

---

**The expert  
user club  
Newsletter**

---



*...the whole*

**EXPERTISE**

*...the whole*



Welcome to issue 4 and 5 our first double issue of EXPERTISE - I hope you had a merry christmas and a good time trying out some of the cheats in last months issue.

As I sit here surrounded by that horrible white stuff that falls from the heavens at this time of year pondering the meaning of life, whether Freeze Frame mk 3B can really do WAR, and whether Mak 72 of Ringwood, Hants will send the 'boys' round after I told him to go buy a Spectrum last month, (it was done 'tongue in cheek' - honest), I am reminded, rudely, that if I don't get on with this issue, I will have my ESM permanently disconnected. So, with a brief glance in the direction of a large pile of pokes sent in by yourselves and gratefully received I might add, on with the show.

In this issue, we will be going into the latest version of the operating system V2.9 which was released on 5th January and mentioned last month. There will be the usual, aforementioned collection of cheats, and the start of the 'Machine-code for Idiots' series. Plus some more queries answered and hints for doing some recently released games.

There is also details of an Expert operating system available only to EUC members - this can be used instead of the new V2.9.

Plus news of a NEW Trilogic product for disk drive owners.

-----

#### MEMBERSHIP DETAILS AND BACK ISSUES

Membership costs 3.75 for 6 months ( overseas incl Europe add 2.00 to cover airmail postage).

Expertise is sent monthly or bimonthly for double issues, but please note, it may arrive at any time within the month - we have so many members and are not as well organised as a professional publishing house because we rely upon the help of UNPAID enthusiastic amateurs. Please be patient if we are two or three weeks behind schedule - the EUC is growing steadily so there is no need to worry.

#### BACK ISSUES

These are available for 65p each. The first issue was OCTOBER '86.

#### NEWS

ZZAP 64 - RUN BY PLONKERS ?... OR IS THE EXPERT TOO HOT TO HANDLE ?

In the continuing saga of the Expert column in ZZap, the news is all bad I'm sorry to say. Zzap are still declining to run the column and what is worse, have decided to ban all adverts relating to tape to disk back-up cartridges. What has caused this 'holier than thou' attitude is open to speculation - perhaps it was the booze at christmas, a bit of bribery and corruption, or even blackmail. I suspect a combination of all three - I wonder if some ZZap staff members have recently acquired Amigas ?...or whether the boring, spiteful old f\*\*ts at USless GOLD have put on more pressure. If this is the case, then I can't see how they dare sell a game which has obviously been compacted using the Expert and which still has Trilogic's copyright message embedded in the code. (America's Cup Challenge)

It is obvious that banning the column and these adverts is not going to make the Expert go away; whoever decided upon the change in policy must belong to a new species of Ostrich. Anyway, all we can do about it is to voice our protests to the publishers of ZZap at the address given below - so getting writing please, now.

Send your protests to:-

Roger Kean,  
Newsfield Publications,  
Ludlow,  
Shropshire.

-----

## THE EXPERT DECOMPACTOR

Last month I mentioned that US Gold had used the Expert decompacting routine in America's Cup Challenge - well now, a Konami Game is using it too. This time, however, the producers of the game have had the decency to ask Trilogic's permission and have agreed to mention that the Expert has been used for 'data compression' in the literature enclosed with the game.

Another software house has just purchased some more Expert cartridges for their programmers - confirming what we all know - the Expert is brilliant for programming too.

-----

## DOLPHIN DOS - DON'T BUY IT .... WHY ?

If your thinking of buying Dolphin Dos - don't because Trilogic are about to announce the release of a BETTER, CHEAPER, ALL BRITISH product. I can't give you many details at the moment, but suffice it to say that it converts the 1541 disk drive from serial to parallel operation giving a **25 FOLD SPEED IMPROVEMENT**. Plus, a free utility disk is included which will copy any disk - even non-Commodore disks.

Watch this space for more details.

-----

## SPECIAL OFFER TO MEMBERS - BUY THIS NEW OPERATING SYSTEM FOR ONLY £2.50

EUC members can have a copy of a new operating system by N Wheatley, of Bromley, Kent for only £2.50 including disk & postage. (overseas members please add £1.00 extra for Airmail.)

Called UC2.9A, it is based on the current V2.9, but has commands more in keeping with normal Commodore monitor syntax. Below, is a list of the commands and their function.

One of the most useful improvements is the change to the I command so that you now get 32 bytes shown per line in screen Ascii - not hex - this is great for finding text in memory.

### Monitor Commands

- E converts decimal to hex
- D converts hex to decimal
- \* toggles ram/rom and now also shows which bank is in. (= X command in V2.9)
- + adds specified value to memory (also called increment)
- subtracts specified value from memory (decrement)
- / sets registers
- @ disk command - now MUST precede most disk commands
- A assemble
- B list Basic
- C compare memory
- D disassemble memory
- E exclusive or memory
- F fill memory
- G go to address (JMP)
- H hunt through memory
- I interpret memory and display Ascii value. Unprintable ones have \$40 added.
- J jump (JSR)
- K search
- L load from disk (device 8) and display start and end addresses.
- M monitor/modify memory
- N new memory - NB you must type NN (return) as a precaution against accidental newing of memory
- P special new for protected programs - random bytes added.
- Q sets/shows Q value. Q value found automatically on pressing Restore.
- R restart program
- S Save to device 8
- T transfer - will transfer overlapping blocks.
- U sets user screen/border/text colours
- V verify
- X exits to Basic
- Z compact and save
- display register block

The decompactor has also been changed so that the screen is now blanked and the border flashes while decompacting. Please note: you do not get the new instruction book with this version so please read the notes on V2.9 in this issue.

## YOUR QUERIES ANSWERED

### MULTI PART PROGRAMS

Some of you seem to be having difficulty transferring the multi-part programs that can be done. At present these are programs using the Novaload tape loader such as Summer & Winter Games etc. Kennedy Approach can't be done although it uses Novaload. With Racing Destruction Set, make sure you have plenty of disk space - use two disks or notch and turn over a disk.

The procedure is to use V2.7M, load the game and then stop it on the option screen - NOT forgetting to stop the tape as well.

Now, set the Q value (see 'tips' below) and then save it using the Z command. When it is saved, press N return and load "MULTI FILES" from the EXPERT Master disk. Type RUN when loaded (you don't need the Expert for this stage) and follow the On-screen instructions for transferring the subsequent files.

### TIPS

- 1) To find the Q value the easy way, first use V2.9, load the game, stop it on the option screen and note the Q value found by V2.9. Now reprogram with V2.7M and enter the Q value just found when you've stopped the game.
- 2) If a game does not continue after you have selected an option, try pressing play on tape - don't forget, the program does not know it has been loaded from disk so it is expecting to load the subsequent files from tape even though they will be loaded from disk.

### PROBLEMS WITH SOUND ON SOME GAME

David Perry, of Carlisle says he is having trouble with Loco's sound (Fistful of Fun, Alligata).

Well, all sound problems stem from the fact that most of the sound chip registers are write only. This means that once a value is written into the register there is no way it can be read out again. In fact, the Expert operating systems have to guess the correct values and this accounts for some audible differences in the sound when you run Experted games. In about 95% of cases, the guess is near enough.

The only way to ensure perfect sound is to find the Restart address of the game - the one that starts the game at the very beginning as though it had just finished loading from tape. This works because the registers are set by the game to the correct, appropriate values. I will be explaining ways to find Restart addresses next time.

Terry Gowshall of 4 Elm Court, Kelmascott 6111, Perth, W. Australia says that if you have problems with programs using speech or digitised sound, then press Restore and save them before any sound is heard. Two games he's had to do this with are: ACE and Jonah Barrington's Squash.

### EXPERT OPERATING SYSTEMS

Ben Dearnley, 3/26 Mount Street, Coogee, N.S.W. Australia asks if he can have the earlier operating systems. There is not really much point in having them now since V2.9 supercedes all the others except V2.7M. If anyone would like to send Ben a copy of them, I'm sure he'd be grateful.

### BALLBLAZER

The Restart address and Q value for this has been sent in by Derek Whayman of Harlow, Essex; they are /ODOO Q DO

### GREEN BERET

We still receive letters asking how to do this. It is simple enough with V2.9. Just load the game and stop it and then save it. When reloading remember to switch off the disk drive whilst it is decompacting or it'll hang up. This is inevitable if you've a 128D since you can't turn off the drive - there is no way round it so far as we know.

## THE NEW OPERATING SYSTEM - VERSION 2.9 by John Twiddy.

The main features of the new operating system V2.9 are the automatic Q command, and the register display which is shown on entering the monitor.

The V2.9 disk has the following programs on it:

V2.9 seems to work with almost all programs.

V2.7M for doing some multi-part games

BOOT for menu generation and fast reloading - must be the first file on your back-up disk

NO BLOCKS BOOT - as above but can be put on back-up disks at any time.

DISK/TAPE V2.4 for transferring Experted programs from disk to tape.

MULTI-FILES for transferring subsequent files of multi-part programs.

When you program the Expert, you'll only have V2.9 or V2.7M to choose from. When you've selected V2.9, switched to on and pressed Reset, a once only start-up screen will show the commands available. Pressing any key will then call up the monitor so that the screen will now look like this:- (Blue background and border.)

05

```
PC SR AC XR YR L1 QA NV BDIZC
/ 0000 00 00 00 00 00 37 05
```

The status of the flags is indicated by an underline if the flag is set.

The number in the left hand corner is the Q value found by the system when you pressed RESTORE. The number is preceded by a minus sign if part of the screen memory has had to be allocated to the Q factor.

Many new commands have been added and some of the existing ones improved.

### NEW COMMANDS

- B Lists any Basic program present in memory; bypassing all anti-listing techniques. Some programs start by doing an SYS. You can find it with this command.
  - C Compares memory
  - E Exclusively ORs memory.
  - H Hunts for either a) the specified bytes or sequence of bytes,  
                  or b) Ascii text strings.  
                  or c) the screen Ascii value of text strings
  - I Increments memory (adds the specified value to the value in each location)
  - J JSR followed by RTS after the sub routine
  - K Searches for any Reference to an address, including listing branches to it. This command will also search and change any references to point to another area.
  - O Redisplays the registers
  - P special NEW command to defeat protected programs - do not use it unless N won't work - ie a program will not load in and run after resetting with the N command.
  - T Transfers memory - will transfer overlapping blocks.
  - U Converts a number from hex to decimal
  - ? Converts a number from decimal to hex.
  - + sets screen colours, in order border, background, text. (0 to F for each)
- 

### UPGRADES

In January the next upgrade will be released called V1.9/2.9. Price is the usual £3.50 including disk or £2.00 exchange.

It will have a brand new machine-code monitor/operating system on it with - wait for it - AN AUTOMATIC Q VALUE FINDER, PLUS lots more monitor commands for you to corrupt your favourite games with. Further details are given later in this newsletter.

## MACHINE-CODE - FOR IDIOTS Part 1.

There are many books on machine-code for beginners which cover the basic stuff such as "what is a microprocessor, counting in binary, etc" but I believe that the best way to learn is to experiment, and then try to understand why what happened did happen.

### INTRODUCTION

But first, I must explain that machine-code is nothing more than a collection of binary numbers. All computers understand only binary because each binary digit (now you know how 'bit' is derived) represents one of only TWO possible states - a logic one or zero. As the bit is either on or off these two states can be determined by a simple switch since this can also be in only one of two states - on or off. Hence, the computer, which is simply a very large collection of switches can only 'understand' binary.

Home computers use what is known as 8 bit architecture - which means that in simple terms, the microprocessor uses 8 bits. Now the largest number which can be represented by 8 bits is 255 (2 to the power 8) but a computer with only 255 bytes of ram would be pretty useless. To get round this, the address bus which originates from the microprocessor chip is 16 bit, so that 65,353 (2 to the power 16) locations can be addressed. Now you know why the C64 has 64K since 65353 is called 64K. (1k is 1024 bytes to be precise = 2 to the power 10).

As we've just mentioned, the microprocessor can only handle 8 bit numbers and so to enable it to control 16 address lines, it requires two 8 bit bytes to be supplied by the program. The first byte to be read is the low byte, followed by the high byte - this order is opposite to how we write and think of addresses so it is important to remember the difference. Thus address D020 would be read as 20 followed by D0 - so the first or 'low' 8 address lines show 20 and the 'high' 8 would show D0. Each location can of course only hold an 8 bit number - from 0 to 255 or 00 to FF in hex.

### ASSEMBLERS AND MONITORS

You don't have to be very clever to realise that writing a program in binary is not at all pleasant so to make life a lot easier, monitors and assemblers were devised. Assemblers enable us to write machine code in assembly language, using mnemonics and labels and they then interpret what you have written and convert it into hex and finally store it in memory as binary. Monitors allow us to inspect and alter the contents of the machine's memory by displaying it in hex (with the M command) or producing a disassembly (with the D command).

With an assembler, instead of using hex, you use an abbreviation for the actual instruction as it is described in plain English eg LDA = Load the Accumulator, INX = INcrement the X register etc. Only numerical data such as addresses need be entered in hex. Next a word about the syntax used.

An assembler or monitor can interpret a number as either an absolute value or as an address. To distinguish these, an absolute value is preceded by a hash followed by a dollar sign eg  $\$30$  means the number 30 in hex (= 48 in decimal), whereas,  $\$30$  means memory location 30 (48 decimal - only hex numbering will be used from now on, so try not to think in decimal). So LDA  $\$30$  would tell the assembler to load the accumulator with 30, whereas LDA  $\$30$  means load it with the value found in memory location 30.

Finally, the instruction, when converted into hex by the assembler/monitor is known as the OP CODE, and the address or data which follows it is known as the OPERAND. Some instructions are not followed by OPERANDS eg RTS. More powerful assemblers can use LABELS - these are symbolic Operands and speed up programming. Eg JSR LOOP, JSR is the instruction to Jump to a SubRoutine and LOOP is the label which is used instead of an actual address eg  $\$1000$ .

## IN AT THE DEEP END

Try this short m/c program:-

Tap Restore to enter the monitor and then type:-

A 1000 LDA E#00 (return) the screen will then look like this:-

```
.A 1000 A9 00 LDA E#00
.A 1002 _
```

Now type from the cursor position:- STA #D020 (return) - now it will look like this:-

```
.A 1000 A9 00 LDA E#00
.A 1002 8D 20 D0 STA #D020
.A 1005 _
```

Continue typing from the cursor position:- RTS (return twice)  
You should now have this small m/c code program on the screen:-

This is composed of four groups:-

- a) the address the program is being assembled at.
- b) the hex value of the instruction (OP CODE) at that address.  
the low byte of an address, or data (OPERAND)  
and the next byte of a 16 bit address
- c) the assembly language anemonic
- d) the data or address as entered

```
.A 1000 A9 00 LDA E#00
.A 1002 8D 20 D0 STA #D020
.A 1005 60 RTS
.
```

To run this program type W (return) to go back to Basic and then type:-  
SYS4096 (return) and watch what happens. If the border does not change  
colour then you've gone wrong somewhere.

So what does this program actually do? Well it is equivalent in  
operation to typing POKES3280,0. In fact it simply placing a number - in  
this example 00 in location D020 (53280 in decimal) which is the video chip  
register which determines the border colour. 00 is black, 01 is white, etc -  
find out which numbers represent which colours yourself. Remember the number  
must be in hex and should not exceed 15 (0F).

Try altering #D020 to #D021 and then running the program. Incidentally,  
to list the program, re-enter the monitor, & type:- D 1000 1010 (return)  
Just overtype the number you want to change and press return.

Now we'll look at the program line by line.

Typing A 1000 tells the monitor that you are Assembling a machine code  
program commencing from location 1000 hex which is 4096 decimal. (If you  
don't believe me type:- U 1000 (return) - the U command which is in the new  
V2.9 operating system, converts a number from hex to decimal).

LDA as you now know is the anemonic or assembly language  
instruction for Load the Accumulator and E#00 means load it with 00 (hex for  
zero).

The next instruction you typed in is STA #D020. This instruction means  
Store The Accumulator' ie put the contents of the accumulator in location  
#D020.

The last instruction is RTS - Return from SubRoutine - this tells the  
microprocessor that the program or subroutine, if it is part of a larger  
program, has been executed and that the computer should be restored to the  
state it was in before the program was run in readiness for the next  
command.

To run the program you have to exit the monitor and use the Basic SYS  
command. This, as you probably already know, is the Basic command that tells  
the machine to execute a machine-code program starting at the address  
specified. So the sequence of events is:-



- 1) W = warm start back to Basic
- 2) SYS4096 to execute the machine code at \$1000 (4096 in decimal).
- 3) Return to Basic when the RTS instruction is executed.

This small assembly language program is really a subroutine. It could be incorporated into a much larger program and would be executed by a JSR instruction which is the machine code version of a SYS. In fact most programs are nothing more than a large number of subroutines, each one being called depending upon whether a certain condition is met or whether something like a sprite collision has occurred for example.

Try this larger program and see what happens. Press RESTORE to get back into the monitor and then type:- (press return at the end of each line, but otherwise just type it in as shown below)

```
A C000 LDA $S10
STA $02
LDX $FF
LDY $FF
DEY
BNE $C008
DEX
BNE $C006
INC $D020
DEC $02
BNE $C004
RTS now press return twice to get onto the next line.
```

Now clear the screen and type:- D C000 C016 (return)

You will now see the disassembly of the program you've just typed in and it should look like this:-

```
., C000 A9 10 LDA $S10
., C002 85 02 STA $02
., C004 A2 FF LDX $FF
., C006 A0 FF LDY $FF
., C008 88 DEY
., C009 D0 FD BNE $C008
., C00B CA DEX
., C00C D0 F8 BNE $C006
., C00E EE 20 D0 INC $D020
., C011 C6 02 DEC $02
., C013 D0 EF BNE $C004
., C015 60 RTS
., C016 00 BRK
```

Now type W (return) to go back to Basic and then enter SYS49152 (return)

What happens and why ?

The first thing point out is that unlike the first program, this one is assembled at C000 - this is where it resides so that is why you have to type 49152 (C000 in hex) after SYS. This area is reserved for machine code programs and if you were to type in your own Basic program, you would find that you could still run your machine code program even after typing NEW to erase the Basic program.

Now, taking the first 4 lines :-

```
., C000 A9 FF LDA $S10
., C002 85 02 STA $02
., C004 A2 FF LDX $FF
., C006 A0 FF LDY $FF
```

Line 1 loads the accumulator with 10 because there are 10 (16 in decimal) border colours available.

Line 2 stores this value in memory location 2. You could use virtually any free memory location.

Line 3 Loads the X register with FF = 255 decimal.

Line 4 Loads the Y register with FF = 255 decimal.

The X and Y registers are temporary storage locations within the microprocessor chip and we are putting 255 into each of them so that we can use them as a delay loop. If we did not have any delay, the border colours would change so fast that you'd barely notice them flash. Looking at the next 4 lines:

```
.. CO08 88      DEY
.. CO09 D0 FD   BNE #CO08
.. CO0B CA      DEX
.. CO0C D0 F8   BNE #CO06
```

DEY means decrement the Y register ie subtract one from the value stored in it. BNE #CO08 means Branch if Not Equal to zero to memory location #CO08. What happens here is that, one is subtracted from the value in the Y register (255 initially you'll remember), and if the result is not zero, then the program goes back to line #CO08 and subtracts one again. It keeps on looping back to line #CO08 from line #CO09 until the result is zero - obviously it will loop back 255 times and on the 256th time the result will be zero so the program will continue with line #CO0B.

DEX means decrement the X register so the same thing will happen again, with the X register being decremented by one but this time it loops back to line #CO06 255 times and puts \$FF back into the Y register each time it does so (otherwise the Y register loop wouldn't do anything after the first decrement).

Things may be getting a little confusing now, but what we have is a loop within a loop - the Y register counts down from 255 to 0 and the number of times it does this is set by the value in the X register. In this case Y is decremented from 255 to zero 255 times to give us a nice long delay. We need to have a quite long delay because machine code is so fast that the colours would stepped through in the blink of an eye. Try changing \$FF in line 3 to say, \$20 - do the colours flash quicker? They should do because Y is decremented only 32 times (\$20 in hex). Now for the last 4 lines.

```
.. CO0E EE 20 D0 INC #D020
.. CO11 C6 02   DEC #02
.. CO13 D0 EF   BNE #CO04
.. CO15 60     RTS
```

INC #D020 adds one to the value in location #D020 which is the video chip register which controls the border colour. A number from 0 to 15 determines the colour so this is the line that actually changes the colour.

DEC #02 means subtract one from the value in #02 (\$10 or 16 decimal you'll remember which was put there in line 2).

BNE #CO04 means that unless the value in #02 is zero then the program loops back to line #CO04 - the start of the delay loop. When the value in #02 becomes zero the program continues to line #CO15, executes the RTS

instruction and the Basic cursor reappears.

So to sum up, the program consists of:-

- 1) setting the maximum number of colours we want to display in #02
- 2) programming a two loop delay so that we can see the colours change.
- 3) programming the main loop which increments the value in the Video chip register and then goes to the start of the delay loop until all colours have been shown.
- 4) returning control back to basic when the program has finished.

Try altering the values in lines 2, 3, 4 and running the program - don't forget to press W first and if you accidentally press N - tough, you've just erased your program.

PLEASE NOTE - SINCE MY PRINTER CONVERTS HASH SIGNS TO & SIGNS, PLEASE REMEMBER TO USE A HASH SIGN WHEREVER YOU SEE A POUND SIGN. ..

Thanks to all of you who sent in pokes and cheats - keep sending them in - we will publish all we can. Please don't forget to state which operating system you used if sending in a cheat.

How to enter the cheats/pokes. See the monitor instructions if you are unsure about using the various commands.

- 1) Stop the game using the ESM if necessary.
- 2) Type in the cheat - Use the D command to "list" a line of the program (put a full stop after the address to list only the one line) and then use the cursor keys to locate the numbers to be changed and then overtype with the values given in the cheat. When you press return, other parts of the line may change too - this is okay.
- 3) Alter the restart address using the / command where necessary.
- 4) Restart the game by using the R command to test out the cheat.
- 5) Alter the Q value if necessary before saving the game.

.....

These pokes were received from GADGET -no address given.  
CRYSTAL CASTLES V2.7

for infinite lives type:- F A29D A29D 9F (return)

WARLOCK V2.7

to disable spite/background collisions :- F 1606 1606 02 (return)

-----  
Jeff Davis of Wittering has been busy this christmas....

DRUID V2.7

Invincible to Nasties:- change line 8514. Type:- D 8514.  
and change it to:- ,. 8514 EA EA EA (return)

Invincible to Water:- change 8BCB. Type:- D 8BCB.  
and change it to: ,. 8BCB E9 00 SBC #0C (return)

Remain invincible once spell is cast. D 8E5F.  
and change it to:- ,. 8E5F EA EA EA (return)

Infinite Water, Fire & Lightning spells. D 90E9.  
and change it to:- ,. 90E9 EA EA EA (return)

ZOIDS

For infinite missiles change 4C11 to 4C11 EA EA EA (return)

-----  
These next few pokes were sent in by a Belgian Expert owner - Jean Jacques Francois from Nivelles.

BREAKTHRU

for infinite lives change line 19CC. Type:- D 19CC EA EA EA (return)

AVENGER

for infinte lives type:- D 1912 EA EA EA (return)  
D 192C EA EA EA (return)  
D 194C EA EA EA (return)

for infinite weapons type:- D 15CB EA EA EA (return)  
D 15D5 EA EA EA (return)

XEVIIOUS

for infinite lives type:- D 161F EA EA EA (return)

LEGEND of KAGE

for infinite lives type:- D 3530 EA EA EA (return)

Thanks to David Slack of Maidstone, Kent for these:-

THE SENTINEL - makes the Sentinel and sentries inactive.

.F 1331 1333 EA (return)

AVENGER

for unlimited energy: . F 1912 1914 EA (return)  
for ?????? . F 1DB4 1DB6 EA "

1942 Terry Gowshell from Perth, Australia sent in this poke for 1942.

type: D1741. (return) and alter the line to read: ., 1741 60 RTS (return)

From Micheal Fish of Pontypridd, S. Wales is a cheat for:-  
COBRA - infinite bullets.

turn the EXPERT on when you are ready to stop the game and type: d ODA2  
change the line to read: ., ODA2 EA EA EA (return twice).

PROGRAM NAME	Q VALUE	RESTART ADDRESS	NOTES	Q VALUES.
ROCK n WRESTLE	02			
FRANKIE GOES TO H'WOOD	02			
DOOMDARKS REVENGE	02			
EMPIRE	02			
PITSTOP 2	02			
RED HAWKE	02			
MR DO	02			
ROLAND'S RAT RACE	02			
ELECTROGLIDE	02			
DEATH WAKE	02			
VIDCOM 64	02			
BOMBO	04	970E		
TOUCH DOWN FOOTBALL	02			
KNIGHT GAMES	D4			
TAU CETI	02			
LEADER BOARD	D0	press play on tape		
GHOSTS N GOBLINS	02	0850		
PRACTICALC	D0			
BRUCE LEE	D0			
THE BOGGIT	D0			
REBEL PLANET	40	OFE9		
SPEEDKING	02			
ICUPS	D0	0810		
COLLAPSE	D0			
VELOCIPEDE 2	D0			
THE ART STUDIO	D0	62D8	LOAD GAME, SELECT SPRAY PAINT AND SPRAY ANYTHING ON SCREEN. PRESS RESTORE. ALTER RESTART ADDRESS AND Q VALUE AND THEN SAVE.	
CLEAN UP TIME	D0			
NOMAD	05	1000		
METABOLIS	E3			
BOUNDER	02	OFCO		
MIAMI VICE	08			
IRIDIS ALPHA	04	4000	JUMPS INTO MONITOR WHEN LOADED	
GALAXIBIRDS	D0	2800		
MISSION AD	D0			
ARAC	66			
VALHALLA	D0			
PARALLAX	02			
GREEN BERET	02		013F STOP THE GAME IMMEDIATELY USE V1.8/2.8, KEEP DRIVE SWITCHED OFF UNTIL YOU PRESS RESTORE. SWITCH DRIVE OFF JUST BEFORE THE GAME RUNS AFTER RELOADING.	

DAN DARE	EE	
FANTASTIC FOUR	DE	
ROOM TEN	DO	
SPIKEY HAROLD	04	7000 JUMPS INTO MONITOR WHEN LOADED
HOODOO VOODOO	DO	FCE2
WARHAWK	02	6039
NINJA	DO	
STRIKE FORCE HARRIER		080C
TRIVIAL PURSUITS	59	MULTIPART. PRESS PLAY ON TAPE WHILST PLAYING
JACK THE NIPPER	DO	32B3
THE LEGEND OF SINBAD	04	
ASTERIX	02	
TRAP	44	1D54
HAPPIEST DAYS OF YR LIFE	07	BB60
HARVEY HEADBANGER	DO	
W.A.R.	50	017F ESM MODULE NEEDED.
ALLEYCAT	C1	0833 ESM NEEDED. STOP GAME ON FIRST SCREEN.
DRUID	50	1400
DANTES INFERNO	DO	COOB
PAPER BOY	E2	
MISSION OMEGA	CO	
BREAKTHRU	DO	
EREBUS	38	
COLOUR OF MAGIC PART 1	06	
STRIKE FORCE COBRA	02	
AMERICA CUP CHALLENGE	02	
BAZOOKA BILL	44	
SANXION	44	1F98 ESM NEEDED.
WARRIOR II		
DRAGON'S LAIR	53	15C8(DISK) 0252(TAPE) SWITCH EXPERT ON AT HI-SCORE SCREEN
EQUINOX	DO	
HOLLYWOOD OR BUST	DA	
ARCANA	02	
KNIGHT RIDER	08	CCD5
TRAP	44	1D54
FIST 2	C8	
HIGHLANDER	DO	80A5
GLIDER RIDER	DO	
VERA CRUZ PART 1 & 2	DO	
ANTIRIAD	40	8009
LAW OF THE WEST	07	
GALVAN	04	9F65
TRIAL BLAZER	DO	
SCOOBY DO	SEE	"NEW GAMES"
TERRA CRESTA	"	" "
YIE AR KUNG FU 2	"	" "
LEGEND OF KAGE	"	" "
SENTINEL	DO	
HYPABALL	DO	0A40
ITS A KNOCKOUT		
HANDBALL MARADONNA	07	4000

**NOTES** This is obviously not a complete list of all the available games. If you can't find your game listed then try using the default Q values which are:- V1.7/2.7 = 02; V1.7D/2.7D = DO; V1.8/2.8 = DO. DO or 02 seem to work for the majority of games, if problems still occur on reloading, then 04 is worth a try too. The next upgrade - V1.9/2.9 which has an automatic Q value should make things a lot easier - available January 1987.

The following games need more than just a change of Q

SCOOBY DOO. Use V1.7/2.7. Keep EXPERT 'on'. When monitor prompt appears type:- Q 44 (return) and then save with Z command. Q FF may also work.

LEGEND of KAGE. Use V1.7/2.7. Turn EXPERT 'off' and load the game. Now turn the EXPERT 'on' and press RESTORE.

Type: X (return)

F DCO4 DCO4 E8 (return)

/ O900 (return) then save in the usual way.

YIE AR KUNG FU 2. Use V1.7D/2.7D Load the game with the EXPERT switched off. When fully loaded, switch on the EXPERT -the monitor prompt will appear immediately.

Type: X (return)

F DCO4 DCO4 E8 (return)

/ CBE3 (return) and save in the usual way.

Remember to keep the EXPERT switched off when reloading the game.

### TERRA CRESTA

Follow the steps as for YIE AR KUNG FU 2 until the monitor is entered.

now type: X (return)

F DC60 DC60 FF (return) and then save in the usual way

### WAR

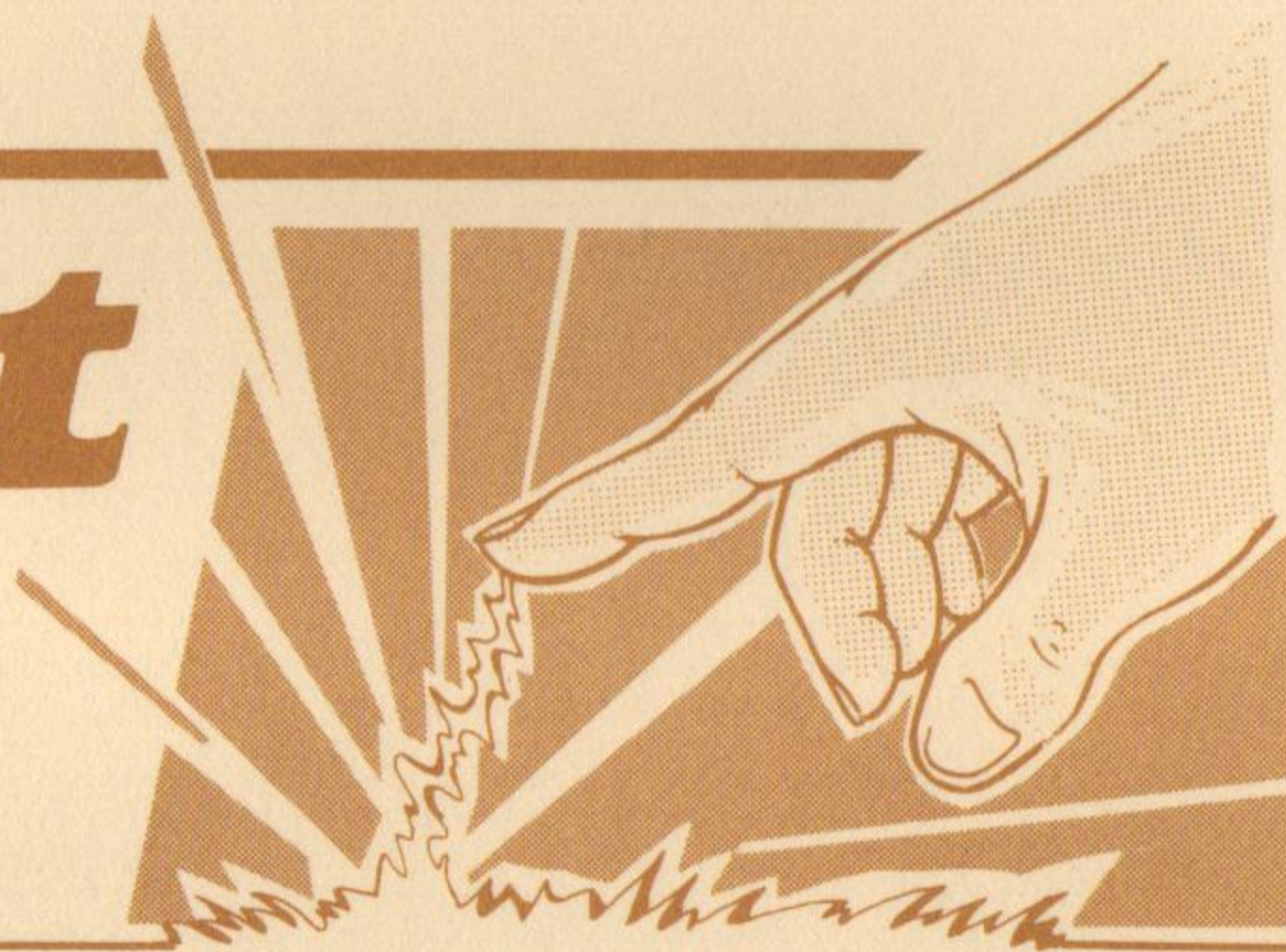
ESM + EXPERT needed. Use V1.8/2.8 (turn the computer off and then on first). Turn the EXPERT off before loading the game.

When the led on the ESM glows turn on the EXPERT and press the ESM button to stop the game.



---

# ***The Expert User Club***



---

137 Stonefall Avenue, HARROGATE HG2 7NS.

---