

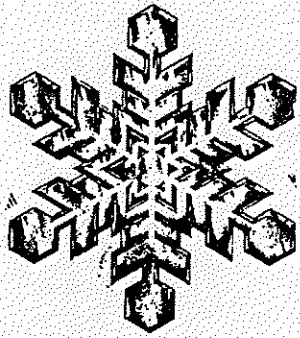
NEWS DIGEST

Focusing on the TI99/4A Home Computer

Volume 14, Number 11

December, 1995

PRINT POST Approved - PP244099/00016



2-12-1995

ANNUAL GENERAL MEETING

ELECTION OF OFFICERS

BARBEQUE LUNCH

1-00 PM

Sydney, New South Wales, Australia

\$3

TiSHUG (Australia) Ltd.
A.C.N. 003 374 383

All correspondence to:
C/o 3 Storey St.
Ryde 2112 Australia

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Annual Family Dues \$35.00
Associate membership \$10.00
Overseas Airmail Dues A\$65.00
Overseas Surface Dues A\$50.00

TiSHUG Sydney Meeting

The December Meeting will start at 2.0 pm on the 2nd December 1995 at Meadowbank Primary School, preceded by a BBQ at 1.0 PM Thistle Street, Meadowbank.

Printed by

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IBM

Notice to Members Annual General Meeting

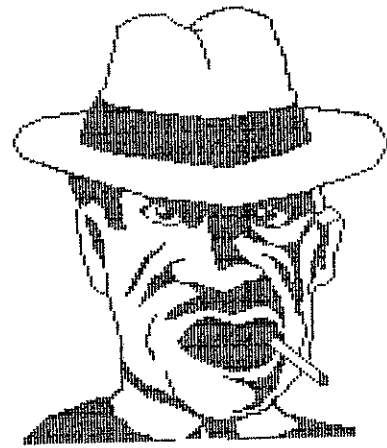
All members are advised that the 9th Annual General Meeting of TIsHUG (Australia) Limited will be held on Saturday, 2nd December, 1995 at Meadowbank Primary School, Thistle Street, Meadowbank NSW, commencing at 2.00pm.

Members attending are requested to arrive by 12.30pm to enable them to sign in and enjoy a barbeque lunch prior to the 2.00pm start of the Annual General Meeting.

Cost of the BBQ lunch \$ 2.00

AGENDA

1. Welcome by the Co-ordinator
2. Apologies
3. Minutes of the 8th Annual General Meeting
4. Business arising from the Minutes
5. Correspondence
 - a) Incoming
 - b) outgoing
6. Co-ordinator's Report
7. Treasurer's Report, Accounts and Auditor's Report
8. Election of Returning Officer and two Scrutineers
9. Election of Directors (Five)
10. Election of Auditor
11. Other Business



TREASURER'S REPORT

by Cyril Bohlsen

Income for previous month	\$ 4937.00
Expenditure for previous month	\$ 5174.17
Loss for previous month	\$ 237.17
Membership accounted for \$ 110.00 of income	
Shop sales	\$ 4827.00 of income

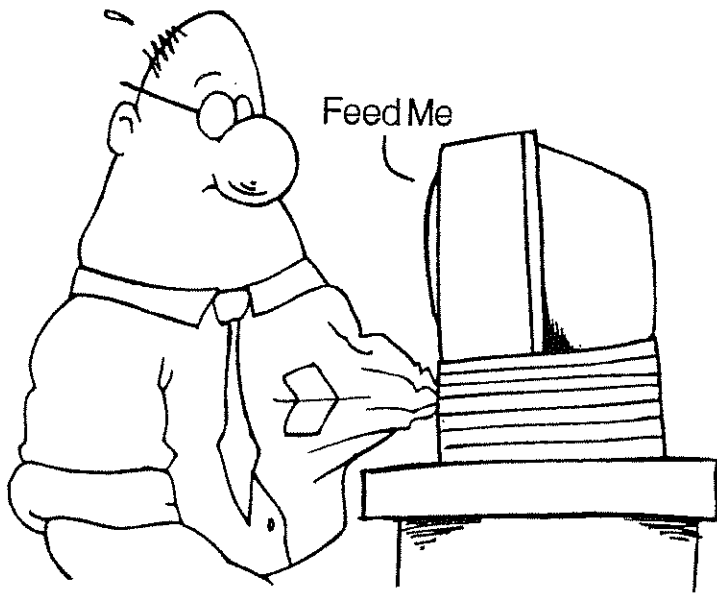
The expenditure was made up of the following :-

BBS Running costs	\$ 48.55
Printing and posting of TND	\$ 251.52
Shop purchases	\$ 4860.00
Administration costs	\$ 14.10

AT THIS TIME OF THE YEAR
MAY I WISH ALL OF THE
MEMBERS AND THEIR FAMILIES
A MERRY CHRISTMAS
& A PRORPOROUS NEW YEAR.

FOR SALE

PEB 1mb RAM DISK,
HOUSED IN WOODEN CLAM SHELL,
AND WITH SUPPORTING ROS SOFTWARE,
CAPACITY 4088 SECTORS,
DURACELL BATTERY BACKUP USEFULL
FOR UP TO 4 YEARS,
FITTED WITH MINI POWER SWITCH,
\$ 250.00 THE LOT
CALL COL CHRISTENSEN (07) 284 7783



USING THE TI-EMULATOR V6.0 AS A VEHICLE FOR GRAPHICS EXPORT

by Alf Ruggeri

I first became aware of the TI-EMULATOR's existence about a year ago, but at the time, with the hustle and bustle of two of my children returning home from overseas business trips, and preparations for a European holiday for my wife and I, there was very little opportunity to even acquire the program.

Motivation to try out the emulator eventually materialized this last September by somewhat of a paradox, my decision to sell my TI system.

EDITORS COMMENTS

Hi gang, the November meeting was well attended, and proved to be big jump for the IBM operators, last month I recieved an IBM computer for the club use as editor, so hopefully with my fingers crossed I should be able to operate it sufficiently enough to produce some articles, so dont be shy, send the IBM or TI articles to me. The IBM disks are 3.5in and the TI are still 5.25in

Alf produced some fancy work with the coupling of the TI and IBM but as Muphy's law has it there was a small glitch, however with somebody else's system things are just a bit different. Thanks Alf for the effort in showing everyone what you are doing with your computer.

Dont forget this December meeting will be a BBQ.
Hope to see you all there.

END OF ARTICLE 



THE MOTIVATION

Those members who attended the September TISHUG meeting may recall that I advertized the sale of my entire TI equipment for reasons given on the day. The portent of this article will of course delay that event by a few months.

On the day following the meeting I attempted to catalogue my TI disks to determine which personal text files, prepared by myself, could be discarded or should be transported across to PC format. Text transportation presented no problem through the use of Mike Dodd's PC TRANSFER program, but I certainly agonized over the inability to transport my collection of high resolution Asgard and TI-ARTIST graphics to the PC.

In an earlier article I had quite firmly established that PC TRANSFER was incapable of importing graphics from a PC. But now faced with the reverse situation, a vague screen prompt seemed to hold some promise. Ben Takach very kindly faxed to me a copy of the original PC TRANSFER documentation, whatever references I had used for my earlier article had vanished into my very organized domestic filing system, probably never to see the light of day again. Ben's documentation revealed that the vague screen prompt was a promise of a future spreadsheet transport feature, but definitely not for graphics.

The most obvious solution would be to scan prints of my graphics as PC images. For this procedure to be effective it would be dependent on a three component task.

MINIMUM TI HARDWARE REQUIREMENT

A. Preparation of nearly perfect prints of the graphics.

B. Determination of an accurate photocopy reduction ratio, to match the TI's maximum 60 DPI output with the minimum 75 DPI rate of the scanner available to me.

C. Maintenance of accurate scanner performance. No matter how feature packed a scanner, it will inevitably and unpredictably either increase or decrease the number of picture elements it is meant to recognize.

This solution relied more on luck than user skill.

A less harrowing approach would be to have a PC display the TI graphic, in some way or another, and then save the picture via a Screen Capture utility. With the second solution in mind it was time to sound out the possibilities with those in the know.

Amongst several of the TISHUG members I contacted was Rolf Schreiber. As with GIF-MANIA and the TIPS package, Rolf's reliable acquaintance with the more exotic programs for the TI, produced a solution that definitely seemed to have merit. He was able to point me in the right direction with the TI-EMULATOR. It had been downloaded from the INTERNET either by, or for Rolf. In any case Rolf, many thanks.

GENERAL COMMENTS ON THE TI-EMULATOR

After I installed the program that Rolf gave me, I was able to determine through the documentation, that it was version 6 released as recently as July of this year.

The program, as previous users will know, was produced by Edward Swartz in the USA. It was commenced as a personal project whilst Edward was still at school in 1992. Given the relative age of the TI99/4A and Edward's, one can only imagine that his interest in the TI must have been fostered by either an older friend / family member TI user or an inspirational user group. The result is astounding.

According to Edward, version 6, although much improved, it is quite different from earlier versions as he has had to exclude various ROM and GROM files upon which TEXAS INSTRUMENTS still claim copyright. Therefore with this version there is the implication that a great deal more TI to PC file transfer will be required, before the emulator can work properly. I have not had the opportunity to compare this version with earlier ones.

To process the TI to PC file transfer, it is necessary that the user has:

1. A working TI99/4A with 32K of expansion memory and an RS232 card.
2. Extended Basic and Editor Assembler cartridges.
3. A serial communication cable to interconnect the TI and a PC. A description of the serial cable's configuration will be given further on in this text.

If you do not have a working TI system, Edward has a software license from TEXAS INSTRUMENTS to sell all the relevant console GROMS, ROMS, and TI cartridge roms as files in PC format.

INSTALLING THE TI-EMULATOR

The installation program that Rolf gave me were on two 3.5 inch high density disks. One disk has the main program and the other has many demonstration files of TI business and games programs.

I will only describe the installation of the main program. The additional demonstration files can be installed into the main program by individual users. The INSTALL.TXT file on the second disk explains the method.

The main disk has 3 files:

600V9T9.BUG
600V9T9.TXT
600V9T9.ZIP

The first 2 files are general information, it is worthwhile to print them out before installing the program.

1. The 600V9T9.ZIP contains the actual program in an archived format. Copy this file to temporary directory named EMULATOR on the PC's hard disk. The name of this directory is not important.

2. Dearchive this file with PKUNZIP.EXE or from XTREE GOLD. The destination path will be the above temporary directory.

3. Five files will be dearchieved:

600V9T9.TXT
INSTALL.EXE
V9T9.DFL

V9T9_6.PKG
VDEM_6.PKG

The 600V9T9.TXT file is the same as on the original disk and if already printed out can be ignored. The other four files constitute the installation package. Run INSTALL.EXE to commence installation from DOS or XTREE GOLD.

4. Follow the on screen menu prompts. The default installation directory will be C:\V9T9\V6.0, I have found that installation to an alternate drive will not be accepted for some reason, therefore if you have less than 2,100,000 byte space on the C drive (this space is required for the minimum installation I propose to describe), I suggest that unnecessary files be moved out to floppies or an alternate drive and accept the default installation directory.

5. On the screen following the default directory prompt, answer the 'Choice' prompt with a Y keystroke to accept installation of the V9T9 demonstration files. Accept the demos subdirectory prompt with an ENTER keystroke.

6. The installation process will now commence in earnest. From the V9T9 V6.0 configuration screen choose the processor type and speed of the PC on which the emulator is being installed. This information adjusts the V9T9.CNF file (configuration).

The installation from disk is now complete. Successive ENTER keystrokes will activate a doc file reader/printer. F2 will enable selection of the different topics. ALT + P enables printout. ALT + X will exit the reader/printer.

The temporary EMULATOR directory and the installation files therein can now be deleted as they are no longer required.

THE TI-EMULATOR'S DOCUMENTATION

It is always a good practise to print out all the doc files by first time users of a program but in this case it is absolutely essential. Be sure to have plenty of paper and a fresh ribbon or ink cartridge on hand as the total printout is 125 pages.

For a shareware program 125 pages of docs is quite unusual, but when it is considered that the docs describe the life and times of the veteran TI99/4A transported to the world of the PC, it is understandable. Edward was quite concise in the way each aspect of the emulator was documented with its own topic file. Some files e.g. TRANSFER.TXT bring

together several related topics in a procedural approach. Notwithstanding this approach, it is not light or casual reading. To establish a firm mental model of the emulator's role, I found it necessary to read the entire docs in depth twice. The second time in a single sitting.

I have included a tree/directory printout of the emulator's directory and subdirectories that is generated by the above installation. This has been done in order to reduce the amount of verbal description that would otherwise be required. It will also simplify my task when referring to a file's location by its subdirectory name only, rather than rattling off the directory-subdirectory-subdirectory's subdirectory-etc-etc names ad nauseum.

THE EMULATOR'S ROLE AT THIS POINT

At this point the emulator's role is limited to Edward's original production of a FORTH program and 'replaying' of demonstration segments of typical TI programs that Edward has prerecorded.

These demonstration segments have an extension of .DEM and are located in the DEMOS subdirectories. As indicated earlier there are more demonstration segments available on the second disk.

To 'replay' or process these segments it is necessary to include them in an execution statement, for example:

```
C:\V9T9\V6.0\V979/D  
C:\V9T9\V6.0\DEMOS\386DX40\PARSEC.DEM or  
C:\V9T9\V6.0\V9T9/D  
C:\V9T9\V6.0\DEMOS\386DX40\MUNCH.DEM
```

The /D switch instructs V9T9.EXE to 'replay' the demonstration files.

This feature was enough proof of feasibility for my graphics export requirement. The V9T9 executable was able to tolerate the presence and successful operation of a screen capture utility. Had it not been so, I would no doubt still be conferring with those in the know for another alternative.

COMPLETING THE INSTALLATION OF THE TI-EMULATOR

As mentioned above, TI-EMULATOR V6 as installed from disk will not completely animate its intended role. It is necessary to transport the TI99/4A operating system files, plug in cartridge files, and the programs that are required to the emulator on the PC.

The way in which this is done is by linking

together the TI and a PC via a serial cable, a modem is not required.

The concept of file transportation between a PC and the TI should not be a novel topic to readers of the TISHUG newsletter. Geoff Trott and Rolf Schreiber have written several articles on the subject, and I have mentioned details of the same in at least three of my articles since 1992.

SERIAL CABLE CONFIGURATION

The cable that I use links the TI RS232's D25 serial connector to my PC's com port 1's D9 connector. There are seven connections between the PC to the TI and they are:

PC D9 pin 1 to TI D25 pin 8
PC D9 pin 2 to TI D25 pin 3
PC D9 pin 3 to TI D25 pin 2
PC D9 pin 4 to TI D25 pin 20
PC D9 pin 5 to TI D25 pin 7
PC D9 pin 6 to TI D25 pin 6
PC D9 pin 8 to TI D25 pin 5

The cable length that I have found suitable is just over a metre, it is not shielded.

Apart from TI connections pins 2,3,7 i.e. Data Receive, Data Send, Logic or Signal Ground respectively, some of the other connections I have used may be superfluous, as I have read of other users employing only the above three, but by using all seven I have never encountered any extraneous problems.

The above serial cable configuration must not be confused with the standard NULL MODEM cable. The NULL MODEM cable's purpose is to link two PC's or two TI's, and to do so the Data Receive and Data Send lines are reversed from one end of the cable to the other.

The TI's Data Receive and Data Send pins are already reversed in manufacture, in respect to PC's, and therefore further reversal of these two signals via a NULL MODEM cable will not permit communication between the TI and the PC.

PREPARATION OF THE TI99/4A FOR FILE TRANSPORT

To transport the TI's operating system and cartridge contents to the emulator it is first necessary to locate an assembly routine named TRANS on the TI. This routine is located on the emulator's DISK subdirectory.

In order to transport TRANS to the TI, a simple EXTENDED BASIC program named RECEIVER has to be entered on the TI. The program listing of RECEIVER is:

```
80 REM Receiver for TRANS object code from PC
90 REM Legal baud rates: 300, 600, 1200, 2400,
4800, 9600
100 INPUT "Enter the baud rate: ":B
110 OPEN #1:"RS232.BA="&STR$(B)&".DA=8.PA=N",
      UPDATE,VARIABLES1,INTERNAL
120 OPEN #2:"DSK1.TRANS",OUTPUT,DISPLAY,FIXED 80
130 PRINT "Receiving..."
140 INPUT #1:A$
150 IF A$="" THEN 200
160 PRINT #2:A$
170 PRINT ".";
180 PRINT #1:"0"
190 GOTO 140
200 CLOSE #2
210 CLOSE #1
```

Save this program to a blank disk and label the disk ROMS EXPORT.

EXPORT OF TRANS TO THE TI

1. Before the export of TRANS can be commenced it is necessary to edit the FORTH.CNF file in the V6.0 subdirectory. This is done by removing the hash (#) character from the line #RS232/1=1,4 in the [Hardware Options] section. Save the edited file.

2. Run the FORTH.BAT in the V6.0 subdirectory. Insert an ENTER keystroke to select the FORTH kernel in the V9T9 Module Selection Screen. FORTH will now load.

3. When the V9T9 FORTH prompt is displayed followed by a flashing cursor, type in the word TRANSFER. Reply with any keystroke to FORTH's "Press a key to start" prompt.

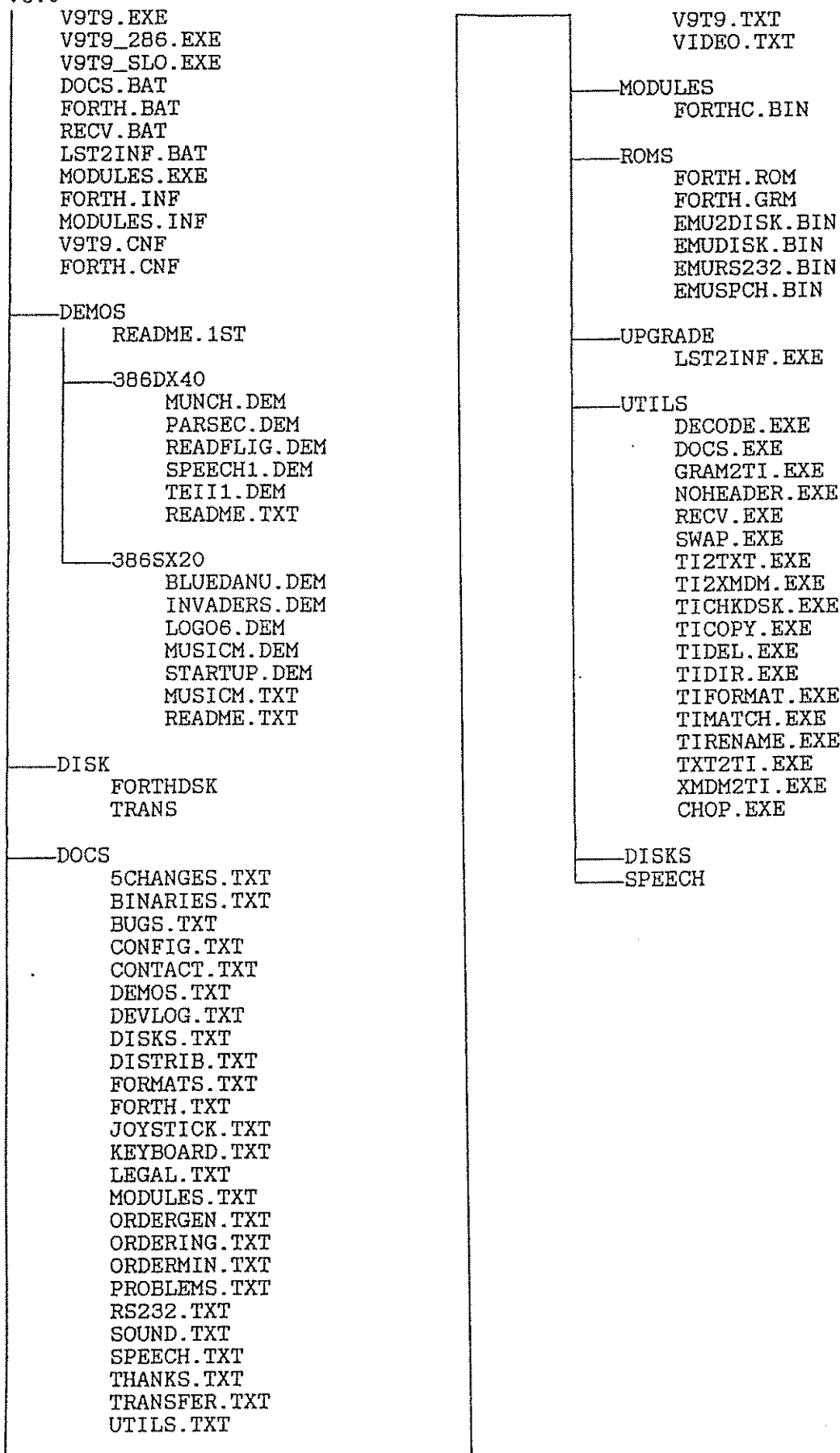
4. Follow FORTH's instructions to load and run RECEIVER (from the ROMS EXPORT disk) on the TI in EXTENDED BASIC. Input a baud rate of 2400. Leave the disk in drive 1 to accept TRANS's arrival.

5. Press any key on the PC followed by an entry of 4 to select the 2400 baud rate.

Export of TRANS from the PC to the TI will now take place. The event is marked by the appearance of a lengthening horizontal line of dots on the PC and the TI screens. The duration of this process is 2 minutes and 40 seconds. At the end of the export press CTRL + BRK on the PC to terminate the emulator. Check that TRANS has been accepted by the ROMS EXPORT disk.

TI-EMULATOR's TREE / DIRECTORY STRUCTURE AFTER DISK INSTALLATION

C:\V9T9
└─V6.0



EXPORT OF CONSOLE AND EDITOR/ASSEMBLER ROMS TO THE PC

1. Remove the ROMS EXPORT disk from the TI drive 1 and replace the EXTENDED BASIC cartridge with the EDITOR/ASSEMBLER.

2. Reinsert the ROMS EXPORT disk back into drive 1. Select EDITOR/ASSEMBLER's option 3; Load and Run and type in DSK1.TRANS.

3. When TRANS loads up it will ask for RS232 parameters. Type in RS232.BA=2400.DA=8.PA=N.

4. A transfer menu will now be displayed, there are 8 options:

- (0) Output device
- (1) Console rom (required)
- (2) Console grom (required)
- (3) Speech rom
- (4) Current module
- (5) Disk DSR
- (6) RS232 DSR
- (7) Disk image

Option 0 is used only to reset the RS232 parameters.

As indicated by the menu only options 1 and 2 are required to activate the emulator. Option 4 will also be required unless you only wish to use TI basic on the emulator.

Options 3,5,6,7 are for more adventurous users, there is certainly enough documentation supplied as to their significance and application.

For my application I will use options 1,2,4.

5. The ROMS EXPORT disk can now be removed from the TI. Run the RECV.BAT file from the V6.0 directory.

6. At the Com port prompt enter 1.

7. At the IRQ of Com port 1 enter 4.

8. Type in 2400 for the baud rate and ENTER. The PC is now ready to import roms and grom contents as files.

9. Select option 1 from the transfer menu. The PC on screen message will indicate that it is preparing a location and file name for the intended import.

should the export from the TI not proceed due to some form of error, press any key on the TI to redisplay

the transfer menu and try the option selection again. Restart the emulator's RECV.BAT only if an error message such 'unknown code recieved' is displayed on the PC screen. The RECV.BAT is restarted by any PC keystroke. Failure by the TI to export its contents could be due to stray EMF radiation or baud rate. In any case persevere with the transfer menu, you will be rewarded.

When export from the TI occurs, indication of this event will be acknowledged by a lengthening horizontal bar across the bottom of the TI screen. The PC will display the event by the same lengthening line of dots that indicated the export of TRANS.

At the conclusion of a successful TI export select the next option.

10. Proceed with option 2.

11. After option 2 has been successfully processed, select option 4 from the transfer menu; the Current module. In this case EDITOR/ASSEMBLER.

12. A PC prompt will request the entry of a seven character name to be used for the module base name. Type in EDIASSM and an ENTER keystroke.

13. The PC will now prompt for the module name. Type in E/A and an ENTER keystroke.

14. After the cartridge contents are successfully transported to the PC, a further PC prompt will ask for acceptance that E/A be written to the emulator's MODULES.INF file. Reply with a Y keystroke. Press ESC to exit the operation of RECV.BAT.

The imported console rom and grom contents will be lodged by RECV.BAT's operation as 994AROM.BIN and 994AGROM.BIN respectively in the ROMS subdirectory. The imported EDITOR/ASSEMBLER contents will similarly be lodged in the MODULES subdirectory as EDIASSMG.BIN.

15. Run MODULES.EXE from the V6.0 subdirectory. The characters E/A as entered in step 14 will displayed in a white colour on a black background. Press F1 to select E/A, the white foreground colour will turn to yellow, insert an ENTER keystroke to accept. By this step, the EDITOR/ASSEMBLER option will be presented as an alternative to TI BASIC when the emulator is operated.

At this point the TI-EMULATOR is fully equipped to operate as a TI99/4A but it will still require the import of user programs, unless it is intended to operate TI BASIC or EDITOR/ASSEMBLER on their own. My reason in using this program, is as mentioned in the title, that of a vehicle for graphic export.

For my graphics program I have chosen TI-ARTIST PLUS. The essential files that will allow picture display and operate from EDITOR/ASSEMBLY are:

ARTIST1
ARTPT1
ARTPT2
ARTPT3
ARTPT4
EXTDSR
SELECT
and of course a picture HANDS_P

These files will also have to be exported to the emulator, but not by using the TRANS/RECV method.

EXPORT OF USER PROGRAMS TO THE EMULATOR

Program files such as the TIAP are exported via the same serial cable but they are transferred in XMODEM protocol. This is by using TELCO V2 in an XMODEM upload setup on the TI and NETCOMM V3 in download setup on the PC, the baud rate is kept at 2400 bauds as it is fairly reliable. Any PC modem program that supports an XMODEM protocol can be used.

I will not give a detailed explanation of the export procedure using TELCO, as most of the readers who have used bulletin boards, will know the nature of the beast (please refer to the TELCO docs if uncertain) and furthermore not all potential users of the TI-EMULATOR would have or use NETCOMM V3. It is only necessary to say that it is a very simple procedure without any real traumas.

The TIAP or user program files are not to be transported to any of the emulator's established subdirectories, they are not in a format that the emulator will recognize. Instead they are to be stored in a temporary directory named TI-FILES.

Before any imported files can be used by the emulator they have to be processed by an executable named XMDM2TI.EXE in the UTILS subdirectory. The execution statement for an imported file e.g. ARTIST1 is:

```
C:\V9T9\V6.0\UTILS\XMDM2TI/V C:\TI-FILES\ARTIST1  
C:\V9T9\V6.0\DISK
```

On screen text informs of conversion progress.

The ARTIST1 file will be converted to the emulator's enclave environment and it will be lodged in the emulator's DISK directory. It should come as no surprise that the converted ARTIST1 will not sport the usual DOS extension, after all what would a DOS extension mean to our old friend EDITOR/ASSEMBLER. When

all the imported program have been thus converted, the TI-FILES temporary directory and all its contents can be deleted.

OPERATING THE EMULATOR

1. Run the V9T9.EXE in the V6.0 subdirectory.

2. A Module selection screen will display the available modules installed, with a selection number. In this case where only E/A is installed, press ENTER to accept it.

3. The next screen to be displayed will be the 1981 TI99/4A initial screen. Press any key to see that TI BASIC and EDITOR/ASSEMBLER are offered in the same way as on the original TI99/4A.

4. Select EDITOR/ASSEMBLER and choose OPTION 5.

5. Type in DSK1.ARTIST1 and TIAP will load up in the same way it always has.

I will not describe the way TIAP runs in the emulator. All the usual features appear to operate in their normal manner, and yes, my picture is quite unperturbed by its immigration to the PC screen. As I mentioned earlier, the screen capture utility works and therefore mission accomplished. Soon I will have to begin the real work of mustering all the graphics ready for the same trip.

As mentioned several times earlier in the text, to exit any part of the emulator, including TIAP, i.e. key in CTRL + BREAK.

SOME CONCLUDING COMMENTS

A point of interest during the emulator's running of EDITOR/ASSEMBLER and TIAP when the path DSK1 has been entered, is the appearance of a small green horizontal bar in the lower left hand side of the PC screen. You will no doubt notice this when you install the TI-EMULATOR on your own PC. No it is not a glitch. It is Edward's faithful emulation of the drive 1's L.E.D. in operation.

You will probably be wondering as to how the TI's original 256x192 pixel screen will appear on a typical 640x480 pixel PC screen, well, the aspect ratio is still the same i.e. 1.3 but the picture's proportion appears a little unusual. However there is no distortion in the screen captured picture. Graphic Workshop indicates that the screen picture size is 320x200 pixels which yields an aspect ratio of 1.6, and would explain the emulator's rendition of the TI screen. But when the

picture is cropped of superfluous surrounding area, the size of my original picture, chosen to be exactly 256x192, is maintained.

I would not attempt to call this article anything like a comprehensive review of the TI-EMULATOR V6. There is simply too much to cover in one single article. Instead my approach has been a very linear one, and that was for graphics transportation. To say that the program is packed with a wealth of features is definitely an understatement which I hope other users in our community will venture to explore. Try it out for yourself.

It is a valuable learning experience not only in TI to PC file transfer process but also in understanding a little of what console and cartridge files animate the TI99/4A.

Remember this emulator is a shareware program and Edward Swartz should be rewarded for his effort if you use the program. His address is in the disk documentation.

Best regards
Alf Ruggeri

END OF ARTICLE 



PUZZLE

This months list of words is based around the subject of "FISHING TERMS AND ITEMS"

Q M U E A Q Y M N F F N H D C Z A M D A
 J O D P B C G F Z N P G V O Y D C E H D
 B F I I A W A L L S A Z D Q J M B O J C
 S A B U T R V U E Y P M T Z D M X X I E
 J C T Y K N E K S J U Q R E Z N Z Z K P
 C C B R S Y A L B G K G L E K Q X D H K
 B E F X O L N O G Q D U K W H S A F R C
 O S L X K U A F X N B G I H N S A S K G
 F S Y W W T T K I G A P F G J D I B C H
 Z O O B A R B A R Q R X T J G V G F P O
 C R H C F X C W Y A I E G E H D C R I K
 T I H E W E V I C I E V Q L N B H X D X
 L E E X O S T J E G X S B A I T M B G E
 Q S F S D B H I G H B L R B W R L N Q V
 P P M D L P G A B R O O E A O Q I O J O
 B Q N K B K G W R X Y O F W O T I A P O
 S U Y O B G C S K K F H K L I C Q D M J
 M X F M T A N H Z Z B J Y H K O G Y X J
 S A V T D R S D S Q C X W L P Z P Y I D
 Y R A P A K M S R P J A G E F T J J N F

Find these hidden words

In this puzzle there (20) words somewhere horizontally, vertically, diagonally even backwards.

GOOD LUCK !

ACCESSORIES	ANGLER	BAIT
BARB	BASKET	BASS
BITE	BOAT	CARP
COARSE	COD	FISHERMAN
FLY	HOOK	LAKES
NET	SHARK	TROUT
WHITING		WORM

This puzzle was compiled using Ashley Lynn's programe "Word Puzzle which can be ordered through TIsHUG.

END OF ARTICLE 

Wanted to Buy

We have a new enthusiastic young family in our TI computer club who are trying to build up a TI system, at the moment they are in need of an RS232 for the P.E. box.

If you can help with this equipment for a resonable price please ring Stefan or Sue on 02 671 2148.

CO-ORDINATOR'S REPORT FOR 1995

The Year in Review

1995 saw a further falling away of interest in the TI, which was reflected in the falling sales in the shop and in the reduced number of articles written locally in the TND. BBS usage has fallen to an all time low. However the club continues to remain strong in other ways. Sales of IBM computer parts and accessories have grown so that they now contribute the greater part of our club income. In fact, shop income has remained fairly consistent throughout the year, and our level of financial security has been maintained. We remain financially sound, and as such, continue to provide continuing support for TI users and now a growing body of IBM users.

The club now owns a system which is more representative of those in use in the community, having a 486 board and a large hard drive, as well as a CD Rom and sound card. We are attempting to upgrade our equipment as well, and as fast as we can, because we realize that we need to keep pace with what is happening in the computer world. We also have bought the editor a good inkjet printer, a Lexmark, which seems to do the work well. I expect that we will continue to remain viable during 1996, and I expect that we will begin to grow in numbers again, slowly, as we attract local membership. To maintain a viable existence, we need to grow a bit. We are beginning to advertise in the local school newsletters for people who need help and would like to join our club. I expect this will be successful, and that we will develop special interest groups for clone usage. There are many people out there who have the latest equipment without any support or help, except their children, and who, I am sure would like our support. If we grow a little, we will continue to upgrade equipment, and to support the TI in its senescence.

I have never realized it before, but computers grow old like people. As they age they forget what they are doing, sometimes they freeze up, and simply can't cope. They grow fickle, they lose their capacity to cope. In human terms, the TI is very old. I calculate that the normal lifespan of a computer is at best only about five years. The TI was orphaned in 1983, and most TIs have already gone where good computers go. TIs are very old and have to be nursed back to health, with love and devotion. Fortunately the club has some excellent doctors and nurses, who are doing a remarkable job in keeping TIs alive. Our Dr. Geoff Trott has experimented for some time in total brain surgery, and replacement of neurological circuits and memory banks. Life support systems are not unknown. As systems die, all manner of supports are being tried. However, the TI continues to defy death, and in some cases there is actual evidence of resurrection. In August in St. Albans, a real miracle occurred. A Ti gave

birth to five IBM clones, and thanks to the care of Ross Mudie, all survived, and are doing well. This apparent miracle is there for all to see. St. Albans may well become the Mecca for Ti users from all over the world, who come to remember and revere the Ti for that memorable week in August 1995, when it alone, controlled and coordinated the whole programme for the events of that week on that hallowed ground. Congratulations Ross for such a miracle. Age shall not weary them, and we shall remember them, as they labour in their old old age to do our will.

What of 1996. I hope to see continued support and improved nursing care for the TI. I also hope to see a slow and gradual increase in local membership, with people we can help. I hope to see a growing emphasis on hands on activity. I want to see members bring their own systems, notebooks, and share ideas and experiences. I want to see members write about their computer experiences in our own magazine. Though the TI is very very old, I do not expect to see an actual funeral this next year. We will support the TI, but we will move forward with the tide of technological change. Where will it lead? who knows? But it certainly will be interesting. Scanners, graphics, sound systems, virtual reality, incredible games, massive storage systems, massive CD size, incredible speed, and of course, Windows 95. I have no doubt that Windows 95 alone, is sufficient reason to keep our club alive, as we rescue those who are finding Windows a painful experience.

I would like to thank all those people who contributed in 1995. As usual I want to specifically mention Geoff Trott for his ability to keep TIs alive. I want to mention Percy for all he has done, and Cyril, and Loren and Peter and Tom and Larry and Derek, and in fact everyone who has contributed to make our club the pleasant group of people that it is. Thank you for your support, and I trust we continue to get your help and support in 1996

Dont forget the annual meeting in December at the meeeting. Don't forget to come and see if you can help us in some way next year.

See you at the meeting.

Dick Warburton

LEARN TO KNOW YOUR TI

LESSON 33

with Percy Harrison

In this final lesson we will look at debugging, STOP and CON functions.

If we had NASA's budget and time scale, we might teach debugging by systematically categorising all types of errors, preparing a set of "bad" programs containing these errors, and conducting "lab" sessions to drill in debugging techniques.

The "sigh and moan" technique being a loser, you will need a bag of tricks which will help to isolate program bugs, and you should practice on programs that you have written as you have gone through the earlier lessons in this series.

The inexperienced debugger feels hopeless inertia when "it doesn't work right". Rather than sit and stare, it is more useful to try some changes. Any changes are better than none, but random changes are very inefficient. The best changes are those which eliminate sections of the program from the list of possible hiding places for the bug.

As programs grow in complexity, more of the bugs result from unforeseen interactions between separate parts of the program. The bag of tricks offered in this lesson helps find these also. Delay loops, PRINT commands, and STOP statements will help you to see how the program is functioning.

Many programmers overlook those techniques they can use after the program is stopped with a FCTN CLEAR, STOP, or an END. You can PRINT out any variable values you like so as to see what the program has done. You can also do arithmetic in the PRINT command to check what the program should be doing.

LESSON 33 DEBUGGING, STOP, CON

THE STOP COMMAND

Enter and run: 10 REM SECRET STOP
 20 CALL CLEAR
 25 G=INT(200*RND)

```
30 FOR I=0 TO 200
40 IF I<>G THEN 50
45 STOP
50 NEXT I
```

The program will stop.

What do you suppose the secret value of I was?

Enter: PRINT I (No line number)

and find out.

"STOP" is just like "END". It doesn't matter which you use.

STOP makes the computer stop and enter the command mode.

You can have as many STOP commands in your program as you like.

STOP is used for debugging your program.

ANOTHER WAY TO STOP RUNNING THE PROGRAM

You can stop running the program with FCTN CLEAR. This means you hold down the key that says FCTN on it, and then press the "4" key.

Try this: 10 REM GO FOREVER
 15 PRINT
 20 PRINT "MUD TURTLES OF THE WORLD"
 30 PRINT "UNITE!"
 35 PRINT
 40 FOR T=1 TO 400
 41 NEXT T
 99 GOTO 10

The command FCTN CLEAR stops the program wherever it is. It prints:

```
BREAKPOINT AT XX peeps and enters the command mode
```

(XX is the line number where it stops).

The command CON starts the program again at the same spot.

WHAT DO YOU DO AFTER YOU STOP?

You put STOP in whatever part of your program is not working right. Then you run the program. After it stops, you look to see what happened.

(Or you use FCTN CLEAR to stop the program, but it may not stop in the spot where the trouble is).

Put on your thinking cap. Ask yourself questions about what happened as the program ran.

You are in command mode. You can:

List parts of the program and study them.

Use the PRINT command to look at variables. Do they have the values you expected?

Use LET to change values of variables.

If you find trouble, you may add lines, change lines, or delete lines.

STARTING THE PROGRAM AGAIN

There are three ways to start a program. They are:

CON	for CONTINUE
RUN XX	where XX is a line number
run	your old friend

You may use the CON command if you stopped the program with FCTN CLEAR and did not make any changes in the program.

Otherwise, your only choice is to use RUN.

You can start at the lowest line number using RUN,

or you can start at any line XX using RUN XX.

Either way, RUN or RUN XX, the variable boxes are emptied before the program is run.

DEBUGGING

Little errors in your program are called "bugs".

If your program doesn't run right, do these four things:

1. If the computer printed an ERROR MESSAGE, it tells what line it stopped on. Careful, the mistake may really be in another line!
2. If the computer just keeps running but doesn't do the right thing, stop it and put in some PRINT lines which will tell what is happening.

3. Or you can put STOP commands into the program.

4. If the program runs so fast that you can't tell what is happening, put in some delay loops to slow it down.

After you have fixed the program, take the PRINT lines, the STOPS and the delay loops out of the program.

ANSWER TO LESSON 32

```
2 REM ===== CODE/DECODE =====
3 GOTO 1000
100 REM
101 REM ----- MAIN LOOP
102 REM
105 REM ----- GET PASSWORD
110 GOSUB 400
114 PRINT
115 PRINT "CODE OR DECODE <C/D>"
116 CALL KEY(O,Y,S)
117 INPUT Y$
120 IF Y$="C" THEN 500
125 IF Y$="D" THEN 600
130 GOTO 115
199 END
400 REM
405 PRINT "INPUT PASSWORD"
407 INPUT PW$
409 F$=SEG$(FW$,1,1)
410 FOR I=2 TO LEN(PW$)
411 L1$=SEG$(PW$,I,1)
412 FOR J=1 TO LEN(F$)
415 L2$=SEG$(F$,J,1)
420 IF L1$=L2$ THEN 430
421 NEXT J
422 F$=F$ & L1$
430 NEXT I
431 PW$=F$
432 PRINT
433 PRINT "THE SHORTENED PASSWORD IS"
434 PRINT
435 PRINT " ";PW$
440 FOR J=1 TO 26
442 L1$=SEG$(A$,J,1)
444 FLAG=0
446 FOR I=1 TO LEN(PW$)
447 IF SEG$(PW$,I,1) <> L1$ THEN 450
448 FLAG=1
449 I=LEN(PW$)
450 NEXT I
452 IF FLAG=1 THEN 455
454 D$=D$ & L1$
```

```

455 NEXT J
470 A$=PW$ & D$
472 PRINT
475 PRINT "ALPHABETS"
476 PRINT
477 PRINT
480 PRINT "CIPHER ALPHABET"
481 PRINT
482 PRINT A$
483 PRINT
484 PRINT
485 PRINT "NORMAL ALPHABET"
486 PRINT
487 PRINT B$
488 PRINT
499 RETURN
500 REM
504 PRINT
505 PRINT "INPUT MESSAGE, END WITH '*' "
506 PRINT
510 CALL KEY(0,Y,S)
511 IF Y=-1 THEN 510
512 Y$=CHR$(Y)
515 IF Y$="*" THEN 590
520 IF Y<65 THEN 540
521 IF Y>89 THEN 540
525 Y$=SEG$(A$,Y-64,1)
540 P$=P$ & Y$
545 GOTO 510
590 PRINT
591 PRINT P$
592 PRINT
599 END
600 REM
609 PRINT
610 PRINT "TYPE IN THE CODED MESSAGE"
611 PRINT
612 PRINT "END WITH A '*' SIGN"
613 PRINT
615 CALL KEY(0,Y,S)
616 IF Y=-1 THEN 615
617 Y$=CHR$(Y)
618 IF Y$="*" THEN 690
620 FOR I=1 TO 26
625 IF Y$<>SEG$(A$,I,1) THEN 640
630 Y$=SEG$(B$,I,1)
631 I=I+1
640 NEXT I
645 PRINT Y$
650 GOTO 615
690 END
1000 REM
1003 CALL CLEAR
1004 PRINT
1010 A$="ABCDEFGHIJKLMNOPQRSTUVWXYZ"
1015 B$=A$
1999 GOTO 100

```

When you have run this program try taking out the FLAG lines one at a time to see what affect they have on the program.

Also when running the program you must use the same password to decode the coded message that you used to make the coded message as each new password creates a new code alphabet.

Well, after three years of preparing these lessons they have finally come to an end. I hope that you have learned something from them and have had as much enjoyment (and frustration) in doing them as I have had in trying to ensure that they have been prepared free of any "BUGS".

- **END OF ARTICLE** -

A HANDY CALENDAR FOR 1996

JAN							FEB							MAR						
SU	MO	TU	WE	TH	FR	SA	SU	MO	TU	WE	TH	FR	SA	SU	MO	TU	WE	TH	FR	SA
	1	2	3	4	5	6				1	2	3							1	2
7	8	9	10	11	12	13	4	5	6	7	8	9	10	3	4	5	6	7	8	9
14	15	16	17	18	19	20	11	12	13	14	15	16	17	10	11	12	13	14	15	16
21	22	23	24	25	26	27	18	19	20	21	22	23	24	17	18	19	20	21	22	23
28	29	30	31	25	26	27	28	29	24	25	26	27	28	29	30					
APR							MAY							JUN						
SU	MO	TU	WE	TH	FR	SA	SU	MO	TU	WE	TH	FR	SA	SU	MO	TU	WE	TH	FR	SA
	1	2	3	4	5	6				1	2	3	4							1
7	8	9	10	11	12	13	5	6	7	8	9	10	11	2	3	4	5	6	7	8
14	15	16	17	18	19	20	12	13	14	15	16	17	18	9	10	11	12	13	14	15
21	22	23	24	25	26	27	19	20	21	22	23	24	25	16	17	18	19	20	21	22
28	29	30	26	27	28	29	30	31	23	24	25	26	27	28	29					
JUL							AUG							SEP						
SU	MO	TU	WE	TH	FR	SA	SU	MO	TU	WE	TH	FR	SA	SU	MO	TU	WE	TH	FR	SA
	1	2	3	4	5	6				1	2	3	1	2	3	4	5	6	7	
7	8	9	10	11	12	13	4	5	6	7	8	9	10	8	9	10	11	12	13	14
14	15	16	17	18	19	20	11	12	13	14	15	16	17	15	16	17	18	19	20	21
21	22	23	24	25	26	27	18	19	20	21	22	23	24	22	23	24	25	26	27	28
28	29	30	31	25	26	27	28	29	30	31	29	30								
OCT							NOV							DEC						
SU	MO	TU	WE	TH	FR	SA	SU	MO	TU	WE	TH	FR	SA	SU	MO	TU	WE	TH	FR	SA
	1	2	3	4	5				1	2	1	2	3	4	5	6	7			
6	7	8	9	10	11	12	3	4	5	6	7	8	9	8	9	10	11	12	13	14
13	14	15	16	17	18	19	10	11	12	13	14	15	16	15	16	17	18	19	20	21
20	21	22	23	24	25	26	17	18	19	20	21	22	23	22	23	24	25	26	27	28
27	28	29	30	31	24	25	26	27	28	29	30	29	30	31						

LETTER TO THE EDITOR

Dear Bob,

In the August, 1994 TND on page 22 in the IBM section there was a calendar programme for GW Basic. The example of the page dump to the printer only occurs when "shift & Print Screen" is pressed after the program runs. I am not really a programmer but I have modified the program to print directly to my Epson RX80 printer.

I am enclosing two copies of the modified program, one to print only to the screen and the other to print out the whole 12 months on the printer. I had to substitute some of the "Print" commands with "LPRINT" and alter the "TABS" in line 160 and 170 to line up the months, days of the week and the dates, otherwise you will see the effect on the not-so-good copy.

I have now got a TIEMUL Program Version 5.0 that I can run on my 386/DX40 PC and the title screen of the TI comes up on the 386/DX40 as though you were looking at the TI99/4A screen. My son, Phillip, got it on EMAIL (that is, version V.4.0, the shareware program) from a Mr. Edward Swartz in the USA (Texas) and then I sent him \$40.00 US to get a registered program version 5.0 which has a lot more modules than version 4.0. The modules are of Basic, Extended Basic, Editor Assembler, TI Writer, LOGO and a lot of TI module games.

The address on EMAIL is-

Edward Swartz
lswartze@ralph.txswu.edu>

Geoff Trott and Tony McGovern should be able to get the shareware program as they both have access to EMAIL at the universities they teach at. My son, Phillip, has access to EMAIL as he is a student at the "Central Old Uni" at Rockhampton.

Hoping that this information can be of help to anybody, I will close with the best of luck from a long time member of TISHUG in North Queensland.

J.A. Hagart, J.P.(Qld)
(John)

GW BASIC PROGRAM CALENDAR.BAS
TO PRINT OUT TO SCREEN ONLY

```
10 CLS: DEFINT A-Z
20 DIM BD(28),DA(12,7,6),DM(12),M$(12)
30 FOR T=1 TO 12: READ DM(T): NEXT
40 FOR T=1 TO 28: READ BD(T-1): NEXT
```

```
50 FOR T=1 TO 12: READ M$(T): NEXT
60 INPUT "WHAT YEAR? ;Y
70 X=Y-14: IF X<0 THEN 60
80 X=Y-(INT(X/28)+14)
90 IF Y/4=INT(Y/4) THEN DM(2)=29 ELSE DM(2)=28
100 C2=1: CO=BD(X)-1
110 FOR T=1 TO 12
120 C3=C3+1: CO=CO+1: DA(T,CO,C2)=C3: IF CO=7 THEN CO=0:
    C2=C2+1
130 IF C3<>DM(T) THEN 120 ELSE C3=0: C2=1
140 NEXT: PRINT
150 FOR T=1 TO 12 STEP 3
160 LOCATE,10: PRINT M$(T) TAB(37) M$(T+1) TAB(63)
    M$(T+2): PRINT
170 PRINT " S M T W T F S" TAB(29) " S M T W T F S"
    "TAB(55) " S M T W T F S"
180 FOR TR=1 TO 6
190 FOR TRR=1 TO 3
200 LOCATE ,(TRR-1)+2: PRINT " ";
210 FOR TT=1 TO 7
220 D=DA(T+TRR-1,TT,TR)
230 IF D=0 THEN D$=" ": GOTO 250
240 D$=RIGHT$( " "+STR$(D) ,3)
250 PRINT D$;
260 NEXT
270 NEXT : PRINT
280 NEXT
290 NEXT
300 END
310 DATA 31,28,31,30,31,30,31,31,30,31,30,31,3,4,5,7,1,2
    ,3,5,6,7,1,3,4,5,6,1,2,3,4,6,7,1,2,4,5,6,7,2
320 DATA "JANUARY","FEBRUARY"," MARCH "," APRIL "
    ," MAY "," JUNE "," JULY "," AUGUST","SEPTEMBER","
    OCTOBER", "NOVEMBER","DECEMBER "
```

GW BASIC PROGRAM CALENDAR.BAS
TO PRINT OUT TO EPSON RX80 PRINTER

```
10 CLS: DEFINT A-Z
20 DIM BD(28),DA(12,7,6),DM(12),M$(12)
30 FOR T=1 TO 12: READ DM(T): NEXT
40 FOR T=1 TO 28: READ BD(T-1): NEXT
50 FOR T=1 TO 12: READ M$(T): NEXT
60 INPUT "WHAT YEAR? ;Y
70 X=Y-14: IF X<0 THEN 60
80 X=Y-(INT(X/28)+14)
90 IF Y/4=INT(Y/4) THEN DM(2)=29 ELSE DM(2)=28
100 C2=1: CO=BD(X)-1
110 FOR T=1 TO 12
120 C3=C3+1: CO=CO+1: DA(T,CO,C2)=C3: IF CO=7 THEN CO=0:
    C2=C2+1
130 IF C3<>DM(T) THEN 120 ELSE C3=0: C2=1
140 NEXT: PRINT
150 FOR T=1 TO 12 STEP 3
160 LOCATE,10: LPRINT TAB(6) M$(T) TAB(31) M$(T+1)
    TAB(54) M$(T+2): LPRINT
```

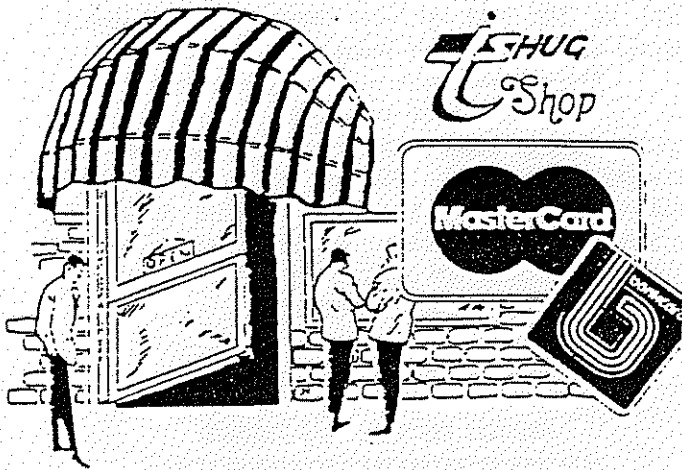
```
170 LPRINT " S M T W T F S" TAB(24) " S M T W T F S"  
    TAB(46) " S M T W T F S"  
180 FOR TR=1 TO 6  
190 FOR TRR=1 TO 3  
200 LOCATE ,(TRR-1)+2: LPRINT " ";  
210 FOR TT=1 TO 7  
220 D=DA(T+TRR-1,TT,TR)  
230 IF D=0 THEN D$=" " : GOTO 250  
240 D$=RIGHT$(" "+STR$(D) ,3)  
250 LPRINT D$;  
260     NEXT  
270     NEXT : LPRINT  
280     NEXT  
290     NEXT  
300 END  
310 DATA 31,28,31,30,31,30,31,31,30,31,30,31,3,4,5,7,1,2  
    ,3,5,6,7,1,3,4,5,6,1,2,3,4,6,7,1,2,4,5,6,7,2  
320 DATA "JANUARY", "FEBRUARY", " MARCH ", " APRIL ", "  
    MAY ", " JUNE ", " JULY ", " AUGUST ", "SEPTEMBER",  
"OCTOBER", "NOVEMBER", "DECEMBER "
```

MERRY

CHRISTMAS

END OF ARTICLE





Computer System Complete
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END OF ARTICLE

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REGIONAL GROUP REPORTS

Meeting Summary For DECEMBER

Central Coast	09/12/95	Saratoga
Glebe	07/12/95	Glebe
Hunter Valley	10/12	17/12/95
Illawarra	05/12/95	Keiraville
Liverpool	08/12/95	Yagoona West
Sutherland	15/12/95	Jannali

CENTRAL COAST Regional Group

Regular meetings are normally held on the second Saturday of each month, 6.30pm at the home of John Goulton, 34 Mimosa Ave., Saratoga, (043) 69 3990. Contact Russell Welham (043)92 4000.

GLEBE Regional Group

Regular meetings are normally on the Thursday evening following the first Saturday of the month, at 8pm at 43 Boyce Street, Glebe. Contact Mike Slattery, (02) 692 8162.

HUNTER VALLEY Regional Group

The Meetings are usually held on the second or third Sunday of each month at members homes starting at 3pm. Check the location with Geoff Phillips by leaving a message on (049) 428 617. Please note that the previous phone number (049) 428 176 is now used exclusively by the ZZAP BBS which also has TI support. Geoff.

ILLAWARRA Regional Group

Regular meetings are normally held on the first Tuesday of each month after the TISHUG Sydney meeting at 7.30pm, at the home of Geoff Trott, 20 Robsons Road, Keiraville. A variety of investigations take place at our meetings, including Word Processing, Spreadsheets and hardware repairs. Contact Geoff Trott on (042) 29 6629 for more information.

* LIVERPOOL Regional Group *

Regular meeting date is the Friday following the Tishug Sydney meeting at 7.30 pm. Contact Larry Saunders (02) 644-7377 (home). After 10.30 PM or at work (02)708 1987

Liquorland YAGOONA for more information.

*** ALL WELCOME ***

8th DECEMBER 1995 : MY PLACE

Bye for now Larry.

Liverpool Regional Co-Ordinator

SUTHERLAND Regional Group

Regular meetings are held on the third Friday of each month at the home of Peter Young, 51 Jannali Avenue, Jannali at 7.30pm. Peter Young.

TISHUG in Sydney

Monthly meetings start promptly at 2pm on the first Saturday of the month. They are held at the MEADOWBANK PRIMARY SCHOOL, on the corner of Thistle Street and Belmore Street, Meadowbank. Regular items include news from the directors, the publications library, the shop, and demonstrations of monthly software.

DECEMBER MEETING - 2nd DECEMBER

FEBRUARY MEETING - 3rd FEBRUARY

The cut-off dates for submitting articles to the Editor for the TND via the BBS or otherwise are:

FEBRUARY 13th JANUARY

These dates are all Saturdays and there is no guarantee that they will make the magazine unless they are uploaded by 6:00 pm, at the latest. Longer articles should be to hand well before the above dates to ensure there is time to edit them.

OVERHEARD

Overheard last meeting, that the shop was a bargain hunters delight.



OVERHEARD

Overheard the other day, the biggest commercial Software bug, "WINDOWS 95".

Who is having problems with "Windows 95"? Are your problems with "Windows 95" or are they more to do with the computer that you are using?

Please drop the editor a line or two and tell us of your experiences.