TI 99/4A USER GROUP NEWSLETTER

TI*MES

AUTUMN No 2

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AUTUMN 1983

Volume 1 Number 2. Telephone Hotline (after 7.30pm) 0273 503968

Hello there.

We hope you will see a more polished TI*MES this month. We believe we have achieved the right formula with our newsletter from the kind remarks you have made, and with Number 2 we hope to have ironed out the typing and spelling errors! Our old typewriter was suffering badly from hiccups and arthritis.

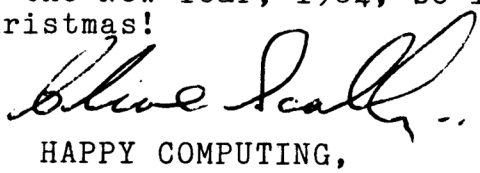
October I983 will be remembered as the month when the T.I.99/4a went below £I00. Many of you who paid £I49-£I99 last year will gnash your teeth. But just think how much entertainment and enjoyment you have had in the last year while others dithered. I have spoken to people who paid £500+ for their machines and have never regretted it.

Has the price of this computer reached rock bottom? Well in the States it sells at$89 which some people feel is below the cost of manufacturing the machine. They obviously expect to make their profits on the software and peripherals.

We have been trying to gather together as much information as possible as to where to obtain software as this seems to be somewhat of a dessert. You will notice several pages in this newsletter of companies specialising in Texas and it's nice to see some price competition as this can only be to your benefit.

We welcome Stephen Shaw as a contributor. There's not much that he doesn't know about the Texas as you will see in coming issues.

Our next issue is in the New Year, I984, so let us be the first to wish you happy Christmas!



HAPPY COMPUTING,

CONTENTS: 2) NEWS VIEWS. 3) BEGINNERS. 4) HINTS. 5) LETTERS. 7) OPINION

8) RAMBLES by Stephen Shaw. 10) PERIPHERALS. 14) CASSETTE STORAGE.

16) ARCADE. 17) U.S.TI news 18) PROGRAM LISTINGS 20) REVIEW: Ext' Basic

21) SAMPLE PROGRAMS IN Ext' Basic. 22) REVIEW:Funware Modules. 23) ADS.

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TI99/4a EXCHANGE is not associated in any way with Texas Instruments and is Britains ONLY independant Nationwide TI home computer users group. BEWARE IMITATIONS there is a SHOP who claim to be a TI user club,we advise our members to first CHECK prices before making purchases through that club.

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TI99/4a Exchange and TI*MES newsletter is supported only by its subscribers, this TI Users group is completely Non profit making.

NEWS VIEWS

ADVENTURE module is always sold with Pirate cassette and then other adventure tapes can be bought. Suggestion - couldn't one have the choice of adventure when buying the module?

COMING SOON from Phoenix publishing. 'Getting started with the 99/4a" by Stephen Shaw. Similar books in the series cost about £6-7. Hope to review a copy in the next issue.

TI is now more aggressive with their marketing. They have a whole range of books which they are offering. They have offered discount to our members - and expect it to be about 10%. If you are interested then please contact us.

99er MAGAZINE can be ordered direct from the USA using your Barclaycard at about £28 surface mail.Write to 99er,PO Box 5537, Eugene, OR 97405. One years subscription is $43. Takes some time to arrive though.

NOW the TEXAS TI 99/4a really is a bargain. Just look at the price under £100. Look at the quality - a machine worth £400- equal to the BBC 'B'.

Spectrum owners now have to pay out £99 PLUS £20 to take solid state cartridges. The Texas has this built in.

With the massive advertising can Texas ensure that stocks are available. We hope they have learnt from the mistakes made last Christmas.

WATCH the top five best selling home computers charts. TI has made it.

OCTOBER UK CHART.

1. Spectrum.
2. Vic 20.
3. TEXAS TI 99/4a.
4. BBC.
5. CBM 64.

WE were going to bring news of the new computer TI 99/2. This has been abhorted in favour TI 99/8 which will use TI 99/4a add-ons but will have a massive 80K. If you want to upgrade it may be worth waiting for. This is good news because Texas is keeping its word that should you upgrade your computer you can still use the same peripherals.

SEPTEMBER has passed without the promised appearance of the Texas sponsored 'TI HOME' newsletter.We have however learnt that they are not taking advertising from independent software producers so it looks like they will be promoting all their own products. Being an independent group we believe in finding for you the best buys for your computer, offering unbiased critisisms of Texas products and finding cheaper British made peripherals for the machine. We also treat you as individuals and offer you advice with any problems on a personal basis. Let us hope that 'TI HOME' will also offer such a service as the more information we can obtain the better. It looks like we shall have to wait and see.

LET US HAVE YOUR VIEWS AND WE WILL PUT THEM IN PRINT TO SHARE WITH YOUR FELLOW MEMBERS

FOR THE REST OF US BEGINNERS....
by Wayne Page

One of the best suggestions I've heard for those of us learning Basic is "experiment." You'll find there are as many ways of getting your computer to do a particular task as there are people interested in seeing the results--everyone could and probably would do it differently.

With that in mind I'll talk a little about what I like to do best. This issue's article will describe some ways to jazz up your program title screen (headers).

```
100 CALL CLEAR
200 PRINT TAB(10);"THE HEADER"
    ::::::::::::"WMP 12/21/82"
300 FOR DELAY=1 TO 1000
310 NEXT DELAY
```

This is an example of a very simple, straight forward header. It has all the primary information needed. Line 200 holds the title of the game or program, followed by 12 colons (to center the title vertically). I also include, after the colons, my initials and the date the program was written. Lines 300 and 310 give a time delay to allow enough time to read the screen before the game or program starts. Now add different background color combinations:

```
300 FOR SCRN=3 TO 16
310 CALL SCREEN(SCRN)
320 FOR DELAY=1 TO 100
330 NEXT DELAY
340 NEXT SCRN
```

To add a little sparkle to your headers, try this program:

```
100 RANDOMIZE
110 CALL CLEAR
120 CALL SCREEN(2)
130 FOR X=1 TO 12
140 CALL COLOR (X,15,1)
150 NEXT X
160 PRINT TAB(10);"MY PROGRAM"
    ::::::::::::"WMP 12/21/82"
170 FOR STARS=1 TO 100
180 ROW=INT(RND*24)+1
190 COL=INT(RND*32)+1
200 IF ROW<>11 THEN 240
210 IF COL<10 THEN 270
220 IF COL>20 THEN 270
230 GOTO 180
240 IF ROW<>23 THEN 270
250 IF COL>14 THEN 270
260 GOTO 180
270 CALL HCHAR(ROW,COL,42)
280 NEXT STARS
```

Here's one more to try...a little more complicated, but worth it for that special program:

```
100 CALL CLEAR
110 CALL SCREEN(8)
120 CALL COLOR(13,1,1)
130 CALL COLOR(14,1,1)
140 CALL COLOR(15,1,1)
150 PRINT TAB(10);"MY PROGRAM"
    ::::::::::::"WMP 12/21/82"
160 A$="3C7EFFFFFFFF7E3C"
170 CALL CHAR(128,A$)
180 CALL CHAR(136,A$)
190 CALL CHAR(144,A$)
200 CALL HCHAR(1,2,128,30)
210 CALL HCHAR(24,2,128,30)
220 CALL VCHAR(1,2,128,24)
230 CALL VCHAR(1,31,128,24)
240 FOR X=2 TO 31 STEP 3
250 CALL HCHAR(1,X,136)
260 CALL HCHAR(1,X+1,144)
270 CALL HCHAR(24,X,136)
280 CALL HCHAR(24,X+1,144)
290 NEXT X
300 FOR X=1 TO 24 STEP 3
310 CALL VCHAR(X,2,136)
320 CALL VCHAR(X+1,2,144)
330 CALL VCHAR(X,31,136)
340 CALL VCHAR(X+1,31,144)
350 NEXT X
360 FOR FLASH=1 TO 24
370 CALL COLOR(13,15,1)
380 CALL COLOR(14,5,1)
390 CALL COLOR(15,6,1)
400 FOR DELAY=1 TO 10
410 NEXT DELAY
420 CALL COLOR(13,5,1)
430 CALL COLOR(14,6,1)
440 CALL COLOR(15,15,1)
450 FOR DELAY=1 TO 10
460 NEXT DELAY
470 CALL COLOR(13,6,1)
480 CALL COLOR(14,15,1)
490 CALL COLOR(15,5,1)
500 FOR DELAY=1 TO 10
510 NEXT DELAY
520 NEXT FLASH
```

Try some of these, adapt them, use them as building blocks for headers of your own. If you have some interesting things you've done in TI Basic that you'd share with "The Rest of Us Beginners," write them up with a little article and share it in our newsletter. There's much we can learn from each other.

HINT 1. CALL CLEAR.

Use this statement to give a professional touch to your programs. Instead of CALL CLEAR write: CALL VCHAR(1,1,32,992)

HINT 2. INVERTED VIDEO.

Give colour to your scrolling print sub routines. Try this:

```
10 CALL VCHAR(1,1,32,972)
20 For I=1 to 14 step 1
30 CALL COLOR(I,16,5)
40 NEXT I
50 CALL SCREEN(7)
```

Foreground colour
Letter colour
Border colour

HINT 3. INPUT STATEMENT WITHOUT(?)

Yes you can eliminate the question mark easily. The secret is to use blank spaces the length of the screen line. Enter this:

```
100   PRINT "ENTER YOUR FULL NAME:"
110   X$= " (30 spaces here)"
120   INPUT x$:y$
130   RUN
```

The screen will produce the following:

ENTER YOUR FULL NAME:

FULL NAME INPUT HERE

Computer competition

*** GREAT BRITISH TI99/4a SOFTWARE AWARDS 1983/84 ***

This NATIONWIDE competition which will be open to anyone who can write a program in TI BASIC.....The awards will be given to those who submit the Best program in each of the three sections.....

1) BEST EDUCATIONAL PROGRAM

2) BEST BUSINESS PROGRAM

3) BEST ARCADE/FUN PROGRAM

full details of this Competition and application form will be published in next edition of TI*MES newsletter..... CLOSING DATE for your entries will be APRIL 1984.....so you have plenty of time to write a Program that could WIN a valuable prize!

YOUR LETTERS

This page is where you get the chance to put your opinions in print.

Fellow members,
My main interest is hardware. Would anyone supply 1)Layout of TI 99/4a. 2)Schematic to I/Cs. 3) Memory map. Reason is to attach TI 99/4a to S100 bus. Any small cost paid.

From:- Mrs C. Hickman of 52 Sutherland Ave,LONDON W9 2QU.

ED:- Happy to say we were able to put this member in touch with another member who had a schematic. Can you help with the rest?

****

Barrie Clark of Cleeve, Avon writes:-
I think the speech synthesizer should come down in price to about £25. A question - why can't I get hold of an extended basic module?

ED:- Looks like there's lots of price reductions in the pipe line. You can obtain Extended by mail order from Parco or Christine computing.

****

Mr P.S.Richards,I5,Glenfield Rd, Leicester, LE3 6AT writes :-
Dear Clive,
If anyone knows how to solve"GOLDEN VOYAGE" Adventure would they please get in touch.Its driving me mad!

ED:-Mr Richards would also like to Exchange Mission Impossible, & Strange Odyssey for other tapes presumably with the solution should they drive you up the wall(?) on Adventure module.

****

Mr C.Street of Crewkerne,Somerset writes:_

I am a ham radio operator and would like to contact other members of the group by radio. Call sign G.B.X.E.T.

****

Dave Jackson of 9 Dorking Grove, Wavertree, LIVERPOOL writes:-

I purchased the TI 99/4a mainly to try and learn to communicate with a computer. One week later I realised that their manual is no help to c complete beginner. Two weeks ago I bought a book to learn Basic:- "30 hour basic" by Clive Prigmore. Very enlightening - full of questions and exercises with the answers. This book is very hard going but very interesting and rewarding.

****

PARCO ELECTRICS, 4,Dorset Place, New St, Honiton, Devon EX14 8QS

Telephoned to say that "We have won a Major order with BRITISH TELECOM for supply of TI 99/4a Computers."

ED:-This is good news for ALL TI USERS, Modems & etc.

TEXAS INSTRUMENTS LIMITED

A WHOLLY OWNED SUBSIDIARY OF TEXAS INSTRUMENTS INCORPORATED OF DALLAS, TEXAS, U.S.A.

EUROPEAN CONSUMER DIVISION

MANTON LANE · BEDFORD MK41 7PU

TELEPHONE: 67466 · TELEX: 82178

TI are now fully committed to producing its own Software, we thought you may wish read this letter following our own enquiry

ED.

YOUR REF.

OUR REF. RF/JR

Dear Customer,

Thank you for your enquiry regarding how to profit from TI-99/4A Software. Let me explain the various ways this can be achieved.

1) CASSETTE BASED SOFTWARE

This is of course the least expensive software media. Programs are all written in BASIC and are primarily designed to operate on the basic computer, with occasional programs written in Extended Basic, where the ability to control sprites are required. Software in this form can be sold and marketed in two ways. Firstly by the author(s) and secondly, depending on the potential volume, by Texas Instruments themselves. Providing that the package is of an acceptable standard and a minimum of five different titles are offered, Texas Instruments will include the titles and the name and address of the selling organisation in our Software Brochure.

2) MODULE BASED SOFTWARE

Putting software on Command Module can only be done by Texas Instruments, due to manufacturing of the semiconductor memories. It is done when the program is written in TMS 9900 assembly language. The advantages of the media are given in the attached document.

I hope this information is useful to you and I would be pleased to answer any specific points you may have.

Yours faithfully,

Robin Frowd

ROBIN FROWD
Home Computer Programme Manager

LOOKING TO THE FUTURE

Which comes first, teacher or the chip?

Micro computers are invading school classrooms all over the country. Thanks to Government subsidies and enthusiastic parent-teachers associations, thousands of pounds are being spent to make sure there is no shortage of the clever little machines.

But are they really so necessary in schools, or would the money be much better spent on new books, modern science equipment, and more teachers.

Why is the Government offering micros to schools at half price when few schools have enough qualified teachers to make use of them? Is it just a tactic to boost sales for British micro manufacturers? And how much time should pupils spend messing about with computers. Wouldn't they be better occupied with ordinary maths lessons?

These and many other vital questions concerning computers are the subject for heated debate within the educational world.

Everyone, parents, teachers, careers advisers, agree that micro computers are "inthings", and that children should be encouraged to use them. But they can play Space Invaders in amusements arcades. More and more children can count a micro as one of their home 'toys' so is it really necessary to take up school time with micro lessons?

For some years secondary schools have been offering their pupils exam courses in computer studies. The course teaches how computers work, how they are used by businesses, what they can do, plus some practical classroom work.

The main problem is the shortage of teachers qualified to take these classes. If there is a teacher then he is usually the maths teacher who also teaches computer studies. But there is also a shortage of maths teachers.

The image of micros as unemployment beaters is also wrong. The fact that a child is aware of how to use a micro won't necessarily help to create work. There should be more emphasis on design technology, teaching children how to design computers and other new machines, rather than using them.

Most schools desperately want to appoint specialist computer teachers but even when they become available in greater numbers how will the local authorities be able to appoint extra staff at a time of overall cutbacks-unless at the expense of a different subject teacher.

More teachers must be taught to teach the subject; schools must work out exactly why they want micros and how they intend to use them; adequate money must be set aside for software and the machines must be replaced with more modern designs.

In fact it will probably take a computer to help solve these problems ahead!

RAMBLES By STEPHEN SHAW

Hi there. New publication for Rambles...which is a sequence of hopefully helpful tips, comments and general rambling...

TAPE HINT:
When you insert a cassette, do you notice sometimes the tape is fairly loose in the cassette shell? If it is, always use REWIND to tension it: even the best behaved tape recorder can digest a tape which is loose in the shell. And don't forget to clean and demagnetise your recorders regularly,please!

FROM THE USA:

'UNOFFICIAL 99/4(A)' July/Aug and Sept/Oct 83 issues.
July/August: Very basic introduction to INPUT in TI BASIC spread over 4 pages of A4....another four pages give an example of using cassette files....two pages of press reviews...and Larry Sabo of Maple Leaf Micro Ware introduces his programs (sold in the UK by Stainless Software: me. I may use his text in next issue, as an ad)....very basic article on Mini Mem,but not too helpful....four short programs, one simulates a computer(!!!), two drill programs and a short short (yup, two shorts there, deliberate...) colour program.
SEPT/OCT issue: Articles on computers and schools...simple article on OUTPUT incuding a drill program (eg it tests you,in this case on division)...a program to simulate the '15 Puzzle' (thats the one with 15 sliding square blocks)...Press Review, inc news of the 99/2 demise taken from our own Popular Computing Weekly!...another shallow Mini Mem article...and an interesting article on random numbers.

The magazine is published by Mark Leyton, it is A4, typically 24 pages, stapled. It has the appearance of a 'fanzine'...or a user group newsletter without the group! The seamail sub to the UK is US$20 for one year (6 issues) an US$35 for 2 years (12 issues). Payment must be in US dollars on a US bank. The simplest source is a US Dollar IMO from Barclays: they can issue them on request and only charge a pound commission.
Address: M T LEYTON, Unofficial 99/4A, P O BOX 651, CLUTE, TEXAS, USA, 77531

...any delay in replying is due to hurricanes. Apparently Clute suffers badly from these...

INTERNATIONAL 99/4A USER GROUP:
Presidents Letter, August 1983: News that the head of the Consumer Division of TI in the USA is now former head...and the TI President, J Fred Bucy is taking sufficient interest in the product to open an office in Lubbock...and is also personally scrutinising internal PR work, also has appointed an outside PR firm. The 99/4A is due to appear in the MATT HOUSTON tv show ...shortly in the USA, may take a while for the shows to make it over here (what is the time lag: anyone know?).
Enthusiast '99, July 1983 (received after the above): 60 A4 glossy colur pages...lots of ads...Q&A pages (tip: the cassette remote lead may drain power from under powered recorders. Removing it could make a difference)...reviews of the TI Professional and an article on the CC40 portable...one games program in Extended Basic...introductory article on the general way the 99/4A actually works...with an explanation for that SLOW Basic...and a very useful article on assembly language with a useful source code listing of assembly routines similar to HCHAR,VCHAR,CHAR,PRINT,CLEAR,SCROLL,KEY, FOR NEXT, END, and a new one DELAY.(NB: As presented, not suitable for Mini Memory.Sorry.).
Interesting Advert:
Do it yourself modules....ROMOX 8k modules available blank for US$20. Load your assembly language program into them from disk using a module programmer (US$300) and you have your own module...tire of it? Erase the module with an eraser, US$40. ROMOX modules WITH GAMES IN THEM for US$38.
Disk owners who have damaged one part of the disk index somehow,lose access to the entire disk...along comes DISK FIXER a US$30 program which allows access to disks by sector, effectively a disk recovery program.

Enthusiast 99 is bimonthly and the sub is a mere US$16, which also allows access to the IUG program library (over 47 megabytes of programs and growing daily...). The IUG programs are US$3 only, minimum order four programs.
SUBS in US FUNDS only to:
International 99/4 Users-Group, P O Box 67, Bethany, OK, USA, 73008

99'ER HOME COMPUTER MAGAZINE August 1983:
100 pages A4 glossy colour, lots of ads.
Letters page with a hint to Extended Basic owners with the speech synth but not the speech editor module...program reviews...a program listing for a game in TI BASIC and another in Extended Basic...part of a series on Multiplan Module...usual LOGO feature with sample procedures...article on the CC40 and how to use it WITH a 99/4A...using the Wafertape drive and the Hex Bus adaptor, it is possible to record a wafertape with the CC40, and then use it on your 99/4A, or vice versa. The data files have to be in display format cos the computers use different chips...
...a short TI Basic 'sunrise' program...any lady readers? theres a KNITTING PROGRAM! (it will give you a pattern fro 6 months to size...56!)...and most interesting of them all, something not of great practical interest to most of us, but an answer for our smart aleck friends with other comps:
Know the BBC computer has the TUBE which is supposed to allow it to use another processor? It doesnt seem to be working at present... an ad for our computer is for:
A peripheral card for the Box, which has an extra 50k of user RAM, a extra processor (8085 at 8Mhz) AND another operating system (CP/M). All this for a mere US$600....and for an extra $150 you can buy a 'CBasic Interpreter'. (??). and another ad for a TEN MEGABYTE storage system (Winchester disk).No price on that one, but it will be very high.

These little things are not available in the UK of course, (yet?) , but they serve to show that our cheapo computer has what is takes (given a few more bucks).

99er Magazine is available from several sources. If you have difficulty, contact **TI99/4a Exchange, 40, Barrhill, Patcham, BRIGHTON, Sussex, BN1 8UP.**

If you would like me to cover anything of general interest in the next issue, please write... if you want a direct reply, an SAE is essential, and please be patient, the next few months will I hope be very busy, so a reply could take a while to arrive!

Stephen Shaw, 10 Alstone Road STOCKPORT Cheshire SK4 5AH

I am on the phone, but due to shortage of time, prefer letters! If a call is realy urgent, please ring only between 9.30 and 10.30 p.m.

Thanks. Just a little plug here:
My book 'Getting Started with the TI99/4A' is due out Nov 28th from Phoenix Publishing Associates, price 5.95 from all good dealers and booksellers. Sorry, due to restrictive trade practices I can't supply you. With any luck Home Computing Weekly will review it!

PERIPHERALS

There are a number of peripherals available for the 99/4A, and TI do not appear to like saying too much about them. You may not be fortunate and have a good well informed dealer nearby, so here is a brief run down on what is available and what it can do:

CASSETTE: Enables you to save programs and data to tape. Inexpensive but slow. Although there is a verify function for programs you save, you cannot verify data (except data saved with certain modules, such as Chess). Requires regular maintenance: cleaning and demagnetising. If you do not attend to this your recordings could be lost! Always make a second recording on a different tape to protect against accident.

JOYSTICKS: TI have brought out several types of joysticks, with minor improvements each time. The current model sometimes requires a lot of pressure,especially on diagonals, and can be quite tiring.
Arcade Hardware produce a heftY industrial joystick with microswitches, which requires very little pressure on the stick.Adaptors for Atari joysticks are also available from some sources.

MEMORY EXPANSION: The 32k ram card requires the expansion box. It cannot be used by TI BASIC, nor by many of the modules (eg Personal Record Keeping). It can be used by Extended Basic, and then allows you to use up to 24k for programs,with 16k used for the stack (variables) and another 8k reserved for machine code programs.
NB: In Extended Basic you cannot load a program longer than 12k from tape even if you have the Memory Expansion. Your 12k program will however have all that extra memory available for stack use,eg to store variables.

The 32k ram is REQUIRED for many of the newer business type modules such as the TI WRITER and MULTIPLAN. You also need it to use the Editor Assembler module to write machine code programs.
There is a slight increase in program speed in Extended Basic when you add the memory expansion.
The 32k ram allows you to peek and poke the computer, amending and checking various memory locations. It is possible for instance for a program to write another program. I have seen extended basic programs which loaded machine code programs.

MINI MEMORY is a module, but can be described here- it gives you 4k of cpu ram in a module, with battery back up. You may store a program in the module, in TI BASIC or machine code, or you may use it as a solid state disk drive to store data. The information stays in the module even when you remove it from the console. In addition it not only gives you the peeks and pokes of Extended Basic plus 32k ram, but allows you to access the vdp ram, allowing customised cursors for instance. With care you can also use a couple of sprites.
As with the 32k ram, you can write a program to write another program. An additional extra is the capability of writing short machine code programs (3/4k) or of running programs (up to 4k) developed on the Editor Assembler. With this module,such short machine code programs CAN

be loaded from tape, although you can load (but not save to) disk if you prefer.
NB:You are not given sufficient information to allow you to write assembly code programs with the module.
.BP
RS232 Card for the Expansion Box: This card allows you to use two RS232 ports and one parallel port (Centronics type). To use two RS232's you need an additional cable (NB:NO cables supplied with this!). The Box will take two cards, allowing you to use 4xrs232 and2xPIO.
Because you will need a cable made up to connect this card with your equipment, ensure that you or your dealer are able and capable to make up the cable before you buy!!!
This card allows you to use a printer (most printers can be connected to the parallel (PIO) port if you make up the cable) or a modem or indeed to make a connection between the computer and the outside world.

Disk system: A fast but pricy storage medium for programs and data. The TI file handling, even though badly described in the manual, is in fact one of the easiest to use. The disk controller card is needed (and of course the EXPANSION BOX!)
At present TI supply a single sided single density drive, capable of holdng up to 90k, but a disk manager module (provided with the card) is now available in the USA which can handle a double sided disk. The great advantage of a disk system is speed. The TI system allows you to make back up copies of disk using only one drive.
With a disk system you can use random access files, which are a considerable improvement on the sequential files you have to use on tape, and as you can also use variable length files, data storage space can be used to optimum advantage.
You do not have to buy TI drives - many other single sided single density drives will also work with the system, check with your dealer. Your dealer may even be able to install a double sided drive and make the computer treat side two as DSK.2 (eg as a second drive altogether).

EXPANSION BOX: Is a large and very heavy piece of engineering into which many peripherals are plugged. The Box has a fan cooled power supply, which makes you think you are on a ship! The cards are also very heftily engineered, and are by no means to be compared to the sometimes flimsy bare PCB's sold as expansion boards for other computers. This may help to explain the price difference - the box and cards are built like tanks. You may easily place your tv on top of the box.

The box can hold seven cards, eg you may wish to use: disk controller, two rs232, 32k ram, p/code card (new,for pascal,pilot,p/code basic and so on), and still slots are spare.

ASSEMBLY LANGUAGE is best supported with editor assembler module, disk system and 32k ram. It is by no means easy and no simple introductory books were available when this text was written. If you are prepared to work hard and persevere, maybe you could write something like Parsec!

The new modules deserve a mention here as well as one or two old ones-

The Personal Record Keeping and Statistics modules give you a couple of extra TI BASIC commands when they are inserted into the console. The easiest to use simulates DISPLAY AT and ACCEPT AT. With care you can also save data in program format- this takes up less space and permits you to verify it. This has been dealt with in 99er Magazine and TI HOME, also you may be able to talk TI into sending you a copy of their technical leaflet on the subject: one does exist.

The TI WRITER module (on which this text was assembled) allows you to use your computer as a word processor. It requires a 99/4A,32k ram and a disk system plus RS232 and printer.

It has every facility you could want, including a mailing list option to allow you to print labels, or even those apalling form letters the postman keeps delivering. Text can be printed from disk or from the screen.

The most severe limitation is the time on word wrap (you keep typing, and when you get to the end of a line,the computer automatically adjusts the words so that the line ends with a complete word and you move to a new line.) It may be my (two fingered) typing speed, but I have to watch it carefully as it usually misses a letter or two in moving to the new line. Otherwise you will be limited by the capabilities of your printer - this module allows you full access to your printers facilities.

The TI Printer not being available I purchased an Epson FX80 printer, but any printer will work, provided you make up the cable properly. I use the parallel port. The original TI Printer (MX80) apparently used the RS232 port, but it looks as though the new one (Omni 850) will also use the parallel port.

Perhaps a member with the P Code card or the speech synthesiser (with TE2,ExBas & Speech Editor) could let us have a few notes on those.

A recent paragraph in COMPUTER ANSWERS regarding the TI WRITER was totally in error - it is not a toy, but a serious word pro. The Editor IS limited to a printing line 80 characters wide, but using the Formatter option you can print to any width you chose, and may of course use the tabs on your printer instead of the TI Writer tabs. You are limited to a 40 character wide screen by the computer, but everything you can find in a dedicated word pro is there, and in my humble opinion (we have AES word pros at work) considerably easier to use.

IMPORTANT: Please note that when using the 32k ram expansion, you are still limited to a maximum program length of 12k when using the cassette interface. To save longer programs you must have the disk system.

There is still some benefit from the 32k ram though, as it permits the use of Call Load,and also you need not worry about stack space, you can use the full 12k for your program : variables and arrays will find their place in the rest of the memory !

ADVERT

STAINLESS SOFTWARE

This first advert in TI.MES TI99/4A Newsletter is to tell you a little something about Stainless Software:

Stainless Software is a tradename used by Stephen Shaw. The business was formed over a year ago at a time when there was NO source of software other than TI.

Programs are imported and sold at the same price that they sell for in the USA and Canada (a little less actually, as the UK prices include VAT at 15%).

Programs from UK authors are welcome : but no more horseraces or hangmen! Programs should be original, bug free and as polished as you can make them! Royalties vary from 20 to 30% depending on the retail price: after the dealer discount and VAT, overheads have to be paid, and take a bigger toll of cheaper programs.

Stainless Software handles imported programs by:

PS SOFTWARE, FFF SOFTWARE, NORTON SOFTWARE, NOT POLYOPTICS, OAK TREE SYSTEMS, MAPLE LEAF MICRO WARE, KUHL SOFTWARE, ROACH SOFTWARE, and a few others.

Best selling tapes at present are WINGING IT, a flight simulation program in TI BASIC at ten pounds, and 99 Vaders also at 10.00

Patrick Strassens programs NIGHT FLIGHT (a variation on the arcade Bomber) and MAN AND MONSTERS (like Digger) are selling well, despite the speed limitation imposed by TI Basic.These both sell for 6.00

A number of owners have problems with tape recorders: do not forget to maintain your recorder in peak condition by cleaning and demagnetising it at least monthly. TDK make a neat demagnetiser in a cassette shell which sells for about 10.00

If you would like a catalogue of programs available from Stainless Software, please send an SAE. The catalogue is normally 50p, so to take advantage of this offer, remember to say you are a member of TI-MES!

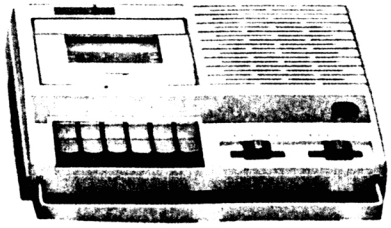
The catalogue is quite large,with over 75 programs, so please send an envelope 9"x6".

STAINLESS SOFTWARE

10 Alstone Road STOCKPORT Cheshire SK4 5AH

Always use the post code, and quote yours.
Letters without post codes may be delayed up to 2 weeks!

Best wishes to TI.MES



BEGINNERS: CASSETTE STORAGE:

You have just spent HOURS keying in a program, it is late, and you don't quite know what you are doing. You mean to save the program and type 'SAVE CS1', press ENTER. A message appears , you rewind the tape and press enter. THEN you read on screen 'PRESS CASSETTE PLAY AND THEN PRESS ENTER'.

What do you do? After screaming and trying to knock a hole in the floor.....

PRESS KEY E. This will allow you to exit the 'OLD CS1' loop which you have accidentally entered by typing 'OLD CS1' instead of 'SAVE CS1'

In fact, keys E R and C are available to you at all times during the cassette operation loops, except when the tape is actually rolling. For instance you can record a program twice, by pressing R after the first copy has been recorded and the screen message is 'PRESS CASSETTE STOP THE PRESS ENTER'

My thanks to Paul Karis of Holland for this tip.

. . . . . .

Special service, for members ONLY. Unfortunately, in an attempt to avoid piracy, some software producers insist on using the Extended Basic 'protect' feature when selling programs in that language.

With a TI BASIC program, you can (and should) make a back-up copy of any program you pirchase, in case the original is accidentally destroyed (or just wears out!). You should not of course make copies for sale, and preferably not even for friends.

With a tape in Extended Basic which is protected....you cannot make a back up. For all tapes which I (am forced to) sell in protected format, if any are damaged in use, I will provide a new copy provided the original is sent together with a small rerecording fee, currently two pounds inc post & packing.

What if a program supplier (eg not me) does not offer a similar back up service? You could lash out and buy the same program again...

But life is easier if you have a back up. As a service to members who face this problem, I will make a back up tape for them. The rules are: Send original tape and two pounds. A protected copy will be made and sent to you with the original. BOTH will be coded to indicate a copy has been made,and only ONE copy will be made from each original. Should you illegally sell the copy, it has been marked with your name and address : you wont be able to see or change that! So don't.

(Yes friends, it is easy to remove the protection, but in the interests of software vendors I'm not saying how. And if you discover the way, PLEASE dont make it public. Thanks).

The debug feature in MunchMan which allows you to start where you like in the game, and also set certain parameters, can also be found in Alpiner and Chisholm Trail. Select the game. When the game title screen appears you have two seconds to do the following:

Hold down SHIFT and press 8 3 8. Now respond to the screen prompts, quickly! Note that an entry of 0 means one, and entry of 1 means 2 and so on. Dont delay,your time allowed to use this feature is limited. (SOME versions of TI Invaders have this feature also).

Interesting to see Pete Brook's Banthorpe Plot (TIdings Vol 2 No 4) in the CHICAGO TIMES. eg Chicago TImes...the newsletter of the Chicago User Group - Vol 2 No 2.

What do you do with a TI Adventure when you've solved it? Why not offer it in TI.MES? Perhaps there are enough adventurers for some form of swop facility? NB:Only originals: its illegal to make copies and sell or swop those! If you sell the original you should destroy any copies you have.

Several books are now published in the USA, by Compute, Arcsoft and Tab- possibly they may make their way here in due course. Meantime I saw Paperts book 'Mindstorms' in WH Smith (its about Logo..)...I also have an MS out with Phoenix, watch out for the book...

Remember years ago when the Desiderata made the top ten? One of my suppliers, Tom Krohn, passes on this alternative :

I am resolved:
-to forget past mistakes and press on to greater achievements.
-to put first things first
-to make my work a joy
-to allow nothing to disturb my peace of mind
-to never lose self control
-to spend so much time improving myself that I have no time for criticism of others
-to think the best, work for it, and expect it
-to be a friend to man
-to stand for the right
-to be true
-to take every disappointment as a stimulant
-to live on the sunny side of every cloud
-to smile
-to look ahead
-to keep moving

Any aphorists out there? (dictionary practice for today).

. . . . . .

That wrapsit up for another issue. Have fun computing, and share your discoveries! Best wishes and happy computing...

Stephen Shaw

STEPHEN SHAW

"STAINLESS SOFTWARE was established to provide programs for the 99/4A when no other source existed. The oldest vendor of programs for the TI computer, one of the first range of imported programs came from Not Polyoptics, and over the months, the names have become closely linked, especially after reviews in Home Computing Weekly.

It has now been discovered that Not Polyoptics have appointed two other UK distributors. Readers are asked to note that not all Not Polyoptics programs will now come from Stainless Software, and that programs and documentation from other distributors may differ slightly from those reviewed.

As Stainless Software cannot compete with the prices seen, and was established to provide an extra service, not to compete, the Not Polyoptics line will shortly be deleted from the Stainless Software catalogue."

2022 update: Not Polyoptics later advised that at least one of these other distributors never paid them one cent!!! That's how they sold them so cheaply...

ARCADE

Focus on Munchman.

Are you addicted to Munchman yet? It gets to you very slowly - but soon you begin to see the green gobbler wehenever you close your eyes.

The purpose of the game is for your munchman to complete a chainlink around a maze. Four "hoonos" try to devour him. There are four energy pellets which allow your munchman to turn the tables and devour the hoonos for a limited length of time and thus earn bonus points. There are 60 levels of play.

Tactics.

On the easier levels attempt to catch all 4 hoonos each energy pellet to attain a maximum of 8700 points each screen. Then ask yourself at which screen you usually loose your first munchman, then concentrate on laying down the chain.

You may have noticed there is a definite pattern the hoonos follow each screen. Get to know them and you can outmanoeuvre them.

Finally - relax and your style won't get cramped.

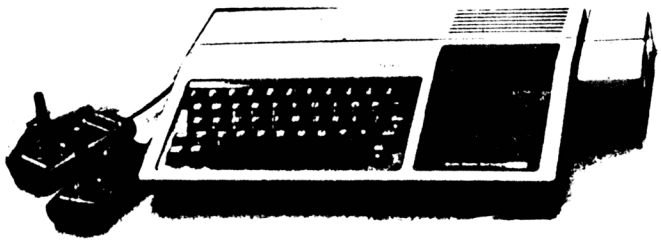
Do you know the secret of looking at higher screens? When the option of 2- Munchman appears at the beginning of the game, press 2 then SHIFT 3 8 3 very quickly and you then get the choice of a test screen.

HIGH SCORES

You are all being very modest or else are hopeless, because we haven't heard from many of you about your top scores. Now the dark winter evenings are here get cracking, practice and let us know your game scores. You could be nearly famous.

Congratulations to Barrie Clarke of Cleeve. Top scores
Parsec - 214,500 and Alpiner- 59,700.
Simeon Prowse of Avon - Invaders Level 2 - 13,000

Home computer price war



Eight years ago Texas Instruments entered the calculator business driving Commodore out of the business and nearly forcing it into bankruptcy. TI furnished Commodore with the chips used in its calculators. Commodore learned its lesson . . . it bought a chip maker achieving control over all key components. Thus today Commodore's 6502 microprocessor is used in other makers' systems, such as the Apple and Atari machines. Commodore also learned that the key to the consumer market was to bring out repeated new products and to undercut competitors' prices. The result is that Commodore now has more than 30% of the consumer computer market and is the only consumer computer maker to turn in a profit for the past year. In fact it reported $28 million profit on $675 million sales; and it is shooting for $1 billion sales for this year, while TI, Atari and Mattel all reported huge losses.

Meanwhile TI is seeking to move its large inventory of TI-99/4A home computers and has dropped the price to $89 to match better the selling prices of the Commodore VIC 20 and Atari 400. All three are currently selling for between $69 and $79.

A stockholder has filed a suit against TI charging that they sold their 99/4A computer at prices lower than actual manufacturing cost in the expectation of selling profitable software and peripherals. TI disclosed that it laid off 750 workers at its personal computer manufacturing plants and there are rumours of more lay-offs to come as TI has cut back on production. It has been reported that TI sales have fallen by almost 20%. TI has also redesigned the 99/4 internally to lower the component count to reduce manufacturing cost, and also to prevent any but TI-built ROM cartridges from being used with the unit.

****
FREE users game YHATZEE
****
We wish to start building a TI Users OWN software Library exclusive to members of TI99/4a EXCHANGE.
****
Just send us your own tape and program we then include it to build your very own library
****

DUST COVERS

TI-99/4(A) Console Cover

DEALER INQUIRIES INVITED

£3.25p +35p Post

Features:

- Equipment Protection
- Handsome Appearance
- Custom-Fit
- Antistatic Treated
- Quality Construction

BEWARE

If you know of anyone selling UNAUTHORISED Software then let us know. It is not our intention advertise illegal software Houses.

PROGRAM LISTING

Here are two programs,in condensed print, to excercise your TI99. The first was translated by Rick Mirus CIN-DAY Users group U.S.A. and it gives you pre-defined plotting! Try to change or add to this program.Program No 2 was translated by SHANE ANDERSON National Australias TI Users in Sydney,these listings demonstrate excellent programming skills . ED

```
100 CALL CLEAR
110 CALL SCREEN(2)
120 CALL COLOR(2,16,2)
130 CALL CHAR(42,"0000183C3C180000")
140 FOR T=0 TO 7 STEP..1
150 R=12+11*COS(T)
160 C=16+9*SIN(T)
170 CALL HCHAR(R,C,42)
180 NEXT T
190 GOSUB 630
200 C=0
210 FOR T=1.5 TO 8 STEP .1
220 R=12+(9*COS(T))
230 C=(T*4)-3
240 CALL HCHAR(R,C,42)
250 NEXT T
260 GOSUB 630
270 FOR T=3 TO 23 STEP .1
280 R=12+SIN(T)*(T/2)
290 C=16+COS(T)*(T/2)
300 CALL HCHAR(R,C,42)
310 NEXT T
320 GOSUB 630
330 FOR T=0 TO 7 STEP .05
340 X=12-(15*COS(T)+8*COS(4*T))/2
350 Y=16+(15*SIN(T)-8*SIN(4*T))/2
360 CALL HCHAR(X,Y,42)
370 NEXT T
380 GOSUB 630
390 FOR T=1.5 TO 8 STEP .1
400 C=(9*COS(T))
410 R=T*3-3
420 CALL HCHAR(R,16+C,42)
430 CALL HCHAR(R,16-C,42)
440 NEXT T
450 GOSUB 630
460 FOR T=0 TO 7 STEP .04
470 R=12+3*COS(T)+6*COS(5*T)
480 C=16+12*SIN(T)-3*SIN(5*T)
490 CALL HCHAR(R,C,42)
500 NEXT T
510 GOSUB 630
520 FOR T=0 TO 6.6 STEP .05
530 X=12+05*SIN(T*4)
540 Y=16+13*SIN(T)
550 CALL HCHAR(X,Y,42)
560 NEXT T
570 FOR T=5.5 TO 7 STEP .1
580 R=17+4*COS(T)
590 C=16+4*SIN(T)
600 CALL HCHAR(R,C,42)
610 NEXT T
620 GOTO 140
630 FOR A=1 TO 1000
640 NEXT A
650 CALL CLEAR
660 RETURN
```

* = *

* = *

User Groups

A number of user groups have been formed in the US and UK. These are all independent of Texas Instruments Limited and function as software exchanges for applications programs written by TI-99/4A users.

They are also focal points for users and potential purchasers who wish to share experiences and get advice on the TI Home Computer, its peripherals and software.

LISTING No2

A Delight to your eyes+ears

```
100 CALL CLEAR
110 PRINT "PLEASE ENTER THE DURATION OR":
120 PRINT "SPEED. REMEMBER THAT 100 IS":
130 PRINT "FAST AND THAT 500 IS SLOW!":
140 INPUT "WHAT IS YOUR CHOICE? ":F
150 PRINT :"PLEASE PRESS EITHER:":
160 PRINT "2) FOR A 2 NOTE SEQUENCE":
170 PRINT "3) FOR A 3 NOTE SEQUENCE"::::::
180 CALL KEY(0,X,Y)
490 IF Y=0 THEN 180
200 IF X<50 THEN 180
210 IF X>51 THEN 180
220 ON X-49 GOSUB 490,510
230 CALL COLOR(2,5,5)
240 CALL COLOR(3,7,7)
250 CALL COLOR(4,11,11)
260 CALL CLEAR
270 CALL SCREEN(16)
280 FOR A=220 TO AA STEP 110
290 FOR B=220 TO AA STEP 110
300 FOR C=220 TO AA STEP 110
310 FOR D=220 TO AA STEP 110
320 FOR E=220 TO AA STEP 110
330 CALL HCHAR(4,1,A/11+20,64)
340 CALL HCHAR(7,1,B/11+20,64)
350 CALL HCHAR(10,1,C/11+20,64)
360 CALL HCHAR(13,1,D/11+20,64)
370 CALL HCHAR(16,1,E/11+20,64)
380 CALL SOUND(F,A,2)
390 CALL SOUND(F,B,2)
400 CALL SOUND(F,C,2)
410 CALL SOUND(F,D,2)
420 CALL SOUND(F,E,2)
430 NEXT E
440 NEXT D
450 NEXT C
460 NEXT B
470 NEXT A
480 END
490 AA=330
500 RETURN
510 AA=440
520 RETURN
```

THE TIMES
COMPUTER HORIZONS

COMPUTER BRIEFING

The new first lady of computers

British industry should become increasingly aware of the potential of growth with computers, and using them to seize a bigger slice of world markets, says Alison Newell, the new first woman president of the Computing Service Association.

Speaking after her election, Mrs Newell, whose association represents more than 80 per cent of the computing service activity in Britain, says she wants to press the Government into giving support to her association in the same way as the goverments of France and Germany do for theirs.

She is aware that we have the technology available to revitalise British industry and increase its competitiveness, but if sufficient guidance is not given massive financial disasters caused by companies investing in the wrong equipment will continue to deflect prospective investors. The combined annual losses of companies making the wrong choice have been put as high as £60m.

She would like to see her association taking a constructive line to educate industry in the selection of correct equipment, and plans a series of seminars which will deal with financial, marketing and training. The other major job in her year of office will be to lobby for legal protection of software which is a still unresolved.

Mrs Newell, who is managing director of F International, is also a member of the Central Council of the CBI.

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A Review of Extended BASIC

For those who are still deciding whether or not to buy this super product, I have listed below a number of the enhancements of Extended BASIC.

ACCEPT AT – This works much like INPUT, but allows data entry from just about any location on the screen. A number of options are available with this statement which makes it much more useful than the INPUT statement. The VALIDATE option allows only those characters which you have specified to be entered. BEEP makes a short beep to signal that data entry is required. ERASE ALL fills the screen with character code 32 (similar to CALL CLEAR) before asking for data entry. SIZE allows the input to be only as many characters long as specified. The only situation where INPUT may be more useful is when a prompt is required. ACCEPT AT does not allow for this, but a combination of ACCEPT AT and DISPLAY AT will do the same job.

CALL CHARPAT – Returns the 16-character pattern of character-code. As an example: CALL CHARPAT(42,C$) sets C$ equal to hexadecimal 000028107C102800, the code for an asterisk.

CALL CHARSET – Restores the standard patterns and colors for characters 32 through 95.

DISPLAY AT – Allows information to be displayed at any part of the screen. Options include: ERASE ALL (see ACCEPT AT), BEEP (see ACCEPT AT), and SIZE which places the number of blank characters to be displayed at the location specified.

IF-THEN-ELSE – Apart from sprites, this is probably the most useful statement with Extended BASIC. Example: IF X=3 THEN GOSUB 290 ELSE Y=5. This says, if X equals three then GOSUB line 290. If X does not equal three then make Y equal to five.

Multiple Statement Separator(::) Allows more than one statement to be placed on a single line. Example: CALL CLEAR : : CALL SCREEN(2). This fills the screen with the blank character code then makes the screen black. Besides saving time, this operation saves memory!

PROTECTED clause – When SAVEing a program on disk or tape with the PROTECTED clause, the program can not be listed, edited, or re-SAVEd.

SIZE – Typing out SIZE then pressing ENTER gives the number of BYTES FREE when working on a program. It is quite useful to know how much memory is remaining.

The Wonderful World of Sprites

CALL SPRITE – This creates one or more sprites up to a total of 28. The color, position, direction, and speed of a sprite are given.

CALL COINC – Detects a coincidence between sprites or a sprite and a location. If one sprite "hits" another, then a coincidence is noted.

CALL MAGNIFY – Changes the size of sprites.

CALL PATTERN – Changes the character pattern of a sprite.

CALL MOTION – Sets a sprite in motion at the desired speed and direction.

Other Helpful Tidbits

As I had mentioned earlier, with Extended BASIC it is possible to change the line numbers of statements. I have found this makes it possible to relocate (move) lines in a program.

To be fair, Extended BASIC does have a few undesirable changes.

With Extended BASIC, character code sets 15 and 16 are no longer available. The memory was needed to keep track of sprites.

I have listed only a *few* of the many new functions available with Extended BASIC. But, I feel that what I have listed is more than enough to justify the cost of the module.

Two Ways to do the Same Thing:
These two programs do the same thing, though one is in console T.I.BASIC and the other is in Extended BASIC. With a little studying of them, you should be able to figure out what is happening. This is a good test of your understanding and should expand your knowledge of the commands used.

```
100 CALL CLEAR
110 CALL SCREEN(2)
120 CALL COLOR(2,16,2)
130 CALL CHAR(42,"FF818181818181FF")
140 RANDOMIZE
150 FOR A=1 TO 100
160 B=INT(24*RND)+1
170 C=INT(31*RND)+1
180 CALL HCHAR(B,C,42)
190 CALL HCHAR(B,C+1,32,32-C+1)
200 NEXT A
```

TI*MES wish to thank fellow users in USA
99/4 Users' Group of the
Cincinnati-Dayton Area
11987 Cedarcreek Drive
Cincinnati, OH 45240

EXT BASIC →

```
100 CALL CLEAR :: CALL SCREEN(2):: CALL COLOR(2,16
,2):: CALL CHAR(42,"FF818181818181FF"):: RANDOMIZE
110 FOR A=1 TO 100 :: DISPLAY AT(24*RND+1,31*RND+1
):CHR$(42):: NEXT A
```

Game Timer: by Rick Mirus
I was recently writing a game program when my wife decided it would be nice to have a clock displayed on the screen which could accurately limit the time allowed for a player to move. While a player is deciding on a move, the computer has to jump back and forth through various sections in the program to scan the joystick, scan the keyboard, check for valid moves and reposition a pointer on the screen. So how can you keep an accurate account of elapsed time while doing all of that? Well the problem can be solved easily.

As you know, once a sprite is set in motion it continues to move across the screen in a smooth and regular fashion no matter what the rest of the program is doing. This feature, plus the CALL POSITION command supplies you with everything you need for a timer.

You need only one program line to set the clock and sprite in motion. You then place another line for updating the clock in all the various loops and subroutines during which you want the clock updated.

Here is a short program to demonstrate: (EXT BASIC)

```
100 Y=2 :: X=13
110 DISPLAY AT(22,1)BEEP ERASE ALL:"TYPE A KEY OR MOVE JOYSTICK" :: DISPLAY
    AT(14,13):"TIME"
120 CALL SPRITE(#1,32,1,10,228,0,-1)
130 CALL SPRITE(#2,42,2,90,124,#3,88,16,90,124)
140 CALL JOYST(1,A,B) :: CALL JOYST(2,E,F)
150 CALL KEY(0,K,H)
160 CALL POSITION(#1,C,D) :: TIME=INT(D/3.75) :: DISPLAY AT(15,13):TIME :: IF
    (D>250)+(TIME=0) THEN 220
170 CALL MOTION(#2,-B,A,#3,-F,E)
180 IF H=0 THEN 140
190 X=X+1 :: IF X>20 THEN X=13 :: Y=Y+1 :: IF Y>9 THEN Y=2
200 CALL SOUND(-1000,K*4,0) :: CALL HCHAR(Y,X,K)
210 GOTO 140
220 CALL SOUND(500,2200,0) :: END
```

Line 120 starts the sprite in motion. Line 160 displays the time on the screen. In your program just put a line similiar to line 170 in as many places as you like, so the time can be updated. If you don't do this often enough, your time may jump more than one at a time, but don't worry, it will still be keeping accurate time.

In line 20 the sprite is located in row 10 and column 228. Color 1(transparent) is used so that the sprite will not be seen. Column 228 at a speed of -1 provides us with 60 seconds before the sprite reaches the edge of the screen. This could be changed to another number. For example,if you cut it almost exactly in half to 116, you would get a 30 second timer. In line 160 the column position of the sprite is divided by 3.75 to change position into seconds.

Software review

REVIEW TIME: FUNWARE MODULES

General:
FUNWARE manufacture INDEPENDENT modules for the TI99/4A. Naturally, TI do not like this and are sueing the pants off Funware, not to mention altering the console in an attempt to stop Funware's modules working... AT PRESENT the Funware modules work with ALL 99/4A consoles....
I bought mine from Maidstone (who do mail order) but you may find your dealer has supplies. I paid 29.00 for each module.

HEN HOUSE:
This is the first Funware module. You control a farmer at screen bottom who has two conflicting tasks: to protect his hen house from poachers and wolves, and to collect eggs.
If too many eggs are dropped or the wolf reaches the hen house, the game is over.
The game starts slowly, but as the score increases so does the speed. As you reach 10000, things are really zipping around, and you have to make fast strategy decisions: do you take the chance on letting an egg fall in order to get your gun?
The instructions are a bit thin... tthe rifle is stored at screen left, to pick it up or drop it, move to extreme screen left. The eggs are collected by standing under a chute (without the gun!) and when the chute is full you press the fire button (joysticks are optional). You then move to screen right to drop the eggs into a red lorry (which is invisible on black and white tv's: it is there though!).

A simple game perhaps, but the animation in neat and as it speeds up things do get tough.

RABBIT TRAIL:
If you saw the 'review' in PCN, forget that. As usual, the instructions are thin, and the PCN reviewer didn't work them out...
You control a lovely bunny who has the arduous task of collecting carrots. When all the carrots on a screen are collected, you move to the next. I understand there are seven screens, but I've only made screen four so far.
To prevent you reaching the next screen, there is a timer and various hazards such as weasels, hawks, traps and so on. You can leap over these with care,or hide from the hawk.
Joysticks optional. To jump over two weasels close together or over a trap, you must jump while moving : this involves using both sides of the keyboard: Use Q to jump and J or K to move, or
Y to jump and S or D to move.
Level one is a simple run, level two is a little harder, level three more complex, level four adds an elevator (or lift).
The animation is very nice indeed.

This is a 'fun' game which can be frustrating. Recommended.

Stephen Shaw

TI99/4A EXCHANGE

40,BARRHILL, PATCHAM, BRIGHTON,SUSSEX, BN1 8UP.

TI-99/4A Users UK

CLASSIFIED ADS

Unexpanded TI 99/4a programs Air Attack 5.25; Alien Alert £4.25; Grand Prix £3.95. Microsonic, Dept E1,85 Malmesbury Road, Cheadle Hulme, Cheshire, Dealer enquiries welcome.

TI 99/4a games tape one £3.50. Three games in basic. One game extended. Tape Two £3.50. Four games all extended. Hopper £2.99 extended. Three screens of action. Inc. 50p P&P. Datasoft, 22 St. Albans Tower, Iris Way, Chingford, LONDON E48RG.

Wumpus new £15.00. Home budget management, new, £20. Joysticks Joysticks £15.00 ONO.
Phone Weaverham 3597 after 6pm.

T.I. EXCHANGE. has the following modules in stock ready to exchange. Members pay only £2 for this service. Let us know what you want by ringing 0273 - 503968 after 7pm.

Chess. Parsec. Home budget management. TI Invaders. Adventure/Pirate. Hunt the Wumpus. Speech editor. Munchman. Beginning grammar.

FOR SALE

Secondhand original 'Teach yourself Basic' cassettes - £5
'Teach yourself Extended basic' cassette - £5.

T.I. Joysticks in new condition -£15.

Ideal present for your computer. Give it one of our smart dust covers. Made of semi-clear anti-static P.V.C.Very smart.£3.60 including postage.

The Texas Program Book by V.Apps. We have a few copies left at £5.95.

Contact - TI Exchange, 40 Barrhill, Patcham, Brighton.

DO YOU HAVE ANYTHING TO SELL OR EXCHANGE? DO YOU HAVE ANY WANTS?

Members can advertise on these pages for only 5p per word.
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CHRISTINE COMPUTING

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Cassette based software.

Blast It: disarm bombs in order with a wire guided robot, time limit, hall of fame, 5 levels of play. £3-50

Core! : a game in 3 parts, dodge left and right to avoid the birds, Clouds, aircraft, go through the caves and into the 3D maze. £3-50

Seven other games on our list.

TI cartridges

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