on CP/M BBS SOFTWARE, and generally require harddisks like Winchesters (around 5 and 10 Megs).

I really believe that the author of OUR BBS (Rober Crago) has done a great job in providing us with the software that will run on our standard 48K TI-99/4A with 3 Disk Drives. He is constantly looking for ways to improve it, such as our new coming feature of the FIRST TALKING BBS IN THE SOUTHERN HEMISPHERE. But we do have our limitations, in that, the main menu program is written in TI-BASIC so that we can use the MINI-MEMORY ASSEMBLER software to assist with the Software Down-loading. And because TI-BASIC is there is no ERROR HANDLING such as ON BREAK etc. This is why it is important, at the moment (until we find a way to use the 128K card to it's fullest) for you to be very careful...

PLEASE REMEMBER:[1]...Do not use commas as they are used as a terminator in part of our software, use a back-slash '/'.
[2]...If you make a mistake, don't try to correct it with <CTRL>H, just simply carry on or identify the mistake with a couple of X's after it.
[3]...When you want to send Electronic Mail to some one, use CAPITALS to identify who the mail is to go to, and to end your letter, go to a new line by pressing <ENTER> or <RETURN> then place on that new line, two asterisks... ** followed by <ENTER> or <RETURN> key stroke.
[4]If this BBS doesn't ask you for your USERNAME, perhaps may simply show a blank screen, type your USERNAME then press the <ENTER> or <RETURN> key, and you'll be greeted with the main menu. and lastly: PLEASE DON'T STAY ON FOR MORE THAN 15 to 20 MINUTES PER CALL, GIVE OTHERS A CHANCE TO USE THE BBS. YOU CAN COME ON SOME OTHER TIME TO CHECK OUT ALL OF THE GOODIES.

Oh, I almost forgot, if you are using a friends computer, and it's not a TI-99/4A, don't try to down-load any software, it won't work. We use ASCII for the BBS, that means that anyone can use it. But the Assembly routine comes into effect for software down-loading, and is only compatable for the TI.

TI-USERS note:to use EVEN PARITY and FULL DUPLEX at your end with your Terminal Emulator.

VISITORS (on other brands of computers) use NO PARITY and FULL DUPLEX with 8 data bits.

THIS IS A LOT TO REMEMBER, SO I SUGGEST THAT YOU KEEP THIS NEWS SHEET NEAR YOU AND STUDY IT CAREFULLY.

```
10 REM   00000000000000000000
11 REM   0                   0
12 REM   0 Here is a HEADER 0
13 REM   0 in TI BASIC that 0
14 REM   0 you can add to   0
15 REM   0 own programs.     0
16 REM   0                   0
17 REM   00000000000000000000
50 REM   FROM MSP USER GROUP
100 CALL CLEAR
110 CALL SCREEN(8)
120 CALL COLOR(13,1,1)
130 CALL COLOR(14,1,1)
140 CALL COLOR(15,1,1)
150 PRINT TAB(10);"TI.S.H.U.
G";::::::::::"SKA 01-09-84"
160 A$="3C7EFFFFFFFF7E3C"
170 CALL CHAR(128,A$)
180 CALL CHAR(136,A$)
190 CALL CHAR(144,A$)
200 CALL HCHAR(1,2,128,30)
210 CALL HCHAR(24,2,128,30)
220 CALL VCHAR(1,2,128,24)
230 CALL VCHAR(1,31,128,24)
240 FOR X=2 TO 31 STEP 3
250 CALL HCHAR(1,X,136)
260 CALL HCHAR(1,X+1,144)
270 CALL HCHAR(24,X,136)
280 CALL HCHAR(24,X+1,144)
290 NEXT X
300 FOR X=1 TO 24 STEP 3
310 CALL VCHAR(X,2,136)
320 CALL VCHAR(X+1,2,144)
330 CALL VCHAR(X,31,136)
340 CALL VCHAR(X+1,31,144)
350 NEXT X
360 FOR FLASH=1 TO 24
370 CALL COLOR(13,15,1)
380 CALL COLOR(14,5,1)
390 CALL COLOR(15,6,1)
400 FOR DELAY=1 TO 10
410 NEXT DELAY
420 CALL COLOR(13,15,1)
430 CALL COLOR(14,6,1)
440 CALL COLOR(15,15,1)
450 FOR DELAY=1 TO 10
460 NEXT DELAY
470 CALL COLOR(13,6,1)
480 CALL COLOR(14,15,1)
490 CALL COLOR(15,5,1)
500 FOR DELAY=1 TO 10
510 NEXT DELAY
520 NEXT FLASH
```

First, thanks to all the patient shoppers at the TISHUG shop. I mean all you good members who queue for hours just to get your goodies. As you are all probably aware the SHOP is staffed mostly by my wife and son and of course me. May I enter a plea on behalf of us all? HELP!!!

PLEASE, PLEASE bring along your change, especially $1 coins and $2 notes. I make this plea because while we would like to be able to satisfy every request for change it is just not possible. The first $50 note presented just about takes the lot, hence my earnest plea for help. I know you can all do it and my wife,son and I will be for ever grateful.

## SEPTEMBER SOFTWARE(TAPE 16)

As a lot of members saw at the last meeting the Club has just purchased a new high speed cassette duplicator. In fact it is so fast that it astounds me! Would you believe that I can copy the entire contents of a C60 cassette in 2 minutes and that includes sides A and B. Well you had better believe it because that is what our new TELEX copier can do. Not only that but it does 3 cassettes at once. Testing on my own National RQ2309 indicates that the high speed duplicating is very compatable and loading presents no problems.

anyway to the point of this dialogue; this months tape contains 25 (yes 25) programmes. This is made possible of course by the very high speed duplicating of the new machine. All the programmes are in extended basic and are, I assure you, of very high quality. Included among them are the 2 great software entry winners by our master graphics supremo Ken Williams: PICTURE BOOK (SHIPS) and SOLAR SYSTEM as well as Joshua Vellings great adventure KRUL. Others to excite you include KRAZY KOALA, DR. DAVE, MONOPOLY and BAT ATTACK. The latter programme was written by one of our Adelaide colleagues while the remainder on the tape have been secured from overseas sources. I am sure you will find this tape the best yet issued. BAD LUCK disk users. This tape will not be released on disk as to do so would require about 3 diskettes. Therefore disk users will need to buy the tape and download to disk. A word of warning however. SOLAR SYSTEM - this version at least - cannot load nor run with DISK DRIVES etc. turned on. I do have a version available that will run and load from disk but it requires the 32K system.

GOOD NEWS disk users. So that you will not be left out I have something very special for you this month. Some of the best musical programmes you have laid your eyes upon will be available for the amazing cost of $5 (yes $5). This includes the most beautiful version of FIDDLER ON THE ROOF that you are likely to see. CASSETTE users please note. I cannot give out most of these programmes on cassette tape but for the next few months you will obtain at least 25 programmes each month on your tape.

## WHAT DO YOU WANT?

I have a problem! After each Club meeting I sit at home and scratch my head and think about what would you, the members, like on the next issue of club software. Sure I can give you games and adventures a plenty but I sometimes wonder is this what you want. Now I have a solution; I have here a game module (no name it's a surprise) The best letter I receive from a member telling me what I should do to improve software distribution, and/or what type of programmes should be included will win that module. Address your entries to the CLUB LIBRARIAN, P.O. BOX 595, MARRICKVILLE 2204. Entries will close on 30 September 1984 and the winner will be announced and if he/she is present at the November meeting presented with the module. As an incentive I understand that no one else in this country has this module.

## SOFTWARE WINNERS

Red Face Department: As our good Secretary pointed out to me at the last Committee meeting my column last month should have included the winners of the July software awards. My apologies to all the winners concerned. They were:

Junior: Joshua Velling for his excellent adventure - KRUL

Novice: Tom Cleary for his
        most charming -
        Wedding Anniversary

Open : John McDonald for his very usefull -
        Library Search

To each of these programmers goes our most hearty well dones plus of course the cash reward.

At the August meeting, by popular vote the winner was once again that maestro of graphics, Ken Williams who submitted his programme entitled PICTURE BOOK (SHIPS). Ken, the amount of detail you put into that programme, and the response from the members, means that you will be welcome to continue submitting those great programmes for a long time to come.

Well done to all the winners listed above and a special thanks to all who submitted their programmes. Unfortunately not all can be winners but don't let this stop you from trying again.

## SHOP SPECIALS

A special deal has been negotiated on MEMOREX disks. To members they are now only $28 per box of 10.

Disk file boxes (40 capacity) are also on special priced at only $25 each.

Home Computer Magazine has now been reduced to only $6 per copy. Ample stocks of the August issue are available.

The Clubs new policy on availability of items is: first come first served or in other words orders cannot be taken for goods. I hope that this does not upset too many members but I am sure you will appreciate that it is embarrassing in the shop to have goods on display but not for sale owing to them being reserved. Rest assured there will be plenty for all.

## THIRD PARTY SOFTWARE

At last it's on sale. We have:

WALLABY
HORRORS
ROLL FIVE
CHALLENGE POKER

||||■COMPUTER WAVE■||||

PTY LIMITED

325 George Street
(Near Wynyard Station)
Sydney
Phone: (02) 29 1631

All Correspondence to:
Box 268
G.P.O. Sydney
N.S.W. 2001
Australia

Over the past couple of year, we have been able to proudly support the Texas
Instruments Home Computer Users. We plan to continue supporting it with your
help, as long as there is T.I.SOFTWARE available.

( IMAGIC )( IT'S HERE )

## ALL NEW...*BUCKROGERS          SLYMOIDS        HOPPER

            *MOONMINE          *M.A.S.H        *STAR TRECK

            JAWBREAKER ][      *RETURN TO PIRATES ISLE

            SNEGGIT            MUNCHMOBLE       MOONSWEEPER

            FATHOM             MICROSURGEON   SUPER DEMAN ATTACK

All modules at $29.95 other than those marked with an asterisk which are
priced at $34.95 (TI SPEECH OPTIONAL MODULES).

Yes they are finally here, plus some of the best local 3rd party cassettes
like...

ALIEN WAR, COSMIC COMBAT, SENGOKU JIDAI, ANT WARS, KHE SANH, SHIPS,

TOWER, BACKGAMMON, XB CHESS, FREAWAY, TOAD, EQINOX, RACER,

RAINBOW PYRAMID all from between $15 and $18.

We also have the full BUSINESS SOFTWARE set ... TI-COUNT with

GENERAL LEDGER, ACCOUNTS PAYABLE, ACCOUNTS RECEIVABLE, PAYROLL, INVENTORY,

and MAIL LIST each at only $140.00.

WE ALSO HAVE PLENTY OF TERMINAL EMULATOR ][ 's & CICADA 300 MODEMS, PRINTERS,

COLOUR - GREEN and AMBER MONITORS.

PLUS, the largest range of other TI MODULES in Australia.

Come in and say hi! and check out our range.

Our TI SHOWROOM is located on the second floor of our 325 GEORGE STREET, SYDNEY
STORE, with staff who are TI USERS.

MAIL ORDERS ARE WELCOME, we have AMERICAN EXPRESS, BANKCARD, VISA, DINERS CLUB
and soon MASTERCHARGE. Phone us on (02)291631.

# Computer Wave
## 325 George Street, Sydney, 2000
## Telephone (02) 291631
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AUSTRALIAN COMPUTER RETAILERS ASSOCIATION

## more HUG shop

MATCH WITS
SNOW TREK
UP PERISCOPE
DECATHLON
GOBLIN'S REVENGE
BLUEGRASS SWEEPSTAKES

Wallaby, Horrors and Up Periscope require extended basic while the remainder run in normal basic

Price: $10 each or any 3 for
$25.

Remember we look forward to your support into this new venture by your club. This software is being sold under licence and we are bound by our agreement to pay royalties to the US copyright owners.

### OTHER ITEMS AVAILABLE

A few of the book Introduction to Assembly at $21 each - fewer still of the book Programs for the TI at $20 each - plenty of the Best of 99'er at $25 each - good stocks of Softex magazine No. 2 & 3 at $4 each and hopefully by the September meeting date a further 20 Cartridge Expanders (Widgets). Also available for the TI owner with a Version 2.2 computer is a GROMBUSTER which will enable you to run 3rd party modules such as those produced for the TI by Atari and Funware. $40 for the GROMBUSTER.

That's it for this month. PLEASE REMEMBER bring your small notes and change with you to the SHOP.

P.S:For those of you who ask yourself "Where is the Club Shop?" You will find us at the club meetings on the first Saturday afternoon of each month. If you cant makeit to those meetings, you can MAIL ORDER to the address provided above.

### SOFTWARE NEWS AND REVIEWS

**An occasional column by your Librarian - Terry Phillips**

All members will be pleased to know that the club software library now consists of 82 full disks of programmes. This represents approximately 800 separate programmes with more being added weekly as the list of overseas and interstate contact exchangees grows.  The latest to join with me in exchanging programmes is a young lady in Canada who has a list of programmes about the same length as ours. Many of these programmes I have not seen before. I confidenty anticipate that the club library will be in possession of at least 1000 programmes by the end of 1984,

Piracy Department: An overseas contact informs me that some "Super Pirates" have devised a way to dump TI and Imagic cartridges to disk and are giving them away. Some examples given in the letter are Buck Rogers, Demon Attack, Fathom, Hopper,Jawbreaker,Munchmobile Slymoids, Sneggit and Facemaker.

The contact also tells me that he is in possession of some unreleased TI programmes including TI Tennis, a Disassembler, a TI Disk Fixer (claimed to be superior to the one marketed by Navarone) and an extended version of TE2.

He goes on to say that he has just purchased a copy of a super adventure ZORK 1 which in his own words he describes as "fantastic" and "massive". Also now available in the States is something comparable to the Koala Pad. More information on this will be available later.

### REVIEWS - WALLABY & HORRORS

Wallaby - Imagine you're a wallaby stumbled into the basement of the Tasmanian Thing-a-ma-jig factory. How do you get out? Thats the secret of Wallaby a graphic extravaganza from Challenger Software. Poor old Wally has to jump, hop, slide and duck his way to safety. 4 . screens and 2 playing levels are sure to keep your interest for hours in this game which incorporates the best of Donkey Kong and Miner 2049'er.  Horrors - To be truthfull this one is not as good as Wallaby but it does hold some interest particulary with its colourful graphics.
The object of the game is to paint a haunted house while evading the clutches of some smart and dumb monsters. 16 different playing combinations should keep the young ones interested for quite some time.

Both Wallaby and Horrors require the Extended Basic Module and Joysticks and both are available from the club shop.

### WANTED

An Italian speaking/reading member who would care to translate some instructions on some programmes recently received from our friends in Italy. A reward of 10 programes from the library will be given. Any takers please contact Terry on (02)7976313.



**SYDNEY OPERA HOUSE - AUSTRALIA**

SOFTEX SOFTEX SOFTEX SOFTEX SOFTEX SOFTEX SOFTEX SOFTEX

## THE MAGAZINE

SOFTEX Magazine is published exclusively for **Australian** Users of the TI 99/4A Home Computer.
It contains news, programs, tips, articles of **interest** from here and overseas.
**Subscription Rates** : $5.00 (single copy), $25.00 (for 6 issues).

## HARDWARE

**AMUST 80DT Printer:** 80 cps, bi-directional, tractor or friction feed, 10" paper, character fonts include expanded, condensed, superscript, subscript, emphasized in normal or italics mode. User-definable characters and screen dump......A very versatile printer, with parallel interface as standard, RS232 available at extra cost.
SPECIAL AT $350.00
(including sales tax. **Freight extra $10.00.**)

**BROTHER EP-44 Electronic Printers-Typewriter**

A quantum jump in printer technology!
This portable, battery-powered unit can be used as a typewriter, but also has 4K of memory, and an RS232 interface.
So, type in what you want, anywhere, bring the EP-44 home, hook it into the computer, insert TEII and transfer the data into the computer.
Or, hooked up to the 99/4A via the RS232 Interface, use it as a printer. It's quiet, surprisingly fast, with a very high standard print quality. Use thermal or ordinary paper.
The best part is the price.....ONLY $350.00
(including sales tax. Freight extra $15.00.)
**BROTHER EP-5 Printer**

OR, the same as above **without the keyboard becomes the** new EP-5 printer, **which also has a parallel** port.......ONLY $280.00

## DISK DRIVES

Add a second Disk Drive to your Computer! Double sided, normal or slimline......Prices start at $280.00 (DS/DD Slimline) Power supply ($100.00) and Freight ($10.00) extra.

## SOFTWARE

Navarone Industries' Software is available through Softex.
   "Widget" Cartridge Expander allows three modules to be plugged in, reduces overheating problems, and lockups due to wear of the cartridge port. $60.00
   "Disk Fixer" allows you to access and change, if wished, any sector on your disk. $60.00
   "DBM Sort" is a module which allows fast sorting of file items. $60.00

SOFTEX Software! "Brickbat" is a fast, assembly language based game. On tape, with "Minimem" $12.00, on disk, with XBasic $15.00

SOFTEX Programs are now available on tape! Programs from Issues 1, 2 & 3 - Cassette tape...$12.00, Disk...$15.00
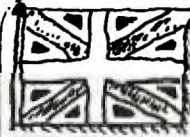
## BOOKS

"Programs for the TI Home Computer" by Steve Davis: A very comprehensive book of programs.....$25.00
"Introduction to Assembly Language for the TI Home Computer" by Ralph Molesworth...A graduated introduction to Assembly....$26.00.   Postage $2.00 ea.

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   WAYNE WORLADGE (03) 251832

---

FROM G.B. T.I. USERS

FROM TI*MES ENGLISH USER GROUP

POINTS FROM PRESTON

I'm not bragging, but I've owned 5 ZX Spectrums, 2 ZX81s and a TI-99/4a.

4 of the Spectrums and a ZX81 all died, but the Texas lives on!

I'll admit that I'm a bleary-Eyed computer-holic, tapping away most nights until 2 in the morning, drinking lakes of coffee, scribbling reams of notes and holding many conversations with my little mirco,

I haven't written many complete programs in the 5 years that I've been computing. I mainly write routines. All in all I would say that I've wrote 10 full, complete programs.

I like to see what other people have written and then I try and produce a better, faster, more efficient routine. But that was alright until recently when I realised that people and software houses were releasing these lesser programs onto the computing market.

And so I decided to go into the software business.

Machine-Code! Everybody wants programs in machine-code. I spent years learning to program efficiently in BASIC but now everyone wants a ZAP POW BLAST – EM – TO ..... wherever game. Everybody but the TI-99/4a owners.

That is the reason why I now own a TI, to produce good BASIC programs. I have found the TI-BASIC very easy to pick up, and although it has some peculiarities (which mirco doesn't!) I like it.

I wrote a small routine for the ZX81 and have now converted it to run on the TI. I must stress that this is a "ROUTINE" which could be incorporated into a larger program.

It simply tells what day is on a given date. There is no error-trapping routine and so by inputting a false date, such as 30 Feb 1984, a day will be given. Here it is:-

```
10 CALL CLEAR
20 INPUT "DAY NO? ":D
30 INPUT "MONTH NO? ":M
40 INPUT "YEAR? ":Y
50 C=INT(Y/4)+1-((Y/4=INT(Y/4))
*(M<3))+Y*365+VAL(SEG$("00003105
909012015118121224327330434",M*
3-2,3))+D
```

```
60 PRINT ::SEG$("THUFRISATSUNMO
NTUEWED",(C-INT(C/7)*7+1)*3-2,3
);D;".";M;".";Y::::
70 GOTO 20
```

The day number will be between
1 and 31, the month number
between 1 and 12 and the year
should be 4 digits, E.G. 1984.

I haven't really a lot more to
say in this issue but I hope
that I can write for the next.

But before I sign off - all of
you budding programmers when
you have written a routine or a
program, take another look at
it and think "Is that the
fastest way of doing it, or
could it be done another way?"
and also "If somebody were to
look at the program for the
first time would they know what
it was?"

If anybody would like to write
to me - I live at:-

35 Parker street, PRESTON LANES
PR2 2AH.

**PAUL K. DUNDERDALE.**

Dear Shane,

NATIONWIDE U.K. USERS GROUP.

Many thanks for your letter and
the newsletters which we found
to be very interesting and a
wealth of information just
can't wait for your next
issues. If you think there is
a problem with future copies
being sent to us you must let
me know.

I note from your recent
newsletter JULY, that you are
not well informed as regards
the U.K. Nationwide TI-Users
Group. We are the only ACTIVE
group.

To put the record straight PAUL
DICKS sells Users Groups
software (at a price???). Paul
handed over his "TI-HOME" to a
PUBLIC RELATIONS COMPANY in
MAINENHEAD England, Last Year
in September '83.

This so called "TI-Home Users
Club" have not published a
newsletter since FEBRUARY, its
now July and many TI users
wonder what has happened.

Now we know why TI 99/4A owners
loose interest here. As
regards Paul Dicks he keeps all
the Users Groups Programs and
sells them to anyone claiming
to be a member of TI-Home. Is
this good for genuine TI users?

Anyway we are trying hard to
keep TI Users sane and with the
help of all GENUINE Groups the
TI 99/4A will live on.

Before I sign off does any of
your members own a GEMINI-10X?

---

If so can they help us
understand how one can
translate the download feature
so that the graphics can be
used.

The manual is difficult to
understand. Please if any one
knows how "ESC*1n1n2m1m2...."
can be Translated in laymans
terms. I would be grateful to
get in touch.

Once again we hope this finds
you all very well.

Looking forward to your early
reply.

Kindest Regards to you all Down
under.

CLIVE SCALLY.
TI99/4A EXCHANGE, (U.K.)
TI.USERS GROUP.

ON BEHALF OF OUR MEMBERS, I
TAKE THIS MOMENT TO SEND YOU
GREETINGS, CLIVE, AND ALL
THOSE IN YOUR NETWORK OF TI
USERS IN THE U.K.
I WAS BORN IN THE CITY OF
BATH, THEN IN SOMERSET. BUT I
UNDERSTAND THE THE COUNTIES
HAVE SINCE BEEN CHANGED.

TO OUR READERS HERE IN
AUSTRALIA: IF YOU WOULD LIKE
TO WRITE TO THIS GROUP, THEY
CAN BE CONTACTED AT...
40 BARRHILL, PATCHAM, BRIGHTON
EAST SUSSEX, BN1 8UF, ENGLAND.

THEY PRODUCE A 47 PAGE BOOK
THE CALL A NEWSLETTER, FILLED
WITH SOME VERY INTERESTING, IN
DEPTH MATERIAL.
                    Shane.
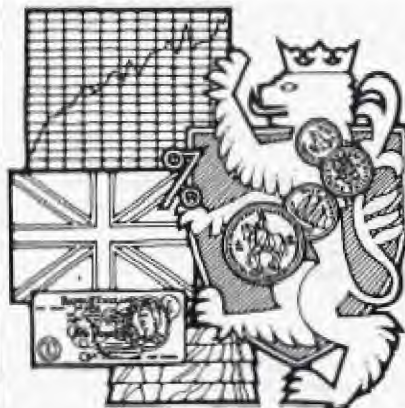
```
10 !REBOUND - A THREE LINE P
ROGRAM BY CRAIG MILLER OF MI
LLERS GRAPHICS
20 CALL CLEAR :: CALL COLOR(
2,5,5):: FOR R=4 TO 23 :: CA
LL HCHAR(R,3,40,28):: NE
XT R :: A,R=38 :: B,C=25 ::
CALL SPRITE(#1,35,16,C,C,R,C
)
30 CALL POSITION(#1,Y,X):: R
=R+76*((Y+R>200)-(Y+R<-1))::
C=C+50*((X+C>250)-(X+C<
-1)):: IF A=R AND B=C THEN 3
0
40 CALL MOTION(#1,R,C):: CAL
L SOUND(-60,-2,9):: A=R :: B
=C :: GOTO 30
```

---

```
100 REM BY ED YORK CIN-DAY U
SERS GROUP
110 CALL CLEAR :: RANDOMIZE
:: FOR A=66 TO 93 :: CALL CH
AR(A,"FFFFFFFFFFFFFFFF")
:: NEXT A :: FOR B=5 TO 8 ::
CALL COLOR(B,INT(14*RND)+2,
INT(14*RND)+2):: NEXT B
120 FOR C=1 TO 24 STEP 2 ::
FOR D=66 TO 93 :: DISPLAY AT
(C,D-65)SIZE(-1):CHR$(D)
:: NEXT D :: FOR E=93 TO 66
STEP -1 :: DISPLAY AT(C+1,E-
65)SIZE(-1):CHR$(E):: NE
XT E :: NEXT C
130 FOR B=5 TO 8 :: CALL COL
OR(B,INT(14*RND)+2,INT(14*RN
D)+2):: CALL SCREEN(INT(
14*RND)+2):: NEXT B :: GOTO
130
```

```
50 REM FROM MSP USERS GROUP
100 RANDOMIZE
110 CALL CLEAR
120 CALL SCREEN(2)
130 FOR X=1 TO 12
140 CALL COLOR(X,15,1)
150 NEXT X
160 PRINT TAB(10);"TI.S.H.U.
G": : : : : : : :"SKA 01-0
9-84"
170 FOR STARS=1 TO 100
180 ROW=INT(RND*24)+1
190 COL=INT(RND*32)+1
200 IF ROW<>11 THEN 240
210 IF COL<10 THEN 270
220 IF COL>20 THEN 270
230 GOTO 180
240 IF ROW<>23 THEN 270
250 IF COL>14 THEN 270
260 GOTO 180
270 CALL HCHAR(ROW,COL,42)
280 NEXT STARS
```

```
50 REM SPRITE FEVER BY BOB G
AGLE CIN-DAY
100 REM SINE-WAVE SPRITE
110 REM WRITTEN BY
120 REM BOB GAGLE
130 REM PRESS Q TO START THE
MOVEMENT
140 REM CIN-DAY USERS GROUP
150 CALL CLEAR
160 CALL MAGNIFY(2)
170 DIM A(30)
180 FOR B=1 TO 30
190 READ A(B)
200 NEXT B
210 DATA 0,-4,-8,-12,-16,-20
,-24,-28,-24,-20,-16,-12,-9,
-4,0,0,4,8,12,16,20,24,2
8,24,20,16,12,8,4,0
220 CALL SPRITE(#1,42,5,89,1
20)
230 CALL JOYST(1,C,D)
240 CALL KEY(1,F,G)
250 IF F=18 THEN 260 ELSE 23
0
260 CALL POSITION(#1,H,I)
270 FOR J=1 TO 30
280 IF I>239 THEN I=1
290 CALL LOCATE(#1,H+A(J),1+
J)
300 NEXT J
310 GOTO 230
```

## REGIONAL NEWS

### A report of meetings and times of our Regional Home Groups around Sydney and New South Wales.

#### NEWCASTLE REGIONAL NEWS

NOTE: Our new headquarters are now situated at the OLD COUNCIL BUILDING MAIN ROAD, SPEERS POINT.

Next get together will be held on 11th September 1984.

COME AND JOIN US!
Basic tutorials will be held every Tuesday evening at 7pm.

General meetings will be held every second Tuesday of the month. Lectures, demos etc. will continue on a regular basis at the same time as general meetings.

SEPTEMBER DEMO'S
How to expand, care and maintain the T.I. and Disc Drive. This is being repeated due to popular demand, compliments of Chris Ryan. Neil Sakac's Assembly Group is now running and free of bugs. If you would like to learn Assembly see Neil.

QUESTION FOR THE TECHNICAL MINDED
Has anyone had success in putting the Dick Smith V.H.F. Modulator (3 Pin) with the T.I. Modulator U.H.F. (4 Pin) in parallel with a switch between, to enable you to use either one? Lots of people in this area would like to adapt this to their set up.

Many thanks go to G.Wright for the demonstration of the HITACHI PEACH, Mr & Mrs Taylor for the logo demo, Tim Watkins for Educational Software (this will be available soon, details to be announced).
Hope to see a large attendance at the September meeting.

PETER C.

#### LIVERPOOL REGIONAL REPORT

Only a small group of users attended the meeting on July 14th 1984 at Stan Puckle's place in Campbelltown, however, there were a number of people who telephoned to apologise for being unable to attend.

A report was given of the good news received from the July Sydney Meeting regarding the future availability of peripheral and the proposed release of a new T.I. computer by Cor-Comp.

One of the newcomers to our meeting, Phil Rosso, discussed what he considers to be practical application of using his T.I. computer for controlling his swimming pool filtration system.

Maybe there is another member who has some ideas of this application and would like to discuss them with Phil.

A demonstration of Super Demon Attack was well received, with everyone wanting a go at getting the Demon.

It would be appreciated if all interested users could attend the September meeting to discuss the formation of a Regional Committee and suggest ideas of improving the needs of the regional members.

Dates of coming meetings are:-

Sat 8th September 1984. 1pm.
Norm Norton.
3 Glenavy St, Wentworthville.
Phone: 631-5852.

Sat 13th October 1984. **1pm.**
Bill Kirkpatrick
1 Jane St, Smithfield.
Phone: 604-7420.

Sat 10th November 1984. 1pm.
Ross Hardy.
15 Excelsior St, Merrylands.
Phone: 637-6772.

Please contact above members or Stan Puckle (046-256157) a week before meeting to advise whether able to attend.

#### MARRICKVILLE REGIONAL NEWS

Well, we conducted the Judging of our local DRAW THE TISHUG EMBLEM Contest. We had about 6 entries, and everyone of them was a faithful reproduction of that emblem. So, we had to judge the entries on the length of the program, the smallest being the winner. The prizes were books on programming and Gift vouchers to the value of $30 each, supplied by COMPUTER WAVE P/LTD.

The winner was Mike Slattery. He also designed a program which could be used to draw anyting your heart desires, with the option to save that picture as a file which could then be added to any other program. We suggested that Mike submit that program to the Monthly Software Awards Competition which the club conducts every month.

Our next meeting will, once again be held on the first WEDNESDAY EVENING of the month...5th September (7:30pm) for more details, ring Shane on (w)02.291631.

Usually programs are given our to members of our Regional Group from Shane's huge collection of Software. At the last meeting, he was unable to do so, due to his collection being updated and re-sorted by Steven Williams. Steven has had one hell of a job, running every single program, storing them on new diskettes in an order which Shane could, with ease, locate any program. Over the years, that collection has got out of hand with over 1500 program titles. A special thanks goes to Steven for the job he has been doing in this regard.

#### NEPEAN REGIONAL REPORT:

Attendence at the Nepean Regional Group meeting have consistantly been in the 20 plus mark, with a steady growth rate of 3 or 4 new members each meeting. The support and effort by members to attend in the cold, wet winters nights is incouraging to the Co-Ordinators, and we shall endevour to keep the meetings interesting and informative to te varied age and multi-interest group.

If any TI.S.H.U.G member who lives in the Nepean area wishes to attend our next Regional meeting, they are most welcome.

A new activity this month was the modification of the home use tape. In some cases, programs have been extensively modified. Our members now have bills (with items like "HOUSE PAYMENTS", Diet-rite (16k version) and Income Tax (using te 1984 Tax scales, this project was most welcome to those who missed out on this tape.

Meetings are held at the Nepean Police Citizens Boys Club, 106 Station Street, Penrith, on the 1st and 3rd Mondays of each month at 7 pm through to 9pm.

For information please phone MAL TUDOR (047)333673 or MEL COPELAND on (047)351340.

#### BANKSTOWN REGIONAL GROUP

David and Paul conduct their Banstown Regional Group at 15/479 Chapel Road, Bankstown. If you live in or around this area of Sydney, why not give them a call, and plan to be at their next meeting...on the 3rd Sunday of the month.
Phone 02.7084293 (weekends only).

#### CENTRAL COAST REGIONAL NEWS

FROM THE EDITOR: Unfortunately I was unable to print the following in last months News-Digest due to space. Russell Welham(Music Co-Ordinator) is the leader of this group.
ED.

T.T. CENTRAL COAST NEWS.
By F. Welham and Friends.
The meeting held on the
16-6/1984. With perfect weather,
(naturally) with attendance of 12
members.
        Topic's Discussed.

1.  Music Maker Module.
2.  Flatc.
3.  Logo.
4.     The full day workshop
    conducted by the Sydney Group
    was also discussed by the
    members who attended and
    enjoyed it.
5.    Program that John Goulton had
    modified. He has only had his
    computer 3 weeks & he changed a
    club program to ask questions
    about Inventors. The program
    is very good for a first
    attempt.
6.    As John works for a local
    newspaper, there was also a
    discussion on his use of
    computers to set type.
        Members in Attendance.

Russell Welham. Ebel Cummins.
Michael Cummins. John Goulton.
Kerry Lofthouse. Warren Welham.
Dennis Heathfield. Dave Burns.
Terry Holden. Shirley Welham.
plus Children.
and visitor Scott Bone.

The Central Coast Branch of the
Texas      Instruments    Sydney
Home-Computer   User's    Group
(TISHUG).        Meets       at
20 Avonlea Ave,   Gorokan, 2263,
043-924000 start time is 1:30 PM,
on the second Saturday of the
month, all welcome.

## BLAXLAND REGIONAL GROUP

The Blaxland regional group
had a very sociable meeting
on the second Tuesday of July
at Mark William's home in Sun
Valley. Mark is very clever
with computers and
electronics, and has
developed a way to drive an
ancient tele-type machine
using the TI Mini-Memory,

(IT WOULD BE NICE IF HE
SHARED THAT INFORMATION, AS
REQUESTED, WITH OUR TECHNICAL
GROUP, AND THIS PUBLICATION)
                    EDITOR.

It has limited potential (not
up to word processing yet!)
but was a graphic
demonstration of the power to
manipulate external devices
if one knows how to use
machine code.
We also had the first of our
talks on "problem areas",
namely arrays. This is not to
mention a very fine supper.
So those in the PENRITH-BLUE
MOUNTAINS AREA who haven't
come along yet, give me a
ring before the next meeting
and get more from your club.
    Yours Sincerely,
    ROBERT VINES.

## Letters to the Editor

Dear Shane,
I have just recently received
from friends in the U.S.A a
belated birthday gift of a
SHUGART SA405 disk drive and
I have some questions that I
hope you will be able to
answer.
Firstly, I would like to know
if this drive is compatable
with the /4a (I don't have
the Expansion Box), and
secondly can this drive be
attatched to my computer
without the use of the PE
BOX. If som how is this done.

Sincerely,
Malcolm Hughes.


HI MALCOLM,
THANK YOU FOR YOUR LETTER. A
DISK DRIVE CANNOT BE PLUGGED
INTO THE TI-99/4A WITHOUT A
CONTROLLER CARD. THIS MEANS
THAT YOU WILL HAVE TO
PURCHASE THE NEW MINI CORCOMP
PERIPHERAL BOX THAT WE
OFFICIALLY UNVEILED AT THE
LAST CLUB MEETING. THERE IS
EVERY POSSIBILITY THAT YOUR
NEW GIFT FROM THE STATES WILL
WORK ONCE YOU MAKE THAT EXTRA
PURCHASE.
SINCE THAT THE NEW CO-COMP
BOX IS DUE OUT SHORTLY, WE
PLAN TO FIND OUT JUST HOW
MANY DIFFERENT TYPES OF DISK
DRIVES WILL WORK ON THIS
UNIT. I DO KNOW THAT THE
SHUGART DRIVES FROM TI SHOULD
HANDLE THE DOUBLE DENSITY
CONTROLLER IN THIS NEW BOX,
AND I UNDERSTAND THAT IMAGIC
ARE TRYING TO BRING THE PRICE
OF THESE DRIVES DOWN.

CHEERS FOR NOW,
SHANE.


Dear Sir,
I need help to get the most
out of my TI-99/4A. We bought
the TI mainly for Educational
opportunities it afforded our
children (ages 8 and 3) and
myself.
        What I want to know
is, how do I go about
educating myself? I don't
know which literature is
going to help me to
understand or which is going
to confuse me. I have noticed
that it is extremely
difficult to find any
references to the TI-99/4A.
        The next problem I
have is in finding suitable
software, our choices seem to
be limited to games of one
sort or another. Can I buy
compatable software from
somewhere. I don't have a
disk drive.
        That brings me to our
last problem, my husband is
unemployed, so money is in
short supply. I would

appreciae it if you could put
me on the right track.
        Yours Truely,
        Mrs C.R.O'HARE.

HELLO CORINNE, WELL HERE
GOES..
    THE TEXAS INSTRUMENTS
HOME COMPUTER WAS BUILT WITH
EDUCATION IN MIND, AND HAS
THE LARGEST RANGE OF
EDUCATIONAL SOFTWARE, THAN
ANY OTHER COMPUTER. MOST OF
WHICH WILL SUIT YOUR
CHILDREN. WE RECOMMEND THAT
YOU CONTACT EITHER RADIO
DESPATCH IN BROADWAY.
OR COMPUTER WAVE, 325 GEORGE
STREET, SYDNEY, WHO HAS THE
LARGEST RANGE OF SOFTWARE FOR
THE TI IN THE SOUTHERN
HEMISPHERE. BOTH OF THESE
PLACES RUN ADVERTS IN THIS
PUBLICATION.
    UNIVERSITY CO-OP
BOOKSHOP HAS THE LARGEST
RANGE OF BOOKS FOR THE TI AND
THEY ALSO ADVERTISE HERE IN
THIS MAG.
    THIS CLUB CONDUCTS SIX
MONTHLY TUTORIALS, AND PRINTS
TUTORIALS IN MOST AREAS OF
PROGRAMMING WITHIN THESE
PAGES. THE CLUB ALSO HAS
TAPES OF ASSORTED EDUCATIONAL
SOFTWARE FOR ONLY THE PRICE
OF THE TAPE AND POSTAGE.
    WE ARE VERY LUCKY TO
HAVE A COMPUTER THAT, NOT
ONLY IS THE EASIEST TO LEARN
ON, BUT ALSO HAS THE CHEAPEST
SOFTWARE. MOST OTHER
CARTRIDGE SOFTWARE ON OTHER
COMPUTERS RANGE FROM $50 TO
$100, LIKE THE ATARI, AND
THEY HAVE LITTLE SOFTWARE FOR
EDUCATION. OURS RANGE FROM
$20 TO $40 EACH, DEPENDING ON
THE SUBJECTS.
    I FEEL THAT I SHOULD TAKE
THIS OPPORTUNITY TO MENTION
THAT SPEECH SYNTHESIZERS HAVE
ALSO JUST COME DOWN IN PRICE
AT ALL TI GUILD SHOPS FROM
$150 TO $99.00, AND THERE ARE
PLENTY IN STOCK AND ARE A
MUST FOR EDUCATION.
    I, ON BEHALF OF THIS
GROUP, HOPE THAT IT WON'T BE
TOO LONG BEFORE YOUR HUSBAND
FINDS HIMSELF A JOB, WE ALL
KNOW WHAT IT IS LIKE TO BE
UNEMPLOYED, AND IT'S NOT
NICE.
    B1 B1 4 NOW,
    SHANE,

SHOOT THE MAN DOWN
BY STEPHEN JOHNSON
CHANNEL 99

The principal of most arcade games is simply to shoot something.  Sounds very simple, but there are many hidden pitfalls.

Your bullet should leave the gun not jump off the ground beside it.  The bullet should destroy the target if it hits it.

It's all very easy.  BUT how is it done? In basic the greatest problem is speed, actually firing a bullet that walks across or up the screen has to be "PRINT" and "DELETE", it is inherently slow.

Subroutines should be short precise and use no "GOSUBS".

Below you will see two methods in Basic, one using the "CALL VCHAR" for the laser shot.  This method is the fastest.

In Extended Basic there are literally dozens of methods, even registering the hit has four or five methods.

Because of the limitation of space I will only show one method here.

All of the following routines could be installed into your programs, or you could write a program around one or more of them.

```
100 REM SHOOTING EXAMPLE
110 REM FOR CHANNEL 99 USERS GROUP
120 REM T.I. BASIC
130 REM BY STEPHEN JOHNSON
140 CALL CLEAR
150 CALL CHAR(129,"18183C3C7EFFE766")
160 CALL CHAR(136,"00000000187EFF66")
170 CALL CHAR(137,"1010101010101010")
180 DATA 16,16,16,16
190 READ MYCL,MYOCL,UCL,UOCL
200 CALL JOYST(1,X,Y)
210 CALL KEY(1,K,S)
220 MYCL=MYCL+SGN(X)
230 IF (MYCL>0)*(MYCL<33)THEN 250
240 MYCL=MYOCL
250 UCL=UCL+INT(RND*3-1)
260 IF (UCL>0)*(UCL<33)THEN 280
270 UCL=UOCL
280 CALL HCHAR(1,UOCL,32)
290 CALL HCHAR(1,UCL,136)
300 CALL HCHAR(24,MYOCL,32)
310 CALL HCHAR(24,MYCL,129)
320 MYOCL=MYCL
330 UOCL=UCL
340 IF K<>18 THEN 200
350 CALL HCHAR(23,MYCL,137)
360 FOR R=22 TO 1 STEP -1
370 CALL HCHAR(R+1,MYCL,32)
380 CALL HCHAR(R,MYCL,137)
390 NEXT R
400 IF MYCL=UCL THEN 430
410 CALL HCHAR(1,MYCL,32)
420 GOTO 200
430 PRINT "YOU GOT HIM"
440 END


100 REM SHOOTING EXAMPLE
110 REM FOR CHANNEL 99 USERS GROUP
120 REM T.I. EXTENDED BASIC
130 REM BY STEPHEN JOHNSON
140 CALL CLEAR
150 CALL CHAR(129,"18183C3C7EFFE766")
160 CALL CHAR(136,"00000000187EFF66")
170 CALL CHAR(137,"1010101010101010")
180 CALL SPRITE(#1,129,2,180,128,#2,136,
15,1,1,0,5,#3,137,2, 200,1)
190 CALL JOYST(1,X,Y)
200 CALL KEY(1,K,S)
```

```
210 CALL MOTION(#1,0,X)
220 IF K<>18 THEN 190
230 CALL POSITION(#1,X,Y)::
CALL LOCATE(#3,X,Y):: CALL MOTION(#3,-12,0)
240 FOR L=1 TO 50
250 CALL JOYST(1,X,Y):: CALL MOTION(#1,0,X)
260 CALL COINC(#2,#3,10,C):: IF C THEN 300
270 NEXT L
280 CAL MOTION(#3,0,0)
290 GOTO 190
300 PRINT"YOU GOT HIM"
310 END
```

** COINCIDENCE BY IAN JOHNSON **

```
        DEF  COINC
        REF  VSBW,VSBR,VMBW,GPLLNK
        REF  KSCAN,SOUND,VWTR
STATUS  EQU  >837C
FAC     EQU  >834A
NUM     EQU  >837A
MYRND   EQU  >83D6
VDPSTA  EQU  >837B
ZERO    DATA 0,0,0,0
SPRDES  DATA >0400
SPRIT1  DATA >02E8,>8001
SPRIT2  DATA >2810,>840F,>D000
CHARS   DATA >187E,>FFFF,>FFFF,>FFFF
        DATA >FF7E,>3C18,>1800,>1818
        DATA 0,0,0,0,0,0,0,0
        DATA >2010,>FFFF,>1020,>0000
        DATA 0,0,0,0
        DATA >0402,>FFFF,>0204,>0000
        DATA 0,0,0,0
VTAB1   DATA >0780
VTAB2   DATA >0785
HITMSK  DATA >2000
EXPSND  DATA >E4F0
FIRBUT  BYTE 18
XVEL2   BYTE 125
RED     BYTE 6
GREEN   BYTE 3
XMAX    BYTE >F8
OFFSND  BYTE >FF
        EVEN
COINC   LIMI 0
        LI   R0,>E201
        MOVB R0,@>83D4
        SWPB R0
        BLWP @VWTR
        MOV  @SPRDES,R0
        LI   R1,CHARS
        LI   R2,64
        BLWP @VMBW
        LI   R0,>0300
        LI   R1,SPRIT1
        LI   R2,10
        BLWP @VMBW
        LI   R2,>0200
        MOVB R2,@NUM
        MOV  @VTAB1,R0
        MOVB @MYRND,R1
        LI   R1,>D000
        BLWP @VSBW
        LIMI 2
        LI   R1,30000
DELAY3  DEC  R1
        JNE  DELAY3
CALKEY  LI   R1,>0100
        LIMI 2
        LIMI 0
        MOV  R1,@>8374
        BLWP @KSCAN
        CB   @>8375,@FIRBUT
        JEQ  FIR
        JMP  CALKEY
FIR     MOV  @VTAB2,R0
        MOVB @XVEL2,R1
        BLWP @VSBW
        LIMI 2
IFHIT   MOVB @VDPSTA,R2
        COC  @HITMSK,R2
        JNE  MISSED
        LIMI 0
        MOV  @VTAB1,R0
```

```
        LI   R1,ZERO
        LI   R2,8
        BLWP @VMBW
        LI   R3,500
        LI   R0,>0384
BANG    MOVB @RED,R1
        BLWP @VSBW
        MOVB @EXPSND,@SOUND
        MOVB @EXPSND+1,@SOUND
        MOV  R3,R2
DELAY1  DEC  R2
        JNE  DELAY1
        MOVB @GREEN,R1
        BLWP @VSBW
        MOV  R3,R2
        MOVB @OFFSND,@SOUND
DELAY2  DEC  R2
        JNE  DELAY2
        DEC  R3
        JNE  BANG
        B    @COINC
MISSED  LI   R0,>0305
        LIMI 0
        BLWP @VSBR
        LIMI 2
        CB   R1,@XMAX
        JL   IFHIT
        MOV  @VTAB2,R0
        CLR  R1
        LIMI 0
        BLWP @VSBW
        LI   R0,>0304
        LI   R1,SPRIT2
        LI   R2,6
        BLWP @VMBW
        B    @CALKEY
        END
```

# Sydney News Digest

# EDITORIAL
## with SHANE

Our first official winner of the RETURN TO PIRATES ISLE Competition has been won by 14 year old SIMON REID of Isle Of Capri in Surfers Paradise. Congratulations Simon, you have won for yourself, a complete set of IMAGIC MODULES...FATHOM, MICROSURGEON, SUPER DEMON ATTATCK, and MOONSWEEPER.
Simon very clearly wrote out all of his moves and the treasures he found, to the completion of the game. IMAGIC has sent him those great games by post. Simon is a member of the Brisbane User Group.

There are now 4 more complete set of IMAGIC games to be won by the rest of you who get your answers in to us. I understand that, while printing this Newsdigest, another has been sent in. More details about that next month.

CRAIG SOMERTON is now working on a hints sheet for this very complex game, which we hope will be re-produced in the next issue of this publication.
By the way, don't let that fense stop you, go around it, not over it.

The other competition we mentioned last month, related to our LASER DISK COMPETITION... I still have not received any entries, and yet it is the easiest project ever announced, with those fantastic prizes. Entry time closes at the next coming meeting (SATURDAY THE 1st SEPTEMBER). I have had a few people tell me that they are just about finished...hurrey up! It's not the first entry to be received, it's the best one with the best detail. All you have to do is simple design the back of a flying craft that looks like it is about half a mile in front of you. And it should be able to bank left and right with Joysticks. No background is required, as we will be using it to test the new LASERDISK CONTROLLER for the TI, by Imagic (Aust).

We have just received the following message from the Editor of the CANBERRA TI USER GROUP (TI.C.H.U.G)... "CONGRATULATIONS TI.S.H.U.G ON THE BIRTH OF YOUR BBS. I HOPE YOU WILL HEAR FROM LOTS OF INTERSTATE TI OWNERS - MAYBE EVEN SOME FROM CANBERRA."

We thank you for your comments, infact we have had one member of the Canberra User Group on the system at least once each week.(USERNAME:TOXO = Greg of Frazer).

Russell Welham has contacted me regarding corrections of one program in last months Newsdigest, and one in the latest issue of the Home Computer Magazine...
In the HCM line 400, of the program called WILD KINGDOM, it should read IF J>0 CALL JOYST etc.
Then there were a number of mistakes in the CONVERTING BASICS program...
LINE 640 should read PRINT#2:CHR$((INT(LN/256))
&CHR$(LN-256*INT(LN/256)) &CHR$(42) &L$&CHR$(0)

LINE 680 should read ... PRINT#2:CHR$(255);CHR$(255)
LINE 990 IF ASC(SEG$(L$,1,1))<128 THEN 1020

In the last issue of our SYDNEY NEWSDIGEST, you may have noticed that there was only a couple of programs to type in. The reason for this was, that there was no room to put any in that publication. Let me assure you that although this may happen from time to time, it is no indication that we are running out of programs to give you. With constant communication with other TI USER GROUPS through-out the world, and exchange of both information and software, we are not about to run dry.
    If you compare this newsletter with other User Group newsletters, you will come to realize that we provide you with much more support with information, programming hints, and programs.

    Speaking of exchange of material, I wish to take this oportunity to thank the CHANNEL 99 CANADIAN TI USER GROUP for their Newsletter. They are always a constant sorce of information. Many of the articles within this issue, have been reprinted from their Newsleter.

EYES AND EARS
by Shane Andersen and
TI*MES USER GROUP

Have you noticed that now the TI 99/4A is no longer in production the magazines are changing their tune about it ?

Previously, few had a good word to say about it, and a regrettable minority printed some unmitigated rubbish. I'm thinking of the magazine that complained bitterly about the position of the on/off switch (most of its rivals don't HAVE one), the magazine that told us that complex arithmetic calculations are required to move a graphic character (is ROW+ROW+1 complex?) and the magazine that swore, hand on heart, that the only add-on that could be used without the Box was the Speech Synthesizer!

Nary a mention of Extended Basic, Mini-Memory or even the Joysticks! Others seemed content to dust off a report of the previous model and go through the text, adding an A to the 99/4.

Computer magazines, both here in Australia seemed to take the aproach that, since Texas Instruments would not spend any real money in advertising the TI-99/4A in their publication, then they would not find the space to promote or review constructively our computer.

A classic demonstration of the lack of support for TI users, was found in COMPUTE. This magazine has gone right off, and not worth spending your money on. They have greatly reduced TI content with the excuse that not enough people or companies advertise.

But now our computer is an orphan, what do we read in the computing press? "This fine machine .. many advantages over its rivals .. a Mercedes among Volkswagons .. sadly discontinued"."The TI-99/4A has the best modulated picture of any home computer". Don't they ever read their back copies.

Perhaps I'm being unfair to the magazines but they seem to have got their message across. Witness the recent conversation I had with a non-TI computer owner. After admitting ownership of a TI (which can be like owning up to dubious parentage in some circumstances) I was told, with some force, that:-

## Extended Tutor

with Tony McGovern.

A bug crept into the comment in the first tutorial on CALL -ing nonexistent subprograms. TI Basic, when given a name in a CALL for a nonexistent sub- program, completes the prescan and then crashes with BAD NAME when it comes to the line. TI Basic will load and prescan XB programs with unrecognized CALLs. If the program is such that it is otherwise accept- able to TI Basic, then it can be run under TI Basic if it never encounters the lines with the 'bad names'. I have been using for some time this very same property in an auto LOAD program on all our Basic and XB program disks which also will catalog disks from Basic.

or a little programming challenge, figure out how a program can tell whether it is RUNning under XB or console Basic, without crashing in console Basic.

SUBPROGRAM PARAMETER LISTS

In the last chapter we saw how subprograms fitted into the overall workings of Extended Basic. In this chapter we are going to go into the details of writing subprograms. Most of the fiddly detail here concerns the construction of the parameter lists attached to CALL and SUB statements, and some of the little traps you can fall into.

Any information can be transmitted from the CALLing program to the CALLed subprogram via the parameter list, and anything not transmitted this way remains private for each program, with the exception of the DATA pool which is equally accessible to all. If something is mentioned in the parameter list then it is a two-way channel unless special precautions, provided for in XB, are taken. In this case the CALLing program can inform the subprogram of the value of a variable, but not allow the CALLed program to change the value of the variable as it exists in the CALLing program. Arrays however, numeric or string, can't be protected

from the follies of subprograms once their existence has been made known to the subprogram through the parameter list.

Let's for starters take a very simple but useful example, where a program needs to invoke a delay at various points. Now some BASICs (and TI LOGO) have a built-in function called WAIT. XB doesn't have this command so you have to program it. It can be done by a couple of CALL SOUNDs or with a FOR-NEXT loop. Let's use an empty loop to generate the delay, about 4 millisec. each time around the loop, and place the loop in a subprogram.

```
230 CALL DELAY(200)

670 CALL DELAY(200/D)

990 CALL DELAY(T)

3000 SUB DELAY(A):: FOR I=1 TO A :: NEXT I ::SUBEND
```

This is easier to follow when editing your program then using a GOSUB, and you would need to enter the subroutine in every subprogram since GOSUBbing or GOTOing out of a subprogram is verboten. Also it's less messy than writing the delay loop every time. The example shows several different CALLs to DELAY. The first supplies a number, and when DELAY is CALLed, the corresponding variable in the SUB list, A, is set to 200. This is a particular example of the kind of CALL from line 670 where the expression 200/D is first evaluated before being passed to DELAY to be assigned to A. Variable D might for instance represent the level of difficulty in a game. The CALL from line 990 invokes a numeric variable T, and A in the subprogram is set to the value of T in the CALLing program at the time when the CALL is executed.

Nothing untoward happens to T in this example, as the DELAY subprogram does nothing to change A. Now it may not matter in this instance if T did not retain its value after the subprogram CALL. Suppose instead the delay was to be called out in seconds. Then a subprogram on the same lines DELAYSEC might go

```
230 CALL DELAYSEC(2)

990 CALL DELAYSEC(T)

4000 SUB DELAYSEC(A)::
A=A*256
4010 FOR I= 1 TO A :: NEXT I
:: SUBEND
```

Now after DELAYSEC has been executed with the CALL from

990, T will have value 256 times its value before the CALL. This won't be a bother if you don't use T again for its previous value. If the CALLing program specifies a numeric constant as in line 230, or a numeric expression, the change in A in the subprogram has no effect on the main program. Suppose you can't tolerate T being changed in line 990 (and this kind of thing can be a source of program bugs). You will find that XB allows for forcing T to be treated as though it were an expression, thus isolating T from alteration by the subprogram, if T is enclosed in brackets in the CALL (not SUB) list. Suppose DELAYSEC is also called from line

```
970 CALL DELAYSEC((T))
```

If this CALL in line 970 is followed by the CALL from line 990, T not having been altered in the meanwhile, the same delay will be obtained, but if the order of CALLs were reversed the second delay would be ˜250 times the first. In the language of XB this is known as "passing by value" as distinct from "passing by reference". This can only be done for single variables or particular array elements, which behave like simple variables in CALL lists. Whole arrays cannot be passed by value, but only by reference. Expressions and constants can only be passed by value, and its hard to see what else could be done with them. In the example as written, a different variable name was used in the SUB, but if you remember the little experiment in the last chapter you'll see that it wouldn't make any difference if T had been used in the SUB list instead of A.

Now let's complicate things a little by flashing up a message on the bottom line of the screen during the delay interval.

```
200 CALL MESSAGE(300," YOUR TURN NOW")

270 CALL MESSAGE(T,A$)

3000 SUB MESSAGE(A,A$):
DISPLAY AT(24,1):A$
3010 FOR I=1 TO A :: NEXT I ::
DISPLAY AT(24,1):""
3020 SUBEND
```

The SUB parameter list now contains a numeric variable and a string variable in that order. Any CALL to this subprogram must supply a numeric value or numeric variable reference, and a string value or string variable reference, in

precisely the same order as they occur in the SUB list. In the little program segment above, line 200 passes constants by value and line 270 passes variable references. There is no reason why one cannot be by value and one by reference if so desired.

This process can be extended to any number of entries in the parameter list, provided the corresponding entries in the SUB and CALL lists match up entry by entry, numeric for numeric, string for string. The XB manual does not say so explicitly, but it appears that there is no limit apart from the usual line length problems, on the number of entries in the list. This is the only apparent difference between the parameter list in XB subprograms and the argument lists for CALL LINK("xxxxxx", , ... ) to machine code routines in XB, and Minimemory and E/A Basics.

One little freedom associated with built-in subprograms is not available with user defined subprograms. Some built-ins, such as CALL SPRITE permit a variable number of items in the CALLing list. Parameter lists in user defined subprograms must match exactly the list established by the SUB list or an error "INCORRECT ARGUMENT LIST in ..." will be issued. To compensate for this inflexibility user defined CALLs allow whole arrays, numeric or string, to be passed to a subprogram. Complete arrays may be passed by reference only. Individual array elements may be used as if they were simple variables and may be protected from alteration by bracketing in the CALL list. An array is indicated in the parameter list by the presence of brackets around the array index positions. Only the presence of each index need be indicated as in A(). MATCH(,,) indicates a three-dimensional array MATCH previously dimensioned as such, explicitly or implicitly. Don't leave spaces in the list. If the subprogram needs to know the dimensions of the array these must be passed separately (or as predetermined elements of the array). TI Basics are weaker than some others in that they do not permit implicit operations on an array as a whole, a very annoying deficiency.

Arrays may be DIMensioned within subprograms. This will introduce a new array name to the program, and an array or variable name from the SUB parameter list can't be used or an error message will result. In the following code the main program passes, among other things, an array SC to subprogram BOARD (perhaps a scoreboard writing routine in a game).

```
100 DIM SC(2,5) :: ....

450 CALL BOARD(P,A$(),SC(,))

4000 SUB BOARD(P,A$(),S(,))::
DIM AY(5):: ....
.... :: CALL REF(P,AY(),S(,)))
4080 SUBEND
5000 SUB REF(V,A(),B(,))::
.... :: SUBEND
```

BOARD generates internally an array AY() which is passed to another subprogram REF (maybe this resolves ties) along with SC(,), which BOARD knows as S(,), and REF in its turn as B(,). There is however no way that the main program or any subprogram whose chain of CALLs doesn't come from BOARD can know about AY. Equally well REF, if CALLed only from BOARD and not directly from the main program, could not have found out about P or SC(,) except through BOARD, even if BOARD did nothing with them except mention them in its parameter list.

By following this line of reasoning you can see that there is no way for a subprogram whose chain of CALLs does not come through BOARD to know about array AY(). The only way around this is for AY() to be DIMensioned in the main program (even if this is its only appearance there) and the message passed down all necessary CALL-SUB chains.

This idea of DIMensioning an array only within a subprogram is particularly useful if the array is to READ its values from DATA statements and to be used in the subprogram. This could be done again from any other subprogram needing the same data, without having to pass its name up and down CALL-SUB chains. Remember that DATA statements act as a common pool from which all subprograms can READ. If the array values are the results of computations then these values must be passed through the CALL parameter lists.

For completeness note that , although the XB manual has nothing to say about it, IMAGE statements for formatting PRINT output are accessible from any part of a program in the same way as DATA

statements and not confined to the subprograms in which they occur as are DEF entries.

It is not necessary to have any parameters in the list at all. Subprograms used this way can be very helpful in breaking up a long program into more manageable hunks for ease of editing. We shall also see in later chapters that there can be other benefits as well.

One more XB statement for subprograms remains, the SUBEXIT. This is not strictly necessary as it is always possible to write SUBEND on a separate line and to GOTO that line if a condition calling for an abrupt exit is satisfied. Like a lot of the little luxuries of life however, it is very nice to have and makes programs much easier to read and edit. It does not replace SUBEND which is a signal to the XB pre-scan to mark the end of a subprogram. SUBEXIT merely provides a gracious and obvious exit from a subprogram (awkward in some Pascals for instance). The next chapter will demonstrate typical examples of its use.

## IV. USEFUL SUBPROGRAM EXAMPLES

In the previous chapter we used as an example a DELAY subprogram which could, with a little refinement, be used to substitute for the WAIT command available in some other languages. You can extend this idea to build up for yourself a library of handy-dandy subprograms which you can use in programs to provide your own extension of the collection of subprograms that XB offers.

For our first example let's take one of the more frustrating things that TI did in choosing the set of built-in subprograms. If you have Minimemory or E/A you know that the keyscan routine, KSCAN, returns keyboard and joystick information simultaneously, while XB forces you to make separate subprogram CALLs, KEY and JOYST, to dig it out. Since these GPL routines are slow it is difficult to write a fast paced game in XB that treats keyboard and joysticks on an equal footing as is done by many cartridge games. On the other hand in games where planning and not arcade reaction is of the essence there is no reason why the player(s) should be forced to make a once-and-for-all choice and not be able to use either at any stage of the game.

```
1 REM ++++++++++++++++++++
2 REM +++++TITLE SCREEN+++++
3 REM +++HUG LIBRARY 4/84+++
4 REM ++++BY MARK CHANCE++++
5 REM +++++ABOUT 2K LONG++++
6 REM FROM HOUSTON USERS GRO
UP
7 CALL CLEAR :: FOR A=65 TO
90 :: CALL CHARPAT(A,A$):: C
ALL CHAR(A,SEG$(A$,3,10)
&SEG$(A$,11,2)&SEG$(A$,13,6)
):: NEXT A
8 FOR A=48 TO 57 :: CALL CHA
RPAT(A,A$):: CALL CHAR(A,SEG
$(A$,3,4)&SEG$(A$,5,2)&S
EG$(A$,7,10)):: NEXT A
9 REM CC=SCREEN COLOR
10 CC=8
11 DIM R(15),Q(8):: CALL CHA
RPAT(45,ZZ$):: CALL CHAR(94,
ZZ$):: CALL CHAR(137,"0"
):: CALL CHAR(64,"3C4299A1A1
99423C"):: CALL CHAR(40,"0")
12 DATA 2,9,10,11,12,13,14
13 RESTORE 12 :: FOR A=1 TO
7 :: READ B :: Q(A)=B :: NEX
T A :: RESTORE 14 :: FOR
A=1 TO 14 :: READ B :: R(A)
=B :: NEXT A
14 DATA 7,4,2,12,13,14,16,5,
3,14,9,15,10,11
15 IF CC<>8 THEN GOSUB 30
16 DATA 40,96,104,112,120,12
8,136
17 FOR A=1 TO 14 :: CALL COL
OR(A,1,1):: NEXT A :: RESTOR
E 16 :: FOR A=1 TO 6 ::
READ B :: CALL CHAR(B+1,"0")
:: NEXT A
18 RESTORE 16 :: U=2 :: FOR
A=1 TO 7 :: READ B :: FOR C=
1 TO 2 :: CALL VCHAR(1,U
,B,3):: U=U+1 :: NEXT C :: F
OR C=3 TO 4 :: CALL VCHAR(1,
U,B+1,3):: U=U+1 :: NEXT
C
19 NEXT A :: CALL VCHAR(1,30
,40,3):: CALL VCHAR(1,31,40,
3)
20 RESTORE 16 :: U=2 :: FOR
A=1 TO 7 :: READ B :: FOR C=
1 TO 2 :: CALL VCHAR(19,
U,B,3):: U=U+1 :: NEXT C ::
FOR C=3 TO 4 :: CALL VCHAR(1
9,U,B+1,3):: U=U+1 :: NE
XT C
21 NEXT A :: CALL VCHAR(19,3
0,40,3):: CALL VCHAR(19,31,4
0,3)
22 FOR A=3 TO 8 :: CALL COLO
R(A,2,1):: NEXT A :: CALL CO
LOR(1,2,1)
23 RESTORE 16 :: FOR A=1 TO
7 :: READ B :: CALL CHAR(B,"
FFFFFFFFFFFFFFFF"):: NEX
T A
24 F=1 :: FOR A=1 TO 14 STEP
2 :: CALL COLOR(Q(F),R(A),R
(A+1)):: F=F+1 :: NEXT A
25 DISPLAY AT(10,7):"TI S H
U G AUST"
26 DISPLAY AT(17,2)BEEP:"REA
DY^HIT ANY KEY TO BEGIN" ::
DISPLAY AT(23,6):"@1983
MARK CHANCE"
27 CALL KEY(3,X,Y):: IF Y=0
THEN 27
28 CALL CLEAR :: CALL CHARSE
T
29 GOTO 32
30 FOR A=1 TO 14 :: IF R(A)=
CC THEN R(A)=8 :: CALL SCREE
N(CC)
31 NEXT A :: RETURN
32 REM ++++END OF HEADER++++
```

The subprogrammers approach to this problem, once it realised that it can be done (and we have commercial XB games where the writers haven't) is to write the game using joysticks, but replacing JOYST by a user defined sub-program JOY which returns the same values as JOYST even when keys are used.

The first step in telling whether keys or joysticks are being used is to check the keys, and if none have been pressed then to check the joysticks. If a key has been pressed then its return, K, has to be processed so that the direction pads embedded in the keyboard split-scan return the corresponding JOYST value. A subprogram along the lines of the one used in TEX-BOUNCE does just this.

```
900 SUB JOY(PL,X,Y):: CALL
KEY(PL,K,ST):: IF ST=0
THEN CALL JOYST(PL,X,Y)::
SUBEXIT
910 X=4*((K =4 OR K=2 OR
K=15)-(K=6 OR K=3 OR K=14))
920 Y=4*((K=15 OR K=14 OR
K=0)-(K=4 OR K=5 OR K=6))
930 SUBEND
```

PL is the player (left or right joystick or side of the split keyboard) number and is unaltered by the procedure. The simple-minded approach for converting K to (X,Y) values by using the XB logic operators (one of the more annoying omissions from console Basic) seems to work as well as any. The subprogram as written checks the keys first but balances this out by putting the processing load on the key return.

This is as good a time as any to sharpen your own skills by working out alternative versions of this procedure, and also by writing one for mocking up a substitute CALL KEY routine to return direction pad values even if a joystick is used.

**More next month**

FROM ED YORK
CIN-DAY

### EXTENDED BASIC QUIRKS

Many of you who have Extended Basic may not know that you can load a program from cassette and then execute or RUN it automatically by typing in RUN "CS1", or for those with disk...RUN"DSK1.nnnnnnnnnn" n=Filename.

The first one being an undocumented command. Now, doesn't that kill two birds with one stone?

Also many of you have been trying to make the computer speak phrases using Extended Basic and the Speech Synthesizer but are disappointed with the results!

Well again it is not documented that you need the # symbol before and after phrases that are listed (see the List Of Speech Words located in Appendix L of the Extended Basic Manual).

Phrases such as "WHAT WAS THAT", "READY TO START" and "THAT IS RIGHT" must be entered as CALL SAY("#WHAT WAS THAT#"), CALL SAY("#READY TO START#") and CALL SAY("#THAT IS RIGHT#") in order to hear the computer speak them correctly.

### DEBUGGING HINTS FROM DAYTON

Write out a rough outline of the section of your program before you start and begin each important section with a major line number (I.E. 1000, 2000, 3000, etc.), then you won't have much trouble finding certain types of bugs since you will then know in which section they occurred.

All line numbers take two bytes of memory in a program regardless of their length (I.E. 10, 1000, 32555 all take the same space).

An array variable list may now be made at a break in a program in X-Basic using a multi-line loop (I.E. FOR R=1 TO 10 :: PRINT A$(R); :: NEXT R). This will list A$(1 to 10) versus take something like: PRINT A$(1);A$(2);...A$(10).

```
100 REM FROM BUG BYTES BRISB
ANE USERS GROUP
110 REM I WENT TO VISIT A
120 REM A FARM ONE DAY
130 REM BY S. NICHELSEN
140 REM TI.B.U.G.
150 REM EXTENDED BASIC REQUI
RED
160 CALL CLEAR
170 CALL CHAR(63,"88FFFF8888
FFFF88")
180 CALL HCHAR(8,1,63,8):: C
ALL HCHAR(8,10,63,23):: CALL
 HCHAR(24,1,63,32)
190 CALL SCREEN(6)
200 CALL HCHAR(9,1,40,480)
210 CALL HCHAR(2,8,143,3)::
CALL HCHAR(3,7,143,5):: CALL
 HCHAR(4,6,143,7):: CALL
 HCHAR(5,7,143,5)::
220 CALL HCHAR(6,8,143,3)::
CALL VCHAR(7,9,135,4)
230 CALL COLOR(14,13,13):: C
ALL COLOR(13,7,7):: CALL COL
OR(2,3,3):: CALL COLOR(4
,16,3)
240 COUNT=1
250 ON COUNT GOSUB 400,600,8
00,910,1030
260 DATA 262,150,330,300,330
,150,330,150,330,150,294,150
,262,300,262,150,262,300
,330,150,392,300,392,150,392
,300
270 DATA 349,150,330,300,330
,150,330,300,392,150,523,300
,523,75,523,75,523,300,5
23,150,494,300,440,150,392,4
50
280 DATA 330,450,294,450,262
,900,40000,900
290 RESTORE
300 FOR MUSIC=1 TO 30
310 READ T,D
320 CALL SOUND(D,T,1)
330 NEXT MUSIC
340 FOR DELAY=1 TO 50 :: NEX
T DELAY
350 CALL DELSPRITE(ALL)
360 COUNT=COUNT+1
370 IF COUNT>5 THEN 390
380 GOTO 250
390 CALL CLEAR :: END
400 CALL CHAR(96,"783C3F7F7F
EFEF0703030303030101000000FF
FFFFFFFFFFFFFFFF000000808
0C0")
410 CALL CHAR(100,"783C3F7F7
FEFEF0703030303030606060000F
FFFFFFFFFFFFFFFF0000000
0000")
420 CALL CHAR(104,"000CFEFFF
FFFFFFFFDFD7D060606060600000
00000000000000000000000
000")
430 CALL CHAR(108,"000CFEFFF
FFFFFFFFDFD7D060C0C0C1800000
00000000000000000000000
000")
440 CALL CHAR(112,"0000F8F8F
8FC7C3C1E0F0000000000000000
000000000000000000000000
000")
450 CALL SPRITE(#3,96,2,150,
208)
460 CALL SPRITE(#2,104,2,150
,240)
470 CALL SPRITE(#1,112,16,15
0,224)
480 CALL MAGNIFY(4)
490 DISPLAY AT(3,15):"ONE CO
W"
500 CALL MOTION(#2,0,-20)::
CALL MOTION(#1,0,-20):: CALL
 MOTION(#3,0,-20)
```

```
510 FOR P=1 TO 15
520 FOR F=96 TO 100 STEP 4
530 CALL PATTERN(#3,F)
540 FOR G=104 TO 108 STEP 4
550 CALL PATTERN(#2,G)
560 FOR DELAY=1 TO 10
570 NEXT DELAY :: NEXT G ::
NEXT F :: NEXT P
580 CALL MOTION(#3,0,0):: CA
LL MOTION(#1,0,0):: CALL MOT
ION(#2,0,0)
590 RETURN
600 CALL CHAR(96,"0000000000
00000103000000000000000000000
003F7FCF8F0F0F0C18306040
C0")
610 CALL CHAR(100,"000000000
00000103000000000000000000000
0003F7FCF8F0F0F0C0C06030
301")
620 CALL CHAR(104,"00000103F
FFFFFFFFFFE03010000000002060F
0F8FCFECE8400000080C0603
018")
630 CALL CHAR(108,"00000103F
FFFFFFFFFFE0301010103062060F
0F8FCFECE840000008080800
000")
640 CALL MAGNIFY(4)
650 CALL SPRITE(#2,96,2,110,
16)
660 CALL SPRITE(#4,96,7,150,
24)
670 CALL SPRITE(#1,104,2,110
,48)
680 CALL SPRITE(#3,104,7,150
,56)
690 DISPLAY AT(3,15):"TWO HO
RSES"
700 CALL MOTION(#2,0,20):: C
ALL MOTION(#1,0,20):: CALL M
OTION(#4,0,20):: CALL MO
TION(#3,0,20)
710 FOR P=1 TO 12
720 FOR F=96 TO 100 STEP 4
730 CALL PATTERN(#2,F,#4,F)
740 FOR G=104 TO 108 STEP 4
750 CALL PATTERN(#1,G,#3,G)
760 FOR DELAY=1 TO 10
770 NEXT DELAY :: NEXT G ::
NEXT F :: NEXT P
780 CALL MOTION(#2,0,0):: CA
LL MOTION(#1,0,0):: CALL MOT
ION(#4,0,0):: CALL MOTIO
N(#3,0,0)
790 RETURN
800 CALL MAGNIFY(4)
810 CALL CHAR(96,"673F3FFF3F
090808000000000000000F1FFFC
FCF8D8180800000000000000
00")
820 CALL CHAR(100,"673F3FFF3
F0904020000000000000000F1FFF
CFCF8D8181000000000000000
000")
830 CALL SPRITE(#1,96,10,165
,216,0,-10)
840 CALL SPRITE(#2,96,10,90,
196,0,-10)
850 CALL SPRITE(#3,96,10,130
,176,0,-10)
860 DISPLAY AT(3,15):"THREE
PIGS"
870 FOR P=1 TO 25 :: FOR F=9
6 TO 100 STEP 4 :: CALL PATT
ERN(#1,F,#2,F,#3,F):: FO
R DELAY=1 TO 25
880 NEXT DELAY :: NEXT F ::
NEXT P
890 CALL MOTION(#1,0,0):: CA
LL MOTION(#2,0,0):: CALL MOT
ION(#3,0,0)
900 RETURN
910 CALL MAGNIFY(4)
```

```
920 CALL CHAR(96,"000000007F
FFFFFFFFFF6F4020100000000818
3EFFFFFAF8F0F0B010204000
00")
930 CALL CHAR(100,"000000007
FFFFFFFFFFFF6F404040000000081
83EFFFFFAF8F0F0B01010100
000")
940 CALL SPRITE(#1,96,16,65,
20,0,15)
950 CALL SPRITE(#2,96,16,95,
40,0,15)
960 CALL SPRITE(#3,96,16,125
,20,0,15)
970 CALL SPRITE(#4,96,16,155
,50,0,15)
980 DISPLAY AT(3,15):"FOUR S
HEEP"
990 FOR P=1 TO 20 :: FOR F=9
6 TO 100 STEP 4 :: CALL PATT
ERN(#1,F,#2,F,#3,F,#4,F)
1000 FOR DELAY=1 TO 25 :: NE
XT DELAY :: NEXT F :: NEXT P
1010 CALL MOTION(#1,0,0):: C
ALL MOTION(#2,0,0):: CALL MO
TION(#3,0,0):: CALL MOTI
ON(#4,0,0)
1020 RETURN
1030 CALL MAGNIFY(4)
1040 CALL CHAR(96,"000000000
0000071F7FFF7F1F070202033078
7F70606030F0F8F8F8F8E000
0080")
1050 CALL CHAR(100,"00000000
00000307EF7FFF7F0F0701003078
7F70606030F0F8F8F8F8E000
00E0")
1060 CALL CHAR(104,"00000002
071F0F0101000000000000000040F0
C080808000800000000000000
0000")
1070 CALL CHAR(108,"00000002
071F0F0100000000000000000040F0
C080808000C0000000000000
0000")
1080 CALL SPRITE(#1,96,16,15
0,50,0,6)
1090 CALL SPRITE(#3,104,11,1
35,16,0,6)
1100 CALL SPRITE(#2,104,11,8
0,24,0,6)
1110 CALL SPRITE(#4,104,11,1
58,16,0,6)
1120 CALL SPRITE(#5,104,11,1
00,24,0,6)
1130 DISPLAY AT(3,15):"FIVE
DUCKS"
1140 FOR P=1 TO 24 :: FOR F=
96 TO 100 STEP 4 :: FOR G=10
4 TO 108 STEP 4
1150 CALL PATTERN(#1,F,#2,G,
#3,G,#4,G,#5,G)
1160 FOR DELAY=1 TO 25 :: NE
XT DELAY :: NEXT G :: NEXT F
 :: NEXT P
1170 CALL MOTION(#1,0,0):: C
ALL MOTION(#2,0,0):: CALL MO
TION(#3,0,0):: CALL MOTI
ON(#4,0,0):: CALL MOTION(#5,
0,0)
1180 RETURN
```

"The TI is rubbish". After questioning him I found he'd never used a TI, had never seen one in operation but had got his information and picked up his opinions from magazines. A familiar story to many TI owners, I'm sure.

Having submitted one or two programs to magazines (and if anyone bothered to type them in, let me apologise here and now) I found I suffered two separate reactions after publicaton.

First, a certain pride at seeing my work in print, quickly followed by a sinking feeling as I examined the listing, which I had never seen "in one lump" in its completed form, because I did not own a printer.

It was a pretty mortifying experience spotting where I could have used a sub-routine here or a better way of setting up graphics there and so on.

Like most married computer owners, my programming has to be fitted into odd corners of the day and evening, and despite flow-charts and hand-written original listings a program often gets modified over the weeks and months without a record being kept of all the changes and as we all know, sorting out a listing from the screen alone is unrewarding, to put it mildly.

Therefore I was delighed to receive my Alphacom printer from Arcade Hardware, which should make life much easier when developing a program. As Howard would be the first to admit, the Alphacom is not up to word-processing work and its print quality can't compare with a daisy-wheel, but for program listings or a quick screen-dump it is ideal.

Time is too short for a full road-test this issue; if no-one else offers I'll try to write it up for the next.

OK, a quick look to fill this page. It will list a program complete or between specified line numbers, print string or numeric variables on request, perform a rapid screen-dump and do lots of clever things with control codes.

Speed is about 70 or 80 C.P.S. it plugs into the side port and uses thermal paper.

Unfortunately the hand-book is written in American and follows the TI tradition of giving no technical information whatsoever.

I recently brought a copy of Pete Brooks' new book, 'Mastering The TI-99' and as you would expect from Pete, it is full of useful information, ranging from simple "Why Didn't I Think Of That" hints up to some quite intricate graphics handling routines.

Chapters include translation from other dialects of BASIC, debugging advice and a gentle introduction to cassette file-handling.

This last should answer the pleas of all those who long ago gave up trying to make sense of the Sanskrit version in the TI Handbook. Thanks, Pete. A very worthwhile book.

Having played with Parsec on and off for a few months I've noticed a bug that I haven't seen reported before. Very occasionally, after passing through an asteroid belt, the ship explodes with a "CRASH WITH GROUND" message, even though it's at the top of the screen!

I haven't been able to gather much circumstantial evidence about level of play, ships remaining and so on and would be interested to hear if anyone else has noticed this problem. (Nasty afterthought, perhaps my console or module is faulty!)

Don't you just love the advertising industry? It has given me a lot of harmless amusement over the years but reaches new heights when it gets its claws into the home computer industry.

We've all seen the optimistic claims for RAM space, the inferences that the ** micro can be used for sophisticated business applications and the notorious "28 days delivery" promise, but the weasel-word that always appeals to me is "power".

What is processing power? Is it clock speed, memory access time, quality and speed of the resident language or a mixture of these and many other factors?

The answer is, of course, that it depends on what you want the computer to do. A games programmer would want flexible, easy to use graphics and sound, a scientist may need fast accurate number crunching to umpteen decimal places while a businessman would prefer first-class file-handling capabilities and CP/M compatability.

In view of this, what have some advertisers claimed to prove the power of their micro? The amount of RAM! On the face of it the claim sounds good, because big numbers are, in themselves, impressive and statements like "twice the memory of its competitors" have a fine ring to them, but let's make an analogy for a moment.

If we consider a car as a computer its engine can be regarded as the microprocessor, the controls as the operating system and the driver as the programmer. So where is the RAM? Surely it's the boot space, the luggage-carrying capacity and to the best of my knowledge no advertiser has yet claimed that a Ford Escort is more powerful than a Grand Prix Lotus, so why do they try it on with computers?

Anyway, having plumbed the depths of inconsequence I'll finish off with a few quickies.

Did you know that.....

..there's no need to type EDIT (linenumber) in TI BASIC? Just the line number and FCTN E or X will do it...

..when a program passes over CALL KEY the return-variable is set to -1 if no key is pressed? (I can't think of a use for it off-hand, but it's there if you want it)...

..in Ex-Bas, RUN can be used as a program statement and RUN(first line) will start your program off again, resetting your variables? (Not as painful as it sounds)...

I don't claim anything original for these, I offer them in case some people haven't come across them before.

Happy Computing
Graham

# THE CUT-UP PAGE

ON THIS PAGE YOU WILL FIND SEVERAL
USEFUL CLUB FORMS. IF YOU DO NOT WISH
TO CUT YOUR NEWS DIGEST YOU MAY USE A
PHOTO COPY. MAIL-ORDERS, CLASSIFIED
ADS AND BANKCARD AUTHORISATION MUST BE
ON THE APPROPRIATE FORM.

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PO Box 149,
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(TISHUG) and will abide by the constitution of
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me/us. I/we understand that I/we will receive
eleven issues of the club magazine (the Sydney
News Digest) and access to the club Software
library, TISHUG Shop, Group meeting, specialty
workshops, and other group activities.

I/we enclose:-

```
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     ANNUAL SUBSCRIPTION      $20
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     TOTAL AMOUNT DUE         $30
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```

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| Date Rcd | Reciept No | SND |
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Please insert the following advertisement in
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| ITEM | : COST |
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|      | :      |
|      | :      |
|      | :      |
|      | :      |
|      | :      |
| TOTAL AMOUNT | :$ |

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I HEREBY AUTHORISE *TISHUG* TO CHARGE TO MY
BANKCARD ACCOUNT THE SUM OF _____
                              (words)      $_____

Signature:_____

# Sydney News Digest

# THE CUT PAGE

**ti SHUG** ELECTRONIC BULLETIN BOARD SERVICE (TISHUGBBS)
P.O. Box 595, Marrickville, New South Wales, Aust. 2204

R E G I S T R A T I O N F O R M
*********************************

I wish to Register to opperate the TI.S.H.U.G.BBS, please record the following details as PRINTED below.

USERNAME: / / / / / / / / / / to be used for Electronic Mail etc, and must not
----------------------
be longer than ten charactors, an alternative should be written in comments section. A User-number and Password will be supplied.

FIRST NAME:_____ SURNAME:_____, AGE(aprox):____

ADDRESS:_____,SUBURB:_____,CITY:_____,

STATE:_____,POST/CODE:_____.

TELEPHONE(____)_____.

TYPE OF MODEM/COUPLER(i.e:Brand, Baud rates etc):_____

DATA STORAGE DEVICE:( )Disk, ( )Cassette, ( )Printer, Other_____.

ITEMS I WOULD LIKE TO SEE ON THE TI.S.H.U.G.BBS...

(1)NEWS & VIEWS from both local and overseas,
(2)ELECTRONIC MAIL(Messages to fellow Users),
(3)SOFTWARE DOWNLOADING:tick( )EDUCATION, ( )BUSINESS, ( )GAMES...give details:
_____.

( )I would like to join the BBS SUB-COMMITTEE with ( )Typing of News/( )Views
files, ( )Preparing software blocks, Other:_____.

(a) I agree not to use this system in a way which would bring TI.S.H.U.G. under disrepute, and be thoughtful to others by not HOGGING the line.

(b) I understand that full instructions will be made available to me, on how to use our new TI.S.H.U.G.BBS, and that, I will be given a PASSWORD if future up-dates of this system require it to be used.


Signed_____

This is a free service to all TI.S.H.U.G. MEMBERS, however, all donations will be gratefully received.

Alternative Username: / / / / / / / / / /.
---------------------------------
COMMENTS:
---------------------------------OFFICE USE ONLY--------------------------------
DATE RECEIVED / / . Membership Exp date / .

PASSWORD SUPPLIED: / / / / / / / / / /. USERNUMBER____.
---------------------------------