INTERNATIONAL

A PUBLICATION OF THE INTERNATIONAL TI USER GROUP

Volume 3. Issue 3

August 1st., 1986



Don't decry this computer

Sir,
I have been told how slow, how restricted how under-unfrendly my home computer the Traginal. In the only Traginal, in the only traginal have not seen what the have not got one or have not seen what the traginal have not seen what the traginal have not seen what the comes high-ries graphics, four channels bound, and speed that you have the comes high-ries graphics four channels will be the comes high-ries graphics four channels micros. Do you know of any other home computer that can read out for any that can actual by SING with unlimited vocabulary? I don't.
I would be very.

I would be very interested to hear from anyone who owns a TI-99/4A. They can contact me on Doncaster 787234, anytime.

MARK A. LEE Colchester House.

Formerly NOXO ΤI LISERS



9-11 Mill Street. Wantage, Oxon OX12 9AB

PETER G. Q. BROOKS 96 BANBURY ROAD OXFORD OX2 6JT

OXFORD 510822

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The new pricing structure for disks full of programs

The following articles have been held over due to lack of space:
FORTH 4 ALL by SCOTT COPELAND
BEGINNING BASIC by PETER BROOKS
BITS 4 BEGINNERS by PETER BROOKS

BALDIE'S BURBLE

Lots of things going on this month, not least of which is further news on the RAMDISK and NATIONAL TI USERS WORKSHOP front, (of which more later).

I have been experiencing depressive feelings of frustration which I have not had in over six years (when I first began reading a computer mag called PERSONAL COMPUTER WORLD and was trying to get to grips with some new-fangled language called BASIC). At least when I tried writing odd programs in TI BASIC (all those years ago...) they actually DID work.

But... I have been trying to get to grips this time with C99 or Small C, the Public Domain offering from CLINT PULLEY and others. Now, I have already cut my second set of teeth on Forth (long before TI brought their version out) so I thought that I was reasonably prepared for what was to come. I have had a varied experience in things ranging from compilers to assemblers to even programming manually on a supposedly touch-sensitive keyboard in octal, but nothing seems to have prepared me for the trials and tribulations of C.

I've been through a few books now, a couple courtesy of MARTIN ROSS who kindly lent them to me for review, and I thought that I had the basic elements of the theory off pat. Not so. Either I am doing something dreadfully wrong (most probable) or there is the most god-awful cockup in the C compiler (least probable). At the time of writing (2 am after having wrestled with C99 for over three hours trying to do one small, itsy-bitsy, no-account useless bit of a routine, which consistently refused to pass through the compiler without throwing up at least one error, and always on the same instruction), I cannot get the blasted thing to include a file. I have tried surrounding the filename in quotes as the skimpy C99 manual indicates. BAD FILENAME says the compiler, and points to the quote. I remove the quotes. BAD FILENAME says the compiler, and points to the D in DSK2. I make sure that all the characters are lower case. BAD FILENAME says the compiler, still pointing to the d. I reinstate the quotes. The compiler is not at all impressed.

Before you ask, I did have the correct file, with the correct name, on the correct disk in the correct drive. The compiler has not heard of the word compassion.

Eventually, in desperation, I changed tack. I had been trying to make use of the recently-added PRINTF option, so having given up after two hours of swapping disks, modules, and worn-out brain cells, I changed to PUTS. I now did not need the PRINTF file, so I modified the source (C) file. Bingo! The compiler likes me. It has compiled without any errors.

In haste I load the Assembler and bang through the commands. It manages to assemble without errors. I think I am on the right track at last. I load in the object file, then the CSUP file as per instructions.

All the lights on my PEB go out. I frown. The lights stay out. I switch off, reboot the system, try again. The lights go out again. I twig that maybe the system doesn't like loading the files from DSK2 for some esoteric reason, so I switch everything to drive 1.

Success! Everything loads OK. I try to run the program (MAIN).

The screen goes green, the system hangs up. Where are all my little printed statements (both of them) ?

I give up, and decide to soothe my battered ego by doing something which I am SURE will work properly: I load FUNLWRITER and start mouning to you lot...

Now here's something for you to think about, both seriously and quickly: the WEST MIDLANDS TI USER GROUP is hoping to organise a NATIONAL TI USER WORKSHOP later this year. It is intended to be held in a Community School in BLOXWICH, the location of which is good as far as access is concerned. Because this group is a non-profit-making venture, a minmum number of guaranteed visitors is required and the entrance fee is payable IN ADVANCE. The cost is £1.50 per person, which I think is more than reasonable.

IF YOU ARE INTERESTED IN ATTENDING YOU MUST RESPOND WITH YOUR CHEQUE FOR THE REQUISITE AMOUNT BY THE END OF AUGUST.

If you leave it until after that you will be disappointed. A minimum of 250 people is needed in order that the Workshop can go ahead, so if the project fails it will be because of apathy on the part of the TI-owning community.

Points to note:

All cheques must be made payable to me: P. G. Q. BROOKS. This is for accounting reasons only; ITUG is playing a purely supporting role here. Send the cheques to me at my home address in Oxford (see front page).

In the event that insufficient replies are forthcoming, all cheques will be destroyed unless you provide a STAMPED SELF-ADDRESSED ENVELOPE for their return. The organisers felt that this was the best way to handle matters, and it places the primary responsibility for success on YOUR shoulders.

Because the venue is a Community School, you can bring the rest of the family and they can play badminton, squash, go swimming, chuck weights around, or attend the "Saturday Club" (6 to 16). The venue was chosen for this very reason, so that it can be a day out for the whole family.

There are additional charges for these facilities, but no more than 50p, and more details can be obtained from GORDON PITT on 0922 476373.

Alternatively pay for entrance for the whole family and then when they get bored you can chuck them into the other activities you have booked, while you get on with the main event!

A bar and catering will also be available.

This Workshop is a golden opportunity to come along and talk to people who know about the machine; to ask questions which you might otherwise never get round to asking; and to discuss ideas and plans with other like-minded individuals - a real head-banging session.

The following facilities are expected to be available on the day:

- 1. Programming Clinic for TI BASIC and EXTENDED BASIC
- 2. Hardware and Software Development Clinic
- 3. UCSD Pascal Interest Group
- 4. New Horizons RAMDISK demo (if I can get them in time)
- 5. ITUG BBS demo (again if I can get it up and running in time)
- 6. WMTI Light Pen and support software demonstration.
- 7. NEW DAY COMPUTING will be present, and we hope that ARCADE HARDWARE will also be able to attend
- 8. A chance to purchase Public Domain software and items of hardware (I understand a SwapShop may be available for you to sell/exchange your unwanted items)
- 9. A minibus may be available to ferry visitors who come by rail from the station to the venue and back again
- 10. Last, but not least, a chance for people to get together in a very informal atmosphere and talk to their heart's content about the TI

Summary:

Make sure you book before the end of August Check with GORDON PITT (0922 476373) to get full details Make your cheque out to P. G. Q. BROOKS and send it to Oxford

If enough support is given, the date and other details will be published in the SEPTEMBER issue of INTERNATIONAL TI-LINES.

On the subject of addresses, can you please check that you have recorded my address correctly in your address book? I recently had an ITUGer send a letter through to Kennington, an address I left over a year ago!

The "new" address is printed on the title page of every issue.

At the time of writing (July 23rd) about 120 ITUGers have resubscribed, and about 35 have yet to indicate that they wish to do so. We have lost a few members to other machines, and in one case to ill-health, but on the whole the group size is close to what it was six months ago.

We say Hello to JONATHAN TYLER, who has comletted an interesting project to provide a numeric keypad for the TI complete with ENTER, CTRL and FCTN keys. I hope to obtain one from Jonathan before long — I am used to tapping numbers in on a calculator keypad and the typewriter layout of numbers gets on my nerves!

We also say Hello to Mr I MOORE, D BINNERSLEY, D ARMER, S PHILLIPS, BRIAN BURKE; from Denmark, HANS FUNCH-ROSENBERG, from Sweden, PETER ODELRYD, and from the USA, DENNIS SCHJELDAHL of MADHUG.

I hope that ITUG and IT provide you with much food for thought but few stomach upsets...

There has been a flurry of activity on the editorial front in the last few weeks, resulting in a number of contributions (not financial, alas) to IT, most of which appear here. Keep them coming — the more, the merrier (after a fashion). I keep coming across people who have been doing all sorts of interesting things which they thought no-one else would care about, so I look forward to hearing from all of them in due course.

My request for the New Horizons people to allow me to produce their RAM DISK board in the UK was politely turned down on the grounds that they wish to keep control of production quality; that way, if there are any faults they know exactly where to look for them. If we made our own boards and a fault developed, they could never be sure that it wasn't our production rather than their design.

The upshot is that I will be ordering the first batch of boards for those ITUGers who have paid their $\pounds 50$ deposit by the end of July, and I hope to effect a swift turnaround and avoid some of the irritating difficulties that I have been experiencing with our postal system just recently.

The £50 is necessary because I cannot afford to subsidise this operation in any way; for those who just want the bare board to populate with their own components, the difference will be refunded once currency exchange charges and shipping have been deducted.

I am hopeful that we will eventually have a cheap enough quote on the components to be able to produce a DSSD RAMDISK for under £160.

The operating software for the card allows up to six units to be controlled (the disk controller is used only to control the drive used to load the software initially), so theoretically you could use three RAMDISKs and three double-sided drives with a TI disk controller. If you wonder why anyone would want such a setup, you have yet to flex your muscles on the TI!

Hopefully both ITUG TIBBSs due up later this year will be running on RAMDISKs, reducing wear on drives and speeding up file access by a hefty amount. (I have used a RAMDISK for word processing and for Assembler work; once tried, never forgotten!)

If you have been toying with the idea of using a RAMDISK to make your disk work easier and faster, then the New Horizons RAMDISK is just the piece of hardware you ought to think about seriously.

I hope to make it available either as a bare board with full component details, or as a finished product. The final price is not certain, and will depend upon the best quote available. There are two sizes of RAM DISK: equivalent to Single-sided disk, and equivalent to Double-sided. Once the component quote is settled I will be able to provide concrete details of pricing.

Turnaround in the States is about six weeks I understand, so do not expect lightning fast delivery. I cannot afford to invest in units which have not been ordered, so it has to be a cash-up-front item.

GORDON PITT has managed to secure a lower price for the GEC DATACHAT modem for those who might be interested. Providing he has enough numbers, the new price is £62.54 + VAT, which works out at £71.92, considerably lower than the usual price of £90. Contact Gordon if you want to take advantage of this offer, on 0922 476373.

There is an epilogue to the sad story about C99 and I (cue violins). I did manage to get the thing to work after a fashion, once I had talked to STEPHEN SHAW (who recommended reading the manual, something I should have done again, as I was filled with info about compiler commands based on C and Small C for another system, and it does help if you use the right C99 compiler commands...). However, all is not sweetness and light, as I tried to make a go of compiling the EARTH; C file, and my compiler (Version 2) kept throwing up ILLEGAL NAME errors when trying to compile an "include" file; for some reason best known to itself, it did not like the variable name STICK in the function JUYST, and I have not been able to work out why. Anyone got any bright ideas?

Hopefully this will explode the myth that I always know what I'm talking about, cough, cough...

Incidentally, I have been playing with FUNLWRITER 3.3, which now has all sorts of goodies onboard, including the C99 compiler, modified DM1000 version 3.1, a program called "MDDEM" which I have yet to read documents about, and even what looks like a cassette loader for machine code (I assume). There is even a 3.3b loader as well, which ignores the colours which you may have carefully preset in the LOAD program, and which announces itself with the phrase ATRAX ROBUSTUS PRESENTS... Is this some obscure dialect of Strine Latin I wonder?

The title page carries a paste-up of clippings from just a few of the entries in a local paper which MARK LEE of the MALTBY TI USER GROUP managed to place. It is perhaps an object lesson in how to go about publicising your activities locally, and one which I hope to follow shortly in the Oxford area. Mark even publicised the national meeting organised by CLIVE and AUDREY SCALLY of TI-EXCHANGE, and brought down a small party from his group. Mark tells me that local papers are often on the lookout for newsworthy items about local groups, clubs, and their activities, so that you don't necessarily have to force your attentions on the journalists. If you can find a journalist who is also a TI owner so much the better! Although some of the clippings are from the early days of the Maltby group (featuring from left to right: Jeffery Dawson, Mark Lines, Mark Lee, Ben Borkowski, and Allen Frew, in the main photo), Mark continues to actively promote both his group and the cause of TI owners generally.

If anyone wants some further guidelines, they can write to me and I will pass them on to Mark.



HAVE I YOUR ATTENTION NOW?????

Ms C Brinkley (above) occupies 50 disk sectors for TI Artist and 54 sectors for GRAPHX (which actually produced this picture). She was supplied on 123 disk sectors in RLE DV80 format.

Huh? RLE? Yeh...RLE. It's RUN LENGTH ENCODED whatever that means.

What it DOES mean is that TI owners have access to hi res pictures drawn on and for other computers. RLE is intended for computer owners with a VIDTEX Terminal Emulator. There is no VIDTEX for the TI 99/4A but there is....

MAX-RLE by TRAVIS WATFORD.

This is a program which can read from disk picture data in four formats (and save a loaded picture in any of them). The formats are: Two RLE formats (DV80 and DF128) and Graphx and TI Artist Vn 2. You needn't bother telling the program what format the picture is in — it can tell that from the disk file.

MAX-RLE is on a disk called RLE/1, which also contains brief documentation and four hi res pics, including the above.

I also have four other disks. RLE/2 RLE/3 RLE/4 and of course RLE/5.

All are available at usual library prices.
AND I AM STILL WAITING TO RECEIVE ONE TINY PICTURE FROM A UK TI ARTIST.
What are you doing with your graphics programs out there? Graphics, programs, anything - let's show the world that we in the UK care too!

STEPHEN SHAW, 10 Alstone Road, STOCKPORT, Cheshire, SK4 5AH

Stophen

LETTERS

VIV COMLEY wrote to me to follow up the previous information about the replacement of the battery in the MiniMemory module.

Tandy sell a very neat battery holder for two AAA size batteries, which make a low cost replacement for the Lithium cell. The holder is too large to be fitted inside the module case, but can be neatly mounted on top.

In this position it will not interfere with the slot mechanism, but limits the module's position in the Navarone Widgit to slot number 1. . . .

This is no problem, however. To fit the holder, the module is dismantled and the old Lithium cell removed. Solder two wires on to the PCB, one to the positive rail, the other to the negative rail.

The positive terminal is the one nearest to the edge of the PCB. Note that both connections should be soldered on both sides of the PCB.

Twist the two wires together and bring them out through a small hole drilled in the top of the module casing. The battery holder may be glued or fixed with nuts and bolts to the module case. Solder the wires on to their respective battery terminals.

Precautions for static must be observed, and preferably use a low voltage soldering iron. The battery holder may be covered with insulating tape to remove the possibility of module damage through static, by touching the exposed battery terminals, although I have not found this necessary myself.

Good quality AAA size batteries will probably last a lot longer than the original Lithium cell.

DAVE FORD also wrote to me to advise me about a previous article on combining GROMs in one module:

This is an extension to, and hopefully a clarification of, an article which appeared in $TI-LINES\ V2.7.$

My attempt to combine the two modules Editor/Assembler and Disk Manager 2, following the method described in the article referred to above, failed miserably. On inserting the modified module I found that the first menu selection line was correct ("TI BASIC"), but the second and subsequent menu selections were garbled, as both the modules I had combined used the same selection line.

On closer examination of a printed circuit board (PCB) on an unmodified module, I noted that pin 1 of the edge connector went to the 100 Ohm resistor. The other end of the resistor was connected to pin 14 of each

GROM chip on the PCB, thus agreeing so far with the earlier article, but - and this is the crux of the problem - this same track, commoned to all pin 14 of each GROM, also went on to another edge connector pin, pin 29 (-5 volts).

There is also a small capacitor connected between this point and 0 volts (to remove any noise on the -5 volt power supply lines to the module).

In fact, it is this pin, pin 29, which is responsible for the selection of the GROM which you want to use, and nothing to do with the 100 Ohm resistor mentioned in the earlier article.

Having discovered this I was then able to alter my modified module as follows:

Pin 29 (-5 volts) to Common of selection switch

Normally open contact of each switch was then connected to pin 14 of the respective group of GROM chips.

The 100 Ohm resistor was also connected to the Common of the selection switch.

Happily this worked correctly and the correct menu selections appeared.

To change from E/A to Disk Manager 2 (or vice versa) just use FCTN = (QUIT) to get to the title screen. Deselect whichever GROMs you were working with, select your new choice followed by any key, in the normal manner.

An interesting aside was discovered while attempting the same modification to modules other than E/A and DM2. If I combined HANGMAN and BLASTO modules on the same PCB, the menu offered a choice of TI BASIC or either game even when I had no switch fitted. Presumably the two games use areas within the GROMs which do not overlap, so they do not interfere with each other even though both sets of GROMs are selected.

It also seems easier to combine modules which use only a single side of the edge connector. As yet I have not managed to combine say INVADERS with MUNCHMAN, as both modules use double-sided edge connection. The problem may be the extra RAM housed in both of these modules.

Has anyone else had success on this front ?



DISK DRIVE PROBLEMS. (and the solving thereof!)

Rewritten and expanded from article in TI-LINES U.2:11.

My first contact with computing came in 1983, when my wife presented me with a TI 99/4A, bought at Dixon's, having been assured that availability of ancillaries was "Certain, as the Americans were using them in their schools" – this, it turned out, was $\underline{\text{after}}$ Texas Instruments had announced their pulling out of the Kome Computer business.

I, like most new owners, played about with it, managed to de-bug a program in the User's Handbook, and took programs from various ${\cal P}_{\rm c}$

computer magazines.

In 1985, about Easter, I decided that "expansion" must be the name of the game, as my wife said she would like a Word Processor, and I thought I could use the many File Handling facilities for work in my profession. I therefore began, over the next few months, to accumulate various "extras", such as Peripheral Expansion Box, TI 32K card, MYARC RS232 card, MYARC Disk Control card, and two MPI half-height DD/DS disk drives (I already had a TI cassette recorder and an Amstrad 12" colour television as a cheap (and very good) monitor).

As the MYARC Disk Control card arrived without the Disk Manager disk (not the fault of Howard Greenberg, I must add!) I asked Howard to supply a box of disks already formatted - thus not discovering that

my set-up would not "format" properly! .

When my next batch of disks were obtained, after receiving my Disk Manager disk from Howard, I began to wonder what had happened. One moment the system would "format", the next not. Peter Brooks, who had supplied the drives, very kindly replaced one of the drives, without making any difference, and then proceeded to embarrass me (I am sure, unintentionally) by testing it and finding it to be working - later installing it for someone else with all success.

My next line of attack was to substitute the 32K card with a known good one - no use - then to try to get the MYARC Disk Control card checked by Howard - it checked out normally!. Another card was loaned to me by Howard for trial - same problems.

So to the Peripheral Expansion Box power supply.

My drives, MPI Type SO2 (Slimline), need $12V\pm5\%$ and $5V\pm5\%$. The voltages available for the drive(s) are nominally 12V on the purple wire, 5V on the blue, and 6V on the other two (orange and red). On my Box, they were 11.6V on the purple wire and 4.7V on the blue (I was not able to measure current taken "on load", so contacted Parco — they referred me to TI's Headquarters in Bedford.

After talking to one of their technicians, Phil Wingrove, I sent my power supply board to them, and was informed that it tested out normally, being only 2% down. Further conversation obtained a replacement transformer also, which I fitted in the hope of a complete cure. Guess what — now I had intermittent reading problems also, but was able to format a few disks after 10 attempts for 6 disks.

I felt the only thing to do at this stage was to get more information on the drives, but as MPI have pulled out of Great Britain, Peter was able to obtain little information, and I decided to telephone MPI in California. Guess what - MPI have stopped having anything to do with disk drives!!!

Now for a little good news - MPI told me that they have sold their disk drive division, including service responsibility, to TRW in New Jersey, and they kindly gave me the telephone number. I rang TRW at 7:30 p.m. English time, and was told they could supply a Development Manual which should give all relevant information, but that the manuals had not yet arrived from MPI, and they would send one on as soon as they were available.

Later enquiries elicited the fact that they in fact despatched

the documentation on 31st December.

The manual, when it arrived on February 6th, was for half-height drives, but for the 'D' series drives — those with a Direct Drive motor!

Yet another telephone call to TRW established that they did in fact have a manual for the "Slimline" series, which was different! One of these was promised, this time Air Mail! The manual price was \$30, but I felt it would be worth it.

In the meantime, I heard about intermittent problems with the Flex Cable Interface card for the PEB, and rang TI in Bedford once more, with the result that I received a new Flex Cable card to try. The disk drive that would not "format" began doing so, but still occasionally "hung-up", possibly due to reading/writing difficulties. At least some of the problem(s) had been improved.

Surprisingly, after a short session of using the set-up, the reading difficulties became much less, usually managing to read successfully on a second attempt or after reading in a different

program or file, then the difficult one again.

The long-awaited manual arrived on February 27th, and was found to be only an "interim" manual - certain illustrations were missing, as were the sections on "Troubleshooting" and "Optional Configuration". At least I now had a Technical Specification, even though it did not entirely agree with some of the information available in the U.K.

I contacted TRW again, and they very kindly sent me photocopies of the "Troubleshooting" section of the original 'D' series manual, as the principles were identical, but unfortunately, no information was

available on "Optional Configuration".

I then remembered seeing an article in V.1:13, April 1st, 1985, (written by John B. Colson,originally published in Tic Talk (Rocky Mountain 99ers), February 1985), about improving the power output of the PEB power supply. I decided to try this, as all else had failed.

I decided to improve the current capacity of the SV supply as well as the 12V supply, so contacted Richard Sierakowski to obtain the appropriate current regulators.

I think it is worth describing again the disassembly of the PEB, as some readers may not have the V1:13 mentioned above, so here goes.

Begin by making sure you have the following tools for the disassembly (I'll give others for the alterations later): Phillips small cross-head screwdriver (Posidriv is more likely to scuff the screw heads), and whatever screwdriver you used to install your "in box" disk drives.

Now make sure the PEB has been switched off for at least two minutes, allowing the charge on the power supply capacitors to dissipate, and unplug the power lead. Remove the lid by pushing the two spring clips on the back inwards, and tilting the lid forwards to disengage. Lift the lid up and backwards to remove it.

Carefully disconnect and remove all cards, and put them safely on

one side.

Remove the screws holding the upper side of your disk drives in the box, then turn it over on a soft surface, bearing in mind that the clips stand proud of the back, and could be bent out of shape. remove the "under" screws holding the disk drives, and carefully remove them from the box, disconnecting their leads carefully also. Now comes the boring part - removing one screw from each end of the box, three at the rear of each housing section, and six from the underside flange.

The base and "innards" slide rearwards from the front and sides,

which can then be put carefully aside.

To remove the power supply circuit board, which is easily visible next to the transformer (if you don't know what a transformer looks like, you should not attempt this modification yourself), unclip the cable loom nearest the front of the box first, then slide the plastic frame holding the circuit board sideways to clear the two screws holding it to the base of the PEB (you may need to slacken them off slightly), and then unclip the two cable looms from the rear of the circuit board.

Extra tools needed for the "electronic" work are: small soldering iron, SOLDER SUCKER (VITAL - I speak from experience!), small pliers.

and, of course, solder.

You will see the TO3 12V regulator bolted to the board in the centre, and you will need to remove the board from the plastic carrier by undoing the four screws in the corners. Unbolt the regulator and, using the solder sucker, unsolder it from the back of the board. easing it off the front. The other, 5V regulator is a three legged, flat object, again bolted to the board by one bolt through its heat sink - be careful when unsoldering this - it is soldered to both sides of the board (hence the vital necessity of a solder sucker - I didn't have one, and had a problem re-establishing continuity. also got some solder through one of the holes of the TO3 can, shorting and blowing the PEB fuse, as the holes are plated through - be careful not to use too much solder).

The TO3 regulator used in the original article was a ua78X12KC. and the one supplied to me by Richard was a ua78H12SC, but I don't know what the other one is - if anyone wants to swap both regulators, I could no doubt find out the details.

Reassembly is the reverse of disassembly (surprise, surprise), but I suggest that you check the board with nothing connected to its outputs, just in case you have created a solder "bridge" somewhere on only reassembling your PEB completely when you are sure all is it, well.

When I had done all this, and made new connecting leads from the Disk Control card to the disk drives, removing the contacts at position 16 in the commectors (my drives are connected "Motor Select", THE SYSTEM WORKED without a hitch.

From all the trouble I had originally, I can only assume that my power supply was not allowing enough amps to escape to the disk

drives, even though the voltages may have been correct.

I would like to thank Peter Brooks, Howard Greenberg, Richard Sierakowski, and Phil Wingrove for all help and advice during the time it has taken to sort out my problems - perhaps I should have entitled this offering "Power Supply Anaemia".

(TRW's address and phone number are - TRW Customer Service Dept., FAIRFIELD, New Jersey, Audrey Place, 07006.

(010-1-201-575-7110 EXT. 4231))

METEOR ATTACK - T I Basic

100 REM TSC GA0052 110 REM DEBUGGED BY PETE BR 00KS 120 CALL CLEAR 130 CALL CHAR(120, "30426DA1A 16D423C") 140 CALL SCREEN(12) 150 PRINT "*************": *METEOR ATTACK ":"*BY RAJE SH BAKSHI**" 160 PRINT "************************************	53	520 IF MOVE=68 THEN 540 530 IF MOVE=32 THEN 570 ELSE 640 540 IF DIR=32 THEN 640 550 DIR=DIR+1 560 GOTO 620 570 CALL HCHAR(24, DIR, 151) 580 CALL SOUND(70, -5, 0) 590 GOTO 640 600 IF DIR=2 THEN 640 610 DIR=DIR-1 620 CALL HCHAR(23, DIR-1, 32, 3) 630 CALL HCHAR(23, DIR, 135) 640 DROP=DROP+1 650 IF DROP=23 THEN 690
190 IF S=0 THEN 180 200 IF (K=121)+(K=89)THEN 21 0 ELSE 220		660 CALL VCHAR (DROP-1, BOMB, 3 2) 670 CALL VCHAR (DROP, BOMB, 143
210 GOSUB 1150 220 CALL CLEAR) 680 BOTO 500
230 RANDOMIZE		690 CALL GCHAR(DROP, BOMB, FIN
240 BDMB=INT(31*RND)+2 250 DRGP=4		D) 700 IF FIND=135 THEN 710 ELS
260 NEWDROP=4 270 SCORE=0	L	E 790
280 SETSCORE=350		710 CALL VCHAR (DROP-1, BOMB, 3
290 HEIGHT=2 300 DIR=16		720 CALL SOUND (200, 3000, 0, 60
310 CALL SCREEN(2)		00,2) 730 SCORE=SCORE+50
320 CALL CHAR(159, "18187E5A1		740 IF SCORE (SETSCORE THEN 7
83C2466") 330 CALL CHAR(151, "FFFFFFFF		60 750 BOSUB 1060
FFFFFFF")	ڪ	760 BOMB=INT(31*RND)+2
340 CALL CHAR(119, "FFC3A5999 9A5C3FF")		770 DROP=NEWDROP
350 CALL CHAR(150, "C3C3C3C3C		780 GOTO 500 790 CALL GCHAR(DROP+1,BOMB,F
3C3FFFF")		IND)
360 CALL CHAR(143, "00183C7E7 E3C1800")	102	800 IF FIND=151 THEN 810 ELS E 900
370 CALL CHAR(135, "185A7E181	L	810 CALL VCHAR (DROP-1, BOMB, 3
83C2466")	ПП	2)
380 CALL COLOR(16,5,1) 390 CALL COLOR(15,13,1)		820 CALL SDUND(100,120,1,120,1)
400 CALL COLOR(14,9,1)		830 SCORE=SCORE+10
410 CALL COLOR(11, 15, 1)		840 IF SCORE (SETSCORE THEN 8
420 FOR COLOR=1 TO 8		60
430 CALL COLOR(COLOR,16,1) 440 NEXT COLOR		850 GOSUB 1060
450 CALL HCHAR (24, 2, 151, 31)	104	860 CALL HCHAR(DROP+1, BOMB, 1 50)
460 CALL COLOR(13,14,1)		870 BDMB=INT(31*RND)+2
470 CALL HCHAR(HEIGHT-1,2,15		880 DROP=NEWDROP
,9,31)		890 GDTD 500
480 CALL HCHAR (HEIGHT, 2, 119, 31)		900 CALL SOUND(250, -2, 3)
490 CALL HCHAR(23, DIR, 135)		910 FOR LOOP=200 TO 1500 STE P 100
500 CALL KEY(O, MOVE, S)		920 CALL SOUND (-100, LOOP, 1)
510 IF MOVE=83 THEN 600		930 NEXT LOOP
>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>	·>>>>>>>>	>>>>>>> MORE>

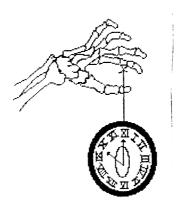
940 FOR LODP=1500 TO 200 STE P -100 950 CALL SOUND (-100, LOOP, 1) 960 NEXT LOOP 970 CALL CLEAR 980 PRINT TAB(10): "YOU DIED" 990 PRINT "YOU SCORED"; SCORE :"POINTS"::: 1000 PRINT "DO YOU WANT ANDT HER GAME ? "::TAB(20):"(Y/N) " : : 1010 CALL KEY(0,K.S) 1020 IF S=0 THEN 1010 1030 IF (K=89)+(K=121)THEN 2 20 ELSE 1040 1040 STOP 1050 REM ***HARDER GAME*** 1060 SETSCORE=SETSCORE+400 1070 IF HEIGHT=14 THEN 1140 1080 HEIGHT=HEIGHT+1 1090 NEWDROP=NEWDROP+1 1100 CALL HCHAR (HEIGHT-1, 1, 3 1110 CALL HCHAR (HEIGHT, 2, 119 .31)

1120 CALL HCHAR (HEIGHT-2, 1, 3 2, 32) 1130 CALL HCHAR (HEIGHT-1, 2, 1 59, 31) 1140 RETURN 1150 CALL CLEAR 1160 PRINT "USE THE FOLLOWIN G KEYS :-":::"S - TO MOVE YO UR MAN LEFT":: "D - TO MOVE Y OUR MAN RIGHT":::: 1170 PRINT "IF YOU MOVE YOUR MAN OVER A" :: "CRATER & PREB S THE SPACE":: "BAR. THE CRAT ER WILL BE ":: 1180 PRINT TAB(12); "FILLED I N" : : : 1190 PRINT "MAKE SURE THE AL PHA"::"LOCK KEY IS DOWN ..GO OD LUCK":: 1200 PRINT "PRESS ANY KEY TO CONTINUE..." 1210 CALL KEY(0, KEY, S) 1220 IF S=0 THEN 1210 1230 CALL CLEAR 1240 RETURN

ACKNOWLEDGEMENT:

This listing was produced from an initial 28 column format output, the product of a program kindly supplied by JIM PETERSON of TIGERCUB SOFTWARE.

This should provide a WYSIWYG effect (What You See Is What You Get) when typing the listing in and checking the screen.



WORD PROCESSING

By JO ANN COPELAND

Anyone wondering why there is more than one way for commanding the TI-Writer/Funlwriter? Simply because some typists (and I use the term loosely) prefer certain keys or have more 'powerful/useful' fingers. Some prefer using the 'right' side of the computer and can hit the FCTN key - and others prefer the 'left' side of the keyboard and can hit the CTRL key better. I often miss the mark on either but prefer to FCTN if I can function at all. Here is a list of some commands which were not listed in the last article - I trust they may prove useful to more than one of us:

New Page	CTRL 9/CTRL P	Quit	FCTN =
New Paragraph	CTRL 8/CTRL M	Reformat	CTRL 2/CTRL R
Next Paragraph	CTRL 4/CTRL J	Right Arrow	FCTN D/CTRL D
Next Window	FCTN 5	Roll Down	FCTN 4/CTRL A
00PS!	CRTL 1/CTRL Z	Roll up	FCTN 6/CTRL B
Screen Color	CTRL 3	Tab	FCTN 7/CTRL I
Up Arrow	FCTN E/CTRL E	Word Tab	CTRL 7/CTRL W
Work Wran	CTRL O (zero)		

PS: The OOPS! command is pretty useful if you hit the wrong button at the wrong time in the wrong place. (My life story) If you are in text and do something awkwardly wrong CTRL 1 brings you back to life if pressed immediately after you realized your mistake. If any other key is pressed in the meantime, it's too late.

I believe we were on Editing (Inserting, Reformatting, Scrolling, Delete Character or Words, etc). If you have a sample text, perhaps you would like to load it up to follow through with this. Practice makes perfect?

Delete Character (FCTN 1) deletes the character under the cursor and the space occupied by it. Delete Line (FCTN 3) takes out the complete line that the cursor is on. This enables you to take out one character or a total line. If you had typed the word - typped - simply place the cursor over the second 'p' and FCTN 1 to take out the second 'p'. Completed word - typed -.

Insert character can go hand-in-hand with reformat. Let's say your mind was off in the distance when you were typing (mine always is) and you typed a line skipping over two words you forget to include. As:

you typed a line you forgot to include

If you want to place the following "skipping over two words" you first place the cursor after the last word that is correctly in your sentence - here being "line". So place your cursor and press FCTN 2 (insert character). You will see the line "split" which opens a space for you

to type in (insert) what you want. Now type in 'skipping over two words' and place the cursor one space after it. Now press CTRL 2 (reformat) and the paragraph will close up to make a completely new (full) sentence, or something along that line, I hope!? Reformat stops wherever the next (carriage return symbol) appears.

Editing can also use FindString (FS) and ReplaceString (RS). If you typed your text and later, after proofing your document, found several errors you can locate the errors much more easily using these commands than you can by scrolling one line at a time. If you have typed a word wrong - let's say Fucntion instead of Function - you can find it this way: Command mode (FCTN 9) - FS - ENTER - and you should

FIND enter /string/ :

Type a slash (/) — the word typed incorrectly and end it with a slash (/) as: /Fucntion/ and hit Enter. The computer will pause while searching for the word and when it finds it will point it out to you by placing the cursor by it. The only problem with this is — if you are already in text the computer will only search beginning after the line you are on. So if your error is in line 20 and you are on line 50 at the time you want to FS you must first do this — Command Mode (FCTN 9), S for Show Line, ENTER, 1 (for first line of text) and hit Enter.

This puts you at the beginning of text, and then you can go through your Find String procedure again. Showing line 0001 allows the computer to search for anything in text after that line. The same thing applies to ReplaceString — always show line 0001 and you will have no problem. Find String allows you to find the word you need to change, and then change it by yourself. Replace String can do it for you which is especially helpful if the word to be replaced is spelt wrong in more than one instance. If I proof—read my text to find I have spelt a word incorrectly every time, I can Replace String and have the computer change it for me so I don't have to re—type the word in each instance. If you Show Line, (FCTN 9), S, Enter, 1, Enter and then FCTN 9 (Command mode) and type RS and press ENTER you will see:

REPLACE enter /old string/new string/ :

Type in a slash (/), the word to find, slash, the new word, slash and ENTER. Example: We need to replace all words with the spelling of incorrrectly with incorrectly. Type: /incorrrectly/incorrectly/ and ENTER. The computer will search for the first instance, and upon locating it will place the cursor by it. Then it will ask you:

- Type Y to replace the old string with the new string and find the next instance.
- Type N if you do not want to replace the string being displayed.
- Type A to replace the old string with the new string in all subsequent instances.
- Type S to stop the command and return to edit mode. The cursor is positioned on the first character of the last string found.

So, instead of going to each word, retyping it, and finding the next, Replace String will do the dirty work for you.

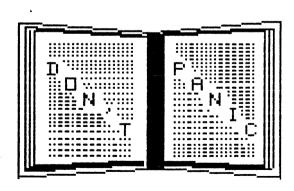
One more item, and we'll call it quits until next article. If you happen to have two different files which you want to turn into one, you can Merge them. When you Load a file, LF, what you have in text on the screen is wiped out to show the new file you loaded. You can, however, combine what is in the text buffer with a Load File command to include another file along with it.

Locate a line number in your text buffer after which you want the other file to be placed when it is loaded. Write it down or you might forget like I very often do. Then enter Command Mode (FCTN 9) and select the LoadFile to display the LoadFile prompt line. Type in the line number of the line in the text buffer after which the file is to be loaded — space once — and type the filename of the file you are merging. When you press Enter, the file is merged into the text buffer.

Example: 148 DSK2.FILENAME (ENTER). Remember, if you have a full buffer with DSK2.FILENAME it may not load to include the other text - a file or buffer can only hold so much! A full buffer is approximately 23,000 characters - so beware.

To make sure of the file name you want, try Command Mode, SD (Show Directory) Enter. Type in the number of the drive you want to show a directory of and hit Enter. This will list out what's on your disk in the appropriate drive and you can see it on screen and hit Enter to return to Text. No memory or file is lost. This also helps when you want to save your file and are not sure if you will be using a name already on the save disk.

So until next time, have fun and I'll see you if I recover from my next Adventure!



MULTIPLAN MISCELLANY

By PETER WALKER

I haven't seen much written about Multiplan in UK journals for the TI-99/4A. Perhaps not too many people have this program; yet arguably it is one of the best modules that Texas produced. Not a scaled-down spreadsheet - this is a full implementation of Microsoft's famous Multiplan as used on many business PCs. Therefore I thought I'd put pen to paper to see what response there would be to some semi-random thoughts and ideas on Multiplan. If interest is shown, perhaps I'll write some more.

MULTIPLAN REVISED

If you do use Multiplan, make sure you have the latest revision that has repeat on the arrow keys and is said to be faster. I have not tried any benchmarks on this. Has anyone else?

MULTIPLAN IS SLOW

Yes, even the latest version is slow. It was a miracle that Texas got MP to fit in at all, so I suppose we shouldn't grumble. Do get into the "pause" habit after the first character press in the ALPHA/VALUE mode. The TI needs time to establish whether text or a numeric formula is being entered. If you type the second character too fast it will not register. Do remember to disable the automatic recalculation while building a spreadsheet or entering data. It is better practice to use the RECALC key when you need recalculation.

EDITING IS DIFFERENT

After using the line editor in BASIC or the TI Writer Editor (or even Editor/Assembler), MP editing does take some getting used to. This is because when editing, new characters are inserted at the cursor position rather than old text being overwritten. FCTN 9 gives a genuine erasing backspace, while FCTN 0 is delete forward. CTRL4/FCTN4 replace the right and left arrows. Of less use (on a spreadsheet at least) is CTRL5/FCTN5 which move the cursor a word at a time. One does eventually get used to these editing techniques, especially if you have ever used Word Processing packages such as Wordstar, which uses similar principles

MULTIPLAN CHARACTER SET

I like the MP character set, or to be more accurate, I like the genuine lower case, which I now use with my Funlwriter/TIW revised, (along with a proper pound sign and slashed zero).

However I don't understand why the upper case N and S in MP differ from

the TI standard. The file MPCHAR contains the character definitions and I found it relatively easy with a disk sector editor to change these.

Note that each character is defined twice: once normally and once inverted for use "under the cursor". I can supply my updated MPCHAR if anyone is interested.

MULTIPLAN DEFAULTS

Again, if you have a sector editor (Disk Fixer, Disk Repair Kit, Disko, DPC etc) you can search through file MPINTR and alter the default settings for the printer name (eg PIO) and the default disk drive for loading/saving spreadsheets. I find that on my two disk configuration the default DSK2 saves a lot of time.

SYLK FILES

Have you read Appendix 4 of the MP manual? For those who have and even understand it, you may appreciate that Symbolic Link (SYLK) files form a system capable of exchanging spreadsheet data with other programs. Unfortunately TI have made SYLK files almost unusable because of the bizarre coding employed.

SYLK files are basically ASCII files where each line (record) terminates with a carriage return and linefeed character.

However, instead of using a friendly file format like DIS/VAR 80 with one line per record, they chose to compress records into DIS/FIX 128 format, with no item separators between records and then compounded Users' difficulties by registering the data format on the directory file-type indicator as INT/FIX 128.

Heaven knows how that is even possible, but I assure you that is what they did .

I suspect that many folk probably gave up the attempt to use SYLK files once these difficulties were encountered. However take heart! You don't have to be beaten. I have developed a pair of ExBas programs which convert SYLK files to DIS/VAR 80 and back again, making them far easier to exploit.

For example, my own home accounts program can now update an MP spreadsheet via a SYLK file, so that an overview of monthly expenditure can be read via Multiplan.

PRINTER CONTROL COMMANDS

There are other uses for SYLK files as well. Since MP cannot put Control characters 0 to 31 in its cells, you can't directly allow MP to control your printer's special facilities: e.g. Condensed Print (very useful for those large spreadsheets).

I am indebted to TED ANDERSON of LA99ers for pointing out that you can edit control characters into a SYLK file (easy with my DIS/VAR80 conversions) and thus embed printer controls into spreadsheet cells.

However, if you need a Null character (as my EPSON does), things are more tricky, as MP dislikes a SYLK file with Null characters in it.

The answer, as I found after a lot of sweat, is to use character 128 instead of O and "print" the file to disk. You then print using TI Writer. Along the way the 8th (High) Bit is stripped off and a null goes to the printer. Character 128 has to be input to the SYLK file using a sector editor.

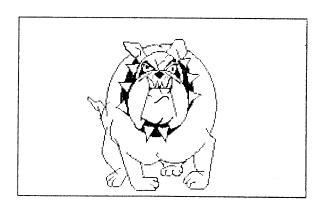
You can make up a file of your regular printer commands, save it in normal format and use External Copy to edit them into your working sheet.

FINALE

I have rushed through a lot of techniques in the above notes. Both SYLK files and printer control could form whole articles in themselves. If you want further assistance, explanation or copies of my SYLK conversion programs, please send SAE (with disk if the programs are required) to:

Peter Walker 24 Bacons Drive Cuffley Herts EN6 4DU

Tel:0707 873778 or Prestel Mailbox 707873778



TI DISKETTE DATA FORMAT by Colin Hinson, TI UK

DETAILED DESCRIPTION OF DISKETTE FORMAT (Contd)

Continued from July 1986 TI-LINES

By COLIN HINSON

File Descriptor Records.

The File Descriptor Record (FDR) contains the general information for its associated file. In order for the system to function, all the information to access and update the file must be contained within this record.

Layout of an FDR is as follows:

	*-		
0 2 4 6 8	1 1 1 1 1	FILE NAME The file name can be up to ten characters in l length. !	1 3 5 7 9
λA	i	Reserved.) B
) C	l	File status flags Number records per AU) D
ÞΕ	Ī	Number of Level 2 records currently allocated) F
10	l	End of file offset Logical record size	11
12	i	Numer of Level 3 records currently allocated	> 13
) 14	1 1 ~	RESERVED .) 15
) 1A	1) 1B
) 1C) 1E	1 l ~)1D)1F
)FC)FE	 	1	}FD }FF

Bytes >A & >B were reserved for an extension of the number of data chain pointers. As this was never implemented, these bytes are always 0.

Byte >C. The file status flags are as follows, where bit O is the LSB:

Bit No.	Description
0	File type indicator. 0 = Data file 1 = Program file
1	Data type indicator 0 = ASCII data (DISPLAY file) 1 = Binary data (INTERNAL or PROGRAM file)
2	This bit was reserved for expansion of the data type indicator.
3	PROTECT FLAG O = NOT protected 1 = Protected
4,5 & 6	These bits were reserved for expansion of ????
7	Fixed/variable flag 0 = Fixed record lengths 1 = Variable record lengths
Bytes)E &)F	The number of 256 byte records allocated on level 2.
Byte >10	Contains the EOF offset within the highest physical AU for variable length records and program files.
Byte >11	Contains the logical record size in bytes. For variable length records this byte contains the maximum permissible record size.
Bytes)12 &)13	Contain the number of records allocated on level 3. For variable length records these bytes will contain the number of level 2 records actually used. NOTE: these bytes are in the reverse order.
Bytes >14 to >1B	These bytes were reserved for future expansion, and will always be 0.
Bytes >1C to >FF	Contain blocks of three bytes which indicate the clusters which have been allocated for the file. 12 bits of each 3 byte block indicate the address of the first AU in the cluster, and the remaining 12 bits indicate the highest logical record offset in the cluster of contiguous records (This method of indication reduces the computation required for relative record file access).
	The layout of the data within the 3 byte blocks

is shown below:

Byte 1	Byte 2	Byte 3
++	++	++
I A2 I A1 I	IL1 IA3 I	1 L3 L2
+	-	++
Where A3 = AU's times >	100 L3 = offset	times >100
A2 = AU's times	10 L2 = offset	times >10
A1 = AU's times 1	L1 = offset	times 1

ALLOCATION FOR DATA FILES

A Data file is built of clusters of contiguous data records, each data file can contain up to 76 of these data record clusters, with each cluster containing at least one data record. The DSR software will allocate as many contiguous records as possible upon request, — if a new record is requested and no more records can be added to the current cluster, then a new cluster of contiguous records is started. If 76 clusters have been allocated and a new cluster is requested then the write operation will be aborted. This will only occur when the data records on the disk have become too scattered (i.e. the file is badly segmented) — the problem can be corrected by copying the disk with the Disk Manager (or with DM1000 in file mode), which will cause the records for the files to be allocated in 1 (or at the most 2) clusters on the new disk. Note that at worst case this scheme still allows for 19k bytes per file (76 * 256 bytes).

Because of the system used, each physical record within the file can be accessed at random, without any need for large areas of contiguous disk space. This means that as long as the logical records within a file have a fixed length, the file can be accessed either at random or sequentially, and therefore the disk software does not have to distinguish between relative record and sequential files. This has some implication for sequential fixed length record access, as now the record number is being used, rather than the currect record number and offset.

For variable length records, the length of the logical record is stored at the start of the record itself. The result of this is that since a record cannot cross an AU (sector) boundary, the maximum record length for variable length records is limited to 254 bytes, as the 'end of records on this sector' ()FF) has to be written too.

PROGRAM FILE ALLOCATION

Program file allocation is identical to data file allocation. The Program file (segment) is split into 256 byte records which are stored as a standard data file. As the disk software marks the file as a program file it can prevent data access to program files (and vice versa).

In order to prevent problems with VDP ram 'wrap round' (i.e. continuing to write to VDP ram after address)3FFF will write to >0000) the DSR software notes the actual number of bytes used in the last data record and will return exactly as many bytes as were originally written to the disk, even though this may not be a multiple of 256.

Next time: VDP memory usage by the Disk software.

ROVENTURE MELP

By JO ANN COPELAND

THE-COUNT

VERBS: AUTo

Number of messages : 88
Number of objects : 69
Number of verbs : 71
Number of nouns : 78
Number of locations : 22
You can carry 7 objects
Starting location : 1
Number of treasures : 0
Length of nouns/verbs: 3

GO

Ah-choococo...What a dream I just had!...Dear DRACKY, Don't open this present till HALLOWEEN. Signed, COUNT YORGA... Today, I look healthy...

You awake in a large bed in a castle in Transylvania. Why did the postman deliver a bottle of blood? Why are you here? To defeat Dracula, of course, and if you don't... Well, the townspeople will take care of you! This was rather 'cute' and fun - hope you have as good a time as we did on this Adventure! DON'T GET BITTEN TOO MANY TIMES!!

HOLK

ENTer HEE

OUTE

DUIN

141100	1010	00	NUN	MHLK	CIAIGL	UDE	MOTE	UNCIOSE
	LOOK	EXAmine	GET	TAKe	PICk	CATch	REMove	MOVe
	LOCk	INVentory	PUT	DROp	LEAve	LOWer	KIL1	ATTack
	SAVe	SMOke	FINd	HELP	CLIMB	OUT	EXIt	TIE
	UNTie	FLY	CLOse	SHUt	OPEn	LIFt	RAIse	SLEep
	REAd	TO	UNLock	EMPty	LIGht	BURn	IGNite	JUMp
	WAIt	EXTinguish	SPIll	CUT	BREak	FIL1	TRID	PUL1
	RINg	EAT	DRInk	FLUsh	WITh	JAM	SMAsh	BUSt
	SAY	YEL1	MAKe	SCOre	SME11	SNIff	FEE1	TOUCH
NOUNS:	ANY	NORth	SOUth	EASt	WESt	UP	DOWn	SHEet
	END	WINdow	BOX	LEDge	POLe	FLAg	NOT	COAt
	ROOm	INVentory	PIT	D00r	TORch	PACK	MATch	CLIp
	STAke	VAMpire	BAT	DRAcula	CAStle	DAISY	PASture	BED
	COFfin	CIGarette	LID	GATe	MALlet	FILe	NAI1	BOTtle
	BLOod	DUMbwaiter	MIRror	OVEn	LENS	WATch	VIAL	POSt
	CARd	PORtrait	CROwn *	VENt	TABlet	TOllet	RINg	LOCK
	ARDund	BEL1	LETter	SLEep	BOLt	HOLe	GAMe	PILlow
	FISt	HANd	FOOt	FEEt	HELp	NECk	BITe	KEY
	TREe	GLAd	DREam	DUSt	TACK	MEMory	GARlic	

>>>>>>>>>MORE>

THE-COUNT

A jaunt around the castle can prove interesting — not only do you get to meet the townspeople but you also get a good look at the castle. Or climbing out the windows might give you a closer view. Instead of just looking out the window, why not go out the window?

The oven in this Adventure is solar heated. Any true Adventurer would enter it - despite common sense. Two items inside, one to be used, and one to be ignored. Only take what can be taken.

ADVENTURELAND

The main point of most Adventures is collecting and storing treasures - finding the spot to store is usually left up to you to find out. This one is the same - do like the monkeys do and try climbing some trees. Or, if you get mad enough, turn into a lumberjack...TIMBER!!!!!!

Mirror, mirror on the wall, who's the fairest one of all? This mirror holds more than the one usual answer - and it's not Snow White.

Rhett, whatever shall I do? Frankly my dear, I don't give a d... Wonder if some fire bricks would help here?

MISSION IMPOSSIBLE

White, yellow, blue - why not all the colours of the rainbow? Having an identification problem? An ID card might help in the right place at the right time. The police frisk suspects, whether alive or dead. Why should you be any different?

Adventurer tactics - feel, taste, smell, touch, examine, look, break, move, push, pull, wave, shake, toss - if it feels good, do it? In this case just shake - a clean-up tool might help.

VOODOO CASTLE

SAVE THE COUNT! But first, get some fortune on your side. Good fortune, that is. Use a good luck charm for yourself, but share with the Count - he'll need luck too. Get something from him and return the favour.

Chim chimeny, chim chimeny, chim chero...A sweep is as lucky as lucky can be...In this case, his luck ran out and he's stuck. If you can't pull him out, get him out the way he came in. Remember your Adventurer tactics.

STRANGE ODYSSEY

GERONIMO! Dops, where's my parachute! Forget it, don't need one here. Gravity and weight are the key - a jump from a cliff would hurt, but a jump here is worth it!

Can't do anything in the hexagonal room? Examine the plastic and remember your Adventurer tactics once again.

MYSTERY FUN HOUSE

Getting into the fun house is your first problem - getting out another. Read the sign by the counter and find what you require. If you have nothing else to do in the meantime, try chewing your gum. That'll keep you busy. And when you're done, don't stick it under the table! Somewhere else is more appropriate.

A maze is a maze is a maze. Where would Adventures be without one? This one is easy, just map it out - dropping items in rooms can be helpful as you go through it.

PYRAMID OF DOOM

Can't get in the tiny door? Why would you want to when the pyramid is your quest? Dig in the desert and by the pyramid. You never know what you might uncover. Clamming in the pool is fun, too!

Burning tanna leaves - what a fragrance! If you can't take the smell do something about it. The smoke may keep the mosquitos away. What mosquitos?? Well, it's better than a useless purple worm, isn't it?

Mirror mirror on the wall - why did you cause me to fall? Instead of breaking your neck try the Adventurer tactics - it'll save you a life - another exit lies beyond - eventually your light will be useful once again.

SAVAGE ISLAND PART II

OH NO! Psychotransfiguration!!?? Yep, and it's easy. Play with the cave man in the red rooms and see what you can do. Hint - psycho means mind and trans means change.

Okay, now you did it and you're left in the dark - serves you right. But really, there's light all around you, all you have to do is look for it. Opening your eyes could help.

Adventurer's Help Line

Jo Ann Copeland P. O. Box 5927 RAF Lakenheath Brandon, Suffolk IP27 9PN

Your questions are quite welcome as it is much easier to write help hints from actual questions than from remembering where I got stuck. Which is more than I wish to think about! No telephone calls - please. Answers will be included in the help column - if you want immediate attention please enclose a self-addressed stamped-envelope and I'll do my best! If you can wait for the next newsletter just send your questions and they will be included - that is, if I've done the Adventure. If I haven't, I'll do my best to find a hint anyway! Scott Adams series and Infocom inclusive. HAPPY ADVENTURING!!!!

MODEM COMMUNICATIONS

By N. BOSWORTH & A. H. G DAVEY

PROGRAM EXCHANGE USING ONLY A RESIDENT SUBPROGRAM

It is generally assumed that programs can only be exchanged using specially developed software such as the TE2 module or Fasterm.

This is not in fact the case. Let us assume that both parties involved have their modems set at 300bps with one modem set in the ANSWER mode and one set in the ORIGINATE mode.

Let us further assume that both parties have their modems wired to port No.1 of the RS232, which is generally the case.

The person sending the program must first load the program to be transmitted into the computer, then tell the other person to select either BASIC or EXTENDED BASIC, whichever is appropriate.

Then in the IMMEDIATE mode, the sender should type the following statement:

SAVE "RS232/1"

DO NOT PRESS ENTER YET, but wait until the person on the receiving end has typed, in the IMMEDIATE MODE, the following statement:

OLD "RS232/1"

STILL DO NOT PRESS ENTER YET. The person who has his modem in the ANSWER mode should then turn his modem ON-LINE to produce a carrier tone.

On hearing this tone the sender, who has his modem set to the ORIGINATE mode, should turn his modem ON-LINE, to enable both modems to lock onto one another.

This will result in the modem Carrier Detect (DCD) light coming on, at which point they can both replace their phone handsets (hang up).

The person to whom the program is being sent should then press ENTER immediately, to ensure that his receive buffer is ready and waiting.

The sender should wait for about ten seconds before pressing ENTER.

This should allow sufficient time for the person to whom he is sending the program to be ready. After the sender has pressed ENTER, the cursor will disappear, and the number 255 will appear at the top of the screen.

After a few seconds this (maximum) number will be replaced by the actual sector size of the program being sent, e.g. 15. Then a countdown sequence will occur, showing the progress of the exchange.

When the exchange is complete, the cursor will reappear, and at this point the phone can be picked up. The modem can then be taken OFF-LINE, and the two parties can then discuss the program, after the person on the receiving end has checked that it is OK by listing it, and saving it in the normal manner.

The above procedure will carry out the program exchange at 300bps, which is the default speed set by TI, and is usually the only speed on a modem that offers full duplex capabilities.

However, if you have a modem that offers full duplex at a higher speed, or you wish to exchange a program HARD-WIRED (no modem, just a four wire cable) or INTERNALLY (hard wired in the same building), then the command statements would be:

SAVE "RS232{Port No}.[Software switch options]"

OLD "RS232{Port No}. [Software switch options]"

The software options (Baud rate etc.) must match at both the sending and the receiving end of the program exchange. For example:

SAVE "RS232/1. BA=4800. TW. "

OLD "RS232/1. BA=4800, TW. "

See your RS232 interface manual for more information on software switch options.



BULLETIN BOARD

WANTED / 4 SALE / WANTED / 4 SALE / WANTED / 4 SALE / WANTED / 4 SALE /

SCOTT & JO ANN COPELAND have 5 Infocom Adventures for sale (all require an expanded system). The five are:

SORCERER	£25
ENCHANTER	£20
ZORK II	£20
ZORK III	€20
PLANETFALL	£20

You can either call me (0865 510822) in the first instance, or drop a line to PO BOX 5927, RAF LAKENHEATH, BRANDON, SUFFOLK, IP27 9PN.

If you want some good quality disks at a low price, contact me at Oxford for MEMOREX SINGLE SIDED at £10.50 plus £1.50 p+p for 10 disks (includes well-constructed plastic disk box), or MEMOREX DOUBLE SIDED at £12.54 plus £1.50 p+p for ten disks (including the plastic box).

BRIAN ABRAMS has a number of items for sale. Contact him on 0865 880229 if you are interested in any of the following:

- 2) Extended BASIC module.....£35

- 5) TI Technical manual for Peripheral Expansion Box.............£3
- 6) Software: serious cassette programs:
 - a) Wordwriter (printing facility)
 - b) Calendar (printing facility)
 - c) Map Caption (Amateur Radio)
 - d) Q. T. H. Locator (Amateur Radio, printing facility)
 - e) Computer Aided Design (small circuits, printing facility)

(continued over page)

- f) Parallel Resistor Calculations (printing facility)
- g) Coil Turns Calculator (printing facility)
- h) Bar Graphs (printing facility)
- i) TV Colour Pattern Generator
- j) Audio Frequency Generator
- k) Random Word Morse
- 1) Random Morse 5-letter/figure Groups
- m) Plain Text Morse
- n) Check Log
- o) TI-99/4A Beginner's BASIC Tutor, Lessons 1 to 8
- p) Teach Yourself Extended BASIC, Lessons 1 to 7

Games cassette programs:

- a) Defuse (nuclear reactors)
- b) Aardvark
- c) Sir Prancealot
- d) Moos
- e) Many other less adequate short games on one cassette

ALL CASSETTE PROGRAMS AT £2 PER PROGRAM

DAVE HEWITT has a LOGO module (with a disk of User-written programs) for sale at £25 or nearest offer, and a TI THERMAL PRINTER for £40 likewise. He also has a set of TI JOYSTICKS at £5, and you can contact him if you are interested on Oxford (0865) 863565.

JONATHAN TYLER has an ALPHACOM 42 PRINTER for sale, complete with a minimum of 5 rolls of paper. The unit is about 8 months old, and cost Jonathan is asking £110 or nearest offer, and you can contact him on 0977 792833 between 6pm and 9 pm Monday to Friday, or at any time over the weekend.

TOM SOUTHWELL has a Tachyon Systems standalone 32K RAM for sale. The asking price is £50 or nearest offer. Contact me in the first instance at Oxford.

I have a power supply and case to fit a full height drive (or two half heights fitted with "motor on select") (I can also supply the drives new) for £35 or nearest offer. Contact me on the usual number at the usual address (given on the title page).

Magazine scanned 2023 by Stephen Shaw

THE TIHOME SOFTWARE COLLECTION

Pricing for TSC disks has been reorganised, although the full Collection is still offered at £35 inclusive.

Check the TSC Catalogue (available free to ITUG subscribers on request) to find out what the TSC entries stand for. Make sure that you indicate clearly what your choice is, specifying the name of the disk/s you want.

GAMES:	TSC ENTRIES:	PRICING
TSC_DSK_A TSC_DSK_B TSC_DSK_C TSC_DSK_D TSC_DSK_E TSC_DSK_F EDUCATIONAL:	GA0001 - GA0011 GA0012 - GA0022 GA0023 - GA0032 GA0033 - GA0043 GA0044 - GA0055 GA0056 - GA0066	The number of programs on a disk can vary between about 7 and 11, dependent upon the sizes of the programs in terms of sectors used. The exception is the DEMONSTRATION disk, which alone is offered at £2.95 inclusive of post and packing
TSC_DSK_G TSC_DSK_H DEMONSTRATION:	ED0001 - ED0009 ED0010 - ED0017	The rest are priced as follows: £ 3.95 for ANY 1 DISK £ 6.90 for ANY 2 DISKS (SAVE £ 1)
TSC_DSK_I	DE0001 - DE0006	£ 9.85 for ANY 3 DISKS (SAVE £ 2) £12.80 for ANY 4 DISKS (SAVE £ 3) £14.75 for ANY 5 DISKS (SAVE £ 5) £16.70 for ANY 6 DISKS (SAVE £ 7) £18.65 for ANY 7 DISKS (SAVE £ 9)
TSC_DSK_J TSC_DSK_K TSC_DSK_L TSC_DSK_L UTILITIES:	MU0001 - MU0009 MU0010 - MU0017 MU0018 - MU0026	£20.60 for ANY 8 DISKS (SAVE £11) £22.55 for ANY 9 DISKS (SAVE £13) £24.50 for ANY 10 DISKS (SAVE £15) £26.45 for ANY 11 DISKS (SAVE £17)
TSC_DSK_M TSC_DSK_N TSC_DSK_D TSC_DSK_D	UT0001 - UT0011 UT0012 - UT0022 UT0023 - UT0033 UT0034 - UT0044	£28.40 for ANY 12 DISKS (SAVE £19) £30.35 for ANY 13 DISKS (SAVE £21) £32.30 for ANY 14 DISKS (SAVE £23) £34.25 for ANY 15 DISKS (SAVE £25) £35.00 ENTIRE (SAVE £27.20)

All programs are recorded on Single-sided disks.

You may elect to be supplied with software on Double-sided disks, when you should deduct £1 from the prices shown above.

If you prefer, you may send in your own disks, in which case deduct 50p for each disk from the prices shown above.

For example, 8 disks supplied by you would work out at £20.60 - (8 x 50p = £4) = £16.60 nett.

All the above prices are inclusive of post and packing.

The pricing for programs recorded on cassette remains £1 per program, with an overall charge of 65p for post and packing.

PLEASE MAKE ALL CHEQUES PAYABLE TO "PETER BROOKS"