THE EXPERT - SUMMARY OF OPERATION
==========

1) TO PROGRAM IT -
   Switch EXPERT to 'PRG' position. Load the menu and select the operating system which has the functions you want. Press Y or N, follow on-screen instructions.
2) TO INITIALISE & CONFIGURE THE COMPUTER -
   Type: N (RETURN) Switch off EXPERT.
3) TO FREEZE A PROGRAM -
   Switch the EXPERT on & press RESTORE or the ESM button if the red led is lit.
4) TO SAVE A PROGRAM -
   Type: Z"PROGRAMNAME" (RETURN)
5) TO RESTART A PROGRAM (before or after saving)
   Type: R (RETURN)
6) USE OTHER COMMANDS AS DESIRED.
7) TO SAVE NEXT PROGRAM - REPEAT FROM STEP 2.

WARNING. COPYRIGHT SUBSISTS ON ALL TRILOGIC EXPERT HARDWARE & SOFTWARE. NO UNAUTHORISED USE OF ANY WHOLE OR PART EITHER PRIVATELY OR COMMERCIALLY IS ALLOWED WITHOUT OUR PRIOR PERMISSION IN WRITING.

THE EXPERT IS INTENDED FOR YOUR OWN PERSONAL ENJOYMENT - PLEASE USE IT'S POWER RESPONSIBLY. (C) TRILOGIC 1986/1987/1988 E&OE

==========

EXPERT UTILITY DISK V3.2 - JUST OUT (3-88) - IMPROVED & UPDATED.

1) THE MULTI-PART OPERATING SYSTEM HAS BEEN IMPROVED.
2) MULTIPART PARAMETERS FOR OVER 25 MULTIPART GAMES.
3) THERE ARE NOW OVER 50 CHEATS FOR THE POPULAR GAMES.
4) MORE THAN 25 POKES FOR 'DIFFICULT TO BACK-UP' GAMES.
5) COMPLETELY NEW FAST SUPER COMPACTOR

Especially written for EXPERT files, this must be the best, quickest, most efficient compactor you can buy. It will very quickly compress your Experted games down to well under 202 blocks for faster loading & enabling, in many cases, more games to be saved per disk.
Eg An EXPERT user tried it on Airwolf - it came down from 230 blocks to 123 - some saving.

6) FILE COPIER AS ON PREVIOUS DISK.

ALL THIS FOR ONLY £5.95.

==========

TRILOGIC
UNIT 1
253 NEW WORKS ROAD
LOW MOOR
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COMPLETE BACK-UP SYSTEM

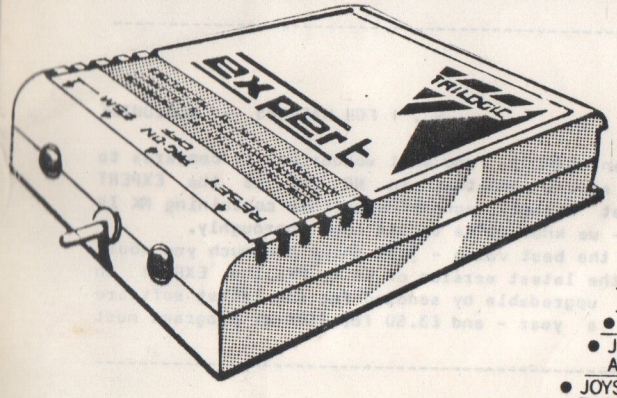
the expert WITH ESM

BACK-UP AND TRANSFER PROGRAMS FROM DISK TO TAPE ▶ TAPE TO DISK ▶ DISK TO DISK ▶ TAPE TO TAPE.

MAIN FUNCTIONS.

- FREEZES ALL PROGRAMS.
- CREATES A BACK-UP ONTO DISK OR TAPE
- REGARDLES OF WHETHER THE ORIGINAL WAS LOADED FROM DISK OR TAPE.
- INDEPENDENT TESTS SHOW THE EXPERT TO HAVE THE MOST EFFECTIVE COMPACTOR SO YOU CAN SAVE MORE GAMES PER DISK AND HAVE FASTER RELOADING.
- SAVES A BACK-UP IN ONE FILE.
- EXPERT IS NOT NEEDED FOR RELOADING A BACK-UP
- PROGRAMS RELOAD IN LESS THAN 10 SECONDS USING NEW ROCKET LOADER.

ROCKET POWERED!



UPGRADABLE.

Only the EXPERT comes with its operating software on disk or tape, making upgrading both simple and inexpensive — just look at our competitors ads to see how much THE EXPERT'S rivals cost to upgrade.

THE PROFESSIONALS CHOICE — WIDELY USED BY LEADING SOFTWARE HOUSES

The EXPERT is highly acclaimed by all leading programmers for its ability in help producing all the best games. Even a major budget software house uses THE EXPERT — although they don't like to admit it . . .

EDUCATIONAL.

The EXPERT is a great learning aid, it is ideal for getting to grips with machine code. The powerful monitor enables you to inspect the entire 64k ram plus the roms, plus the input/output chips, plus the processor registers, plus zero page. You can disassemble machine code, alter, transfer, compare, search, fill and load & save. There are hex to decimal & decimal to hex conversation commands, plus an Assembler command so that you can write your own machine code programs. In all, over 29 commands are available.

THE UNIQUE EXPERT — THERE IS NOTHING QUITE LIKE IT.

If you are used to conventional cartridges you may find that THE EXPERT takes a little getting used to. You see, it uses a RAM chip and is programmed before use from disk or tape, this takes only a few seconds, but means that it is very simple and easy to upgrade THE EXPERT, unlike conventional cartridges. We are confident that within a very short time, like thousands of other EXPERTERS worldwide, you'll agree that THE EXPERT is the best thing you've bought for your 64. Should you not be satisfied, then return it within 10 days for your money back.

THE EXPERT UTILITY DISK V3.2

This is essential for transferring some multipart games, it contains over 25 multipart transfer routines, 25 pokes for protected games, over 50 cheats for infinite lives etc, a SUPER COMPACTOR which reduces an EXPERTED game by up to 40% plus a FAST FILE COPIER, AMAZING VALUE AT ONLY £5.95.

UPGRADES FOR EXISTING EXPERT OWNERS

Send only £3.50 for the LATEST V3.2R SOFTWARE as described above and including ROCKET the new super disk turbo loader.

UTILITY FUNCTIONS

- SPRITE SAVER & EDITOR WITH 'ANIMATOR'
- INFINITE LIVES COMMAND
- JOYSTICK AUTOFIRE MODE — EVEN BETTER THAN AUTOFIRE JOYSTICKS.
- JOYSTICK PORT SWAP — YOUR BACK-UPS CAN USE THE SAME PORT.
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- EXPERT EXPRESS — USE THE EXPERT AS A DISK TURBO LOADER.

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INTRODUCTION.

Congratulations - you are now a member of an ever increasing band of EXPERT owners throughout the world. From TORONTO TO TIMBUCKTOO, REJKAVIK TO RIO, BAGDAD TO BRAZILIA, there are few Commodore 64 owners who haven't heard of the EXPERT - if you come across one - please tell us and we'll be sure to let hinm or her know what they are missing....

As you've obviously bought an EXPERT (or you wouldn't be reading this), we won't preach to the converted about how the EXPERT is the only user programmable, easily upgradable, unstoppable, most versatile cartridge in the world. In fact so many EXPERTers have told us that the EXPERT is the best thing they have ever bought for their 64 that we are glad Commodore designed the 64 to work with the EXPERT.....

At the time of writing the current software is V3.2 which has no less than 26 files & programs for use with your EXPERT - almost 150K in total - surely this must be a record. Don't forget to look out for future upgrades & Utility disks - at £3.50 & £5.95 respectively they are a small price to pay considering the amount of effort put into them.

THE EXPERT UTILITY DISK

Essential for transferring over 20 MULTIPART games, also has over 50 cheats, for infinite lives & the like plus over 20 pokes for transferring heavily protected games, a FILE COPIER, a super 'FILE PRESS' compactor for EXPERT files which must be the best compactor you can buy - it saves a lot of disk space and makes reloading even quicker and all this for ONLY £5.95.

THE EXPER RULES - OK. NO. 1 FOR HACKERS - WORLDWIDE

Having just purchased an EXPERT, you must wonder how it compares to rival cartridges. Well, we can assure you that in NO WAY is the EXPERT outperformed by even the latest 'miracle, wonder' superchip containing MK IV 'professional' rival versions - we know we've tested them thoroughly.

The EXPERT is certainly the best value - just think how much you would have spent on upgrades to get the latest version of AR or FF. The EXPERT on the other hand is uniquely upgradable by sending for the latest software on disk or tape perhaps twice a year - and £3.50 for 150K of programs must be good value ?

INSTALLING & PROGRAMMING YOUR EXPERT

IMPORTANT

DO NOT INSERT OR REMOVE THE EXPERT WITHOUT FIRST SWITCHING OFF THE COMPUTER.

1) Insert the EXPERT with the switch in the 'PRG' position and switch on the computer - it should start up in the normal way.
   NB hold down the C8M key on the 128/128D
2) Next insert the EXPERT MASTER disk & type:- LOAD"M*",8 (RETURN) and then RUN when it has loaded. A menu of programs on the disk will be displayed - below is a list of the programs and their uses.

A - THE MENU ITSELF.
B - EASIFREEZE - THE SIMPLE WAY TO FREEZE & BACK-UP TO DISK.
C - AS OPTION B BUT SAVES ON TAPE
D - FREEZER & BACK-UP TO DISK WITH INFINITE LIVES, JOYSTICK SWAP, MONITOR PRINTER, SPRITE KILLER, AND MOST MACHINE-CODE MONITOR COMMANDS.
E - AS OPTION D BUT SAVES ON TAPE.
F - FREEZE & BACK-UP TO DISK WITH SPRITE VIEWER & SAVER.
G - AS OPTION F BUT SAVES ON TAPE
H - FREEZE & BACK-UP TO DISK WITH HIRES SCREEN SAVER - DISK ONLY
I - FREEZE & BACK-UP TO DISK WITH FULL MACHINE-CODE MONITOR.
J - AS OPTION I BUT SAVES ON TAPE
K - NBB LOADER/BOOT PROGRAM & FAST DISK FORMATTER.
L - SPRITE EDITOR - LOADS/SAVES EDITED SPRITES ON DISK
M - SPRITE EDITOR - LOADS/SAVES ON TAPE
N - EXPERT EXPRESS - DISK TURBO & SCREEN-PRINTER DUMP.
O - ROCKET BOOT LOADER - HIGH SPEED EXPERT FILE RELOADER.
P - FOR SAVING EXPERT FILES/PROGRAMS & BASIC PROGRAMS DIRCT TO TAPE.
Q TO Y ARE PROGRAMS FOR CONVERTING PICTURE FILES TO VARIOUS FORMATS
Z - EXPERT INTRODUCTION

THERE IS NO OPTION TO SAVE HIRES SCREENS ON TAPE.

WHICH OPTION TO SELECT ?

The main operating systems are arranged in pairs on the menu - one version saves on disk & the other on tape.

MAKING A BACK-UP

Use option B/C (page 3) or in most cases, D/E for this. For all back-up options except Easifreeze, follow the steps 3 to 6 below for making a back-up but also refer to the additional instructions for each option on how to use the other specialised functions, eg SPRITE EXTRACTOR - options F or G.

3) PROGRAMMING THE EXPERT.

Having decided which option you want, press the appropriate key to select it & then press Y to turbo-load or N to load at normal speed. (Press N if using a disk turbo system/rom) After a few seconds, the program will have loaded and you should now follow the ON-SCREEN instructions.

Each time you program the EXPERT, an 'ident' screen will appear showing which operating system you are using and what commands are available. This screen ONLY appears at this stage and once you press 'space' the EXPERT takes over. In all operating systems except B & C, two lines of digits will appear at the top of the screen - something like this:-

```
C  PC  SR  XR  YR  SP  L1  QA  NV-BDIZC
/ E5CD 22  00  00  0A  37  05  CCSCCCSC
```

This is the REGISTERS DISPLAY, typical of all machine-code monitors. Its main purpose here is to show that the EXPERT is in command and an explanation of it is given in the section on the Monitor on page .

4) INITIALISING THE COMPUTER.
The next step is to initialise the computer & reset back to Basic ready to load in a program to be backed-up. To do this type: N (RETURN)

5) LOADING & FREEZING A PROGRAM
First, switch off the EXPERT to prevent premature triggering of it by some programs.
Next load & run the program to be backed-up from tape or disk in the usual way.
To freeze the program, switch on the EXPERT and tap the RESTORE key (once only). If the red led is lit, the RESTORE key will not have any effect so press the ESM button instead.
NB - DO NOT PRESS THE RESET BUTTON TO FREEZE A PROGRAM.
With some games, the instant you switch the EXPERT on, the game will freeze & the registers appear without you having to tap RESTORE or press the ESM button. This is okay - the main thing is that whenever the registers appear, you know that the EXPERT has frozen the program.

6) SAVING A PROGRAM
Once the program has been frozen, you can then save it using the Z command. So make sure you have exchanged the EXPERT master disk for a formantted one with at least 240 blocks free and type:-
Z"PROGRAMNAME" (RETURN)
The border will flash as the EXPERT compacts the program - this can take a minute or two. Then the disk drive will start and the program will be saved. If you are saving to tape, at this point you will be prompted to press PLAY & RECORD.
When the save is complete a 4 digit number will appear in the top left corner of the screen - this is the end address of the file just saved. See "SAVE FAILURE" in the HELP section
At this point you can either restart the game - type: R (RETURN) or use any of the other commands that are available in the particular operating system you are using. To back-up another program repeat the steps from section 5) - "INITIALISING THE COMPUTER."

MENU OPTIONS B & C - EASIFREEZE
==========

EASIFREEZE is a new operating system which is ideal for beginners - it makes the EXPERT child's play to use. It has only four commands which are assigned to the function keys: - PRESS F1, F3, F5, or F7 & then 'RETURN'.

PROGRAMMING THE EXPERT
1) SWITCH THE EXPERT TO THE 'PRG' POSITION (SWITCH TO THE LEFT)
2) INSERT THE EXPERT MASTER DISK & TYPE: LOAD"MENU",8 (return) & THEN RUN
3) PRESS B FOR BACK-UP ON DISK OR C FOR BACK-UP ON TAPE.
4) PRESS Y FOR TURBO LOAD AND THEN FOLLOW THE ON-SCREEN INSTRUCTIONS.
IF USING A DISK TURBO SYSTEM OR ROM PRESS N FOR NORMAL LOAD.
5) THE MAIN EASIFREEZE SCREEN SHOWS THE 4 FUNCTION KEY COMMANDS.
6) PRESS F7 (return) TO INITIALISE THE COMPUTER.

LOADING & FREEZING A GAME.
7) NOW SWITCH THE EXPERT OFF (SWITCH TO CENTRE POSITION)
8) LOAD THE PROGRAM - GAME OR WHATEVER FROM DISK OR TAPE.
9) SWITCH THE EXPERT TO 'ON' & PRESS RESTORE TO FREEZE IT. You would usually do this once the game has just finished loading. (The back-up of your program will restart at the point at which you freeze it.)
NB. If the ESM led is lit press the right-hand ESM button to freeze the game.
With some programs, when you switch to ON the game will freeze instantly.

SAVING A BACK-UP OF THE GAME
11) INSERT A BLANK FORMATTED DISK INTO THE DRIVE OR A BLANK REWOUND TAPE INTO THE DATASETTE.
12) NOW PRESS RETURN AND TYPE IN THE PROGRAM NAME; this will appear in the filename window . Upto 12 characters but no spaces are allowed; move the cursor left to delete a character - a dot will replace the deleted character. Press RUN/STOP to abort the F1 command.
NB. The EXPERT automatically 'invents' a unique program name itself each time you freeze a prgram so you need not even type in a file name.

13) NEXT, PRESS RETURN AGAIN TO START THE COMPACTING & SAVING. The screen will blank briefly & then flash whilst the program is compacted, then it will be saved. The compacting & saving procedure may take upto two minutes.
14) ONCE THE PROGRAM HAS BEEN SAVED, PRESSING F3 (return) WILL RESTART MOST PROGRAMS.
15) WHEN YOU ARE READY TO SAVE THE NEXT GAME, START AGAIN FROM STEP 6.
NB Ensure there is enough space on the back-up disk or tape.

LOADING & RUNNING A BACK-UP
To reload a back-up, follow the instructions below on 'INSTALLING THE FAST FILE LOADER & MENU GENERATOR' and 'RELOADING A PROGRAM'.

HELP If a program will not load, turn on the EXPERT & press RESET. Now press F5 (return) to configure the memory in a different way and continue from step 7). F3 will restart a program before or after saving it, but note - it does not work with all programs. If the computer crashes when you press F3 press RESET and reload the game. If the game does not save & the drive error light flashes because there is no disk or it is full, press RUN/STOP, insert a new formatted disk & press F1 (return) again.

FORMATTING DISKS & PREPARING A DISK FOR YOUR BACK-UPS
==========

FORMATTING A DISK -
1) If the EXPERT is active, type N (RETURN) and load the main menu.
2) Select option K and press Y or N.
3) IMPORTANT Now replace the Master disk with a blank one.
4) Now follow the on-screen instructions.
5) When the disk is formatted, press RESTORE to call-up the EXPERT which should be programmed with one of the options D to J.
6) Now type: @V (RETURN) (with the newly formatted disk still in the drive) This validates the disk so that you can save more than 5 files on it.

NOTE Fast disk formatters such as the ones supplied here are not always reliable. It is often necessary to use the slow Basic format ('new') command:- OPEN15,8,15,"N:DISKNAME,ID" (RETURN) where DISKNAME is a unique name given to the disk & ID is a unique two digit number. See "SAVE FAILURE" in the HELP section.

INSTALLING THE FAST FILE LOADER & MENU GENERATOR.
1) Select option K, press Y or N. Press F3 to install the fast loader.
2) Follow the on-screen instructions.
3) 1570, 1571 & Enhancer drive users - please see HELP section.
NOTE Expert files are reloaded from your back-ups disk using the NO BLOCKS BOOT LOADER - this resides on the directory track of each disk you use for back-ups and generates a list of the files on the disk and lets you select & turbo-load one by using the cursor down key. By pressing F3, the NBB LOADER is installed on the directory track of your disk and because it takes up NO apparent disk space, can be put on at any time.
NOTE Expert files can be reloaded using either the No Blocks Boot program or the NEW ROCKET turbo system - see Page 14.

RELOADING A PROGRAM
==========

Assuming you have installed the NBB loader on your disk of back-ups, type:- LOAD"B*",8 (RETURN) and then RUN it.
This will list the files on the disk. Select one with the cursor down key & press RETURN. The selected file will reload & restart well within 30 seconds.
You can also load any file of less 202 blocks by typing: LOAD"FILENAME",8 (RETURN) and then RUN. Or you can load the file directly from the disk directory using a disk turbo such as the PHANTOM etc. The NBB loader must be used for files over 202 blocks.
NB When the program has reloaded there will be a slight delay as the 'garbage' on the screen reforms prior to the game restarting.

MENU OPTIONS D & E - BACK-UP & UTILITY FUNCTIONS

FUNCTIONS AVAILABLE:-

1) SPRITE COLLISION KILLER
2) INFINITE LIVES COMMAND
3) JOYSTICK AUTOFIRE MODE
4) JOYSTICK PORT SWAP
5) PRINTER ON/OFF TOGGLE FOR MONITOR HARDCOPY OUTPUT.
6) RESTART & SAVE etc
7) ALL OTHER MONITOR COMMANDS EXCEPT K, B, J, E, I, Y.

COMMAND SUMMARY. - (NB. PRESS RETURN AFTER EACH COMMAND)

E - - - - FIND & DISABLE SPRITE TO BACKGROUND COLLISIONS
EB - - - - FIND & DISABLE SPRITE TO SPRITE COLLISIONS
I - - - - SEARCH FOR & DISABLE LIVES COUNTER FOR INFINITE LIVES
J - - - - SWAP THE CURRENT JOYSTICK PORT USED BY GAME
K - - - - ADD AUTOFIRE TO JOYSTICK PORT 1 OR 2
R - - - - RESTART THE GAME
Y - - - - PRINTER ON / OFF TOGGLE.
Z"FILENAME" - COMPACT & SAVE GAME
SEE MAIN MONITOR SECTION FOR REMAINING COMMANDS.

INITIAL PROGRAMMING.

Before using any of these commands, please reprogram your EXPERT by switching it to 'PRG' and selecting option D for back-up on disk or E for back-up on tape from the program menu. See page 2 for programming guide.

1) THE SPRITE COLLISION KILLER.

FREEZE GAME & TYPE: EB TO FIND & DISABLE THE SPRITE TO SPRITE COLLISIONS
and TYPE: E TO FIND & DISABLE THE SPRITE TO BACKGROUND COLLISIONS

The border will flash whilst a search for the sprite collision routines is made. If any are found -and please note, many games do not use them - the addresses are listed and the collision detection disabled.

2) INFINITE LIVES. NB It will not work with all games.

FREEZE THE GAME WHEN YOU HAVE TWO LIVES LEFT.
TYPE: I
Restart the game to check out whether the command has worked.

3) JOYSTICK AUTOFIRE MODE. (Autofire mode doesn't work with all games.)

FREEZE A GAME & TYPE: K 1 IF USING PORT 1 OF K 2 IF USING PORT 2.
NOW SAVE OR RESTART THE GAME.

4) JOYSTICK PORT SWAPPER.

FREEZE A GAME & TYPE: J

Now a search will be made for the routines which read the joystick port used, these will then be changed so that the other port will be read when the game is restarted. NB This feature will not work on all games.

NOW SAVE OR RESTART THE GAME.
TYPE: J AGAIN TO SWAP BACK TO THE ORIGINAL PORT.

5) THE MONITOR PRINTER.

FREEZE A GAME & TYPE: Y

This will turn on the printer (CBM Serial type only) and then type the command eg D 1000 2000 will produce a printout of the disassembly of memory from 1000 to 2000

TYPE Y again to turn off the printer.
Any monitor command available which prints on the screen can be redirected to the printer with this command.

RESTART FAILURE

If a game CRASHES when you attempt to RESTART it, save it first using the Z command & then type: R (RETURN). Or if you've already saved it, just type:- Z"" (omit the filename - this will compact it without saving it) and then type: R when it has finished compacting.

MENU OPTIONS F & G - THE SPRITE EXTRACTOR & EDITOR

This version of the operating system enables you to freeze a program, display the sprites (if any), view the sprite animation, and save them on disk for later editing or customising. You can then insert them into other games in place of the existing ones. Many of the other monitor commands are available too, so you can restart or save or 'look' through the memory as well as view the sprites.

But what are sprites ? Almost all games have moving objects - space ships, missiles etc and changing their shape and moving them about on the screen would be a slow, tedious process if it was not for a special feature of the Commodore video chip. This feature allows objects (ie sprites) which we want to move about to be predefined in the computers memory, and then moved as a whole by simply instructing the video chip where to move them. We can also have the video chip detect sprite to sprite collisions and sprite to character collisions for us.

Sprite animation is an illusion produced by defining several sprites each slightly changed. For example, to give the effect of rotating a space ship, many sprites would be defined in the memory, each based on a different 'view' of the space ship as it would appear if rotated in steps. Displaying them in turn therefore gives the illusion of rotation - the faster the rate of displaying the sprites, the faster the rotation.

There can be upto 8 sprites on the screen at any one time, but there could actually be dozens of sprites defined in the memory ready to be displayed as the game progresses. There are 4 blocks of 16K where sprites can be found - all are accessible with this utility, although not all blocks may actually be used in any one game.

COMMAND SUMMARY

Y Displays sprites.
F1 Scans forward through the sprite memory - this has the effect of showing the stages in the animation of sprites.
F2 AS F1 but scans in reverse - back through the memory.
B Change video bank. (press B return, on the 5th press you will be back to the first bank again)
KL"SPRITE NAME" Loads a sprite from disk & inserts it in position 1.
KO Turns sprites off & restores STOP key function - DISK VERSION ONLY
KS"SPRITE NAME" Saves sprite No.1 (the leftmost one)
+nm Changes the sprite colours.
n i s0 to 7 to change the first colour of sprites 1 to 8.
n is 8 to change the second colour of the last 4 sprites.
n is 9 to change the third colour of the last 4 sprites.
m defines the colour - in the range 0 to F.
NB The last four sprites are in multicolour mode & have three colour options.
NB The sprites will be restored to their original colour when you restart the game.
R - RESTARTS
Z"PROGRAMNAME" - Compacts & saves the game to disk.
THE FOLLOWING MONITOR COMMANDS ARE NOT AVAILABLE: A,D,B,Y,@
NB If you use the M command, the STOP key will NOT halt the scrolling so tap RESTORE to do this.

INITIAL PROGRAMMING.

Before using any of these commands, please reprogram your EXPERT by switching it to 'PRG' and selecting menu option F for back-up on disk or G for back-up on tape from the program menu.

VIEWING SPRITES.

SWITCH OFF THE EXPERT & LOAD IN THE GAME OF YOUR CHOICE.
FREEZE THE GAME WHEN THE SPRITES YOU WISH TO SAVE ARE ON THE SCREEN.
TYPE: Y TO DISPLAY THE SPRITES.

You will see up to 8 sprites on the screen; the leftmost one is sprite No.1 from the video bank which was in use when you stopped the game. The first 4 (left to right) are in two colour HIRES mode and the remaining 4 are in multicolour mode. Sprites can be in one or more video banks, of which there are four, so F1 together with the B command enables you to view all the sprites in a game. NB Not all sprite positions are used so some sprites will appear to be made up of random characters.

SAVING A SPRITE

INSERT A DISK WITH ENOUGH SPACE ON IT INTO THE DRIVE OR A BLANK TAPE INTO THE DATASETTE.
USE F1 OR F7 TO MOVE THE SPRITE INTO POSITION 1 (ie the leftmost position on the screen).
TYPE: KS"SPRITE NAME"
DO NOT TOUCH THE KEYBOARD UNTIL THE CURSOR REAPPEARS.

LOADING IN A SPRITE.

PROGRAM THE EXPERT AS IN STEP 1 ABOVE.
LOAD & RUN THE GAME WHOSE SPRITES YOU WISH TO REPLACE.
FREEZE THE GAME WHEN THE SPRITE TO BE REPLACED APPEARS.
TYPE: Y TO DISPLAY THE SPRITE.
USE F1/F7 TO LOCATE THE SPRITE IN POSITION 1.
INSERT YOUR SPRITE DISK OR TAPE
TYPE: KL"SPRITENAME"

You can omit the sprite name when loading from tape - JUST TYPE: L This will load in the sprite and insert it into position one. You can use sprites from another game, or ones that you have edited of designed from scratch using the SPRITE EDITOR.
NOW RESTART OR SAVE THE GAME (R OR Z COMMANDS).

THE SPRITE EDITOR.
==========

LOADING THE SPRITE EDITOR. - EXPERT NOT REQUIRED.

Save the sprites you wish to edit on disk or tape using the sprite extractor described above.
TYPE: N TO EXIT FROM THE EXPERT.
TYPE: LOAD"SPRITE*",8 OR select H from the menu.
TYPE: RUN

V3.2R software includes a revised & upgraded SPRITE EDITOR. A list of the commands is printed below - but by pressing ? at any time, you can access the command list. ,The EXPERT is not required.

The screen shows a window in which the currently selected sprite is loaded for editing. To the right of the window, 8 consequetive sprites are displayed - the top left one is the one in the edit window shown actual size.

There are two modes: EDIT mode, in which the sprite which is displayed in the window & can be edited using the joystick, & TEST mode, in which the joystick moves the selected sprite around the screen. Press D to enter this mode & Q to quit back to edit mode. Press ? in either mode to display the appropriate help screen.

The A command lets you animate a series of sprites - you specify the first & last sprites in the sequence anywhere from 0 to about 220 - so obviously the sprites should be designed in the correct order that they will be scanned.

Sprites can be saved on disk using the SPRITE EXTRACTOR (menu option F or G) & then loaded in using the L command or designed from scratch.

COMMAND SUMMARY - EDITING MODE

F1,F3,F5,F7	SELECT COLOUR
SHIFT + F1,F3,F5,F7	CHANGE COLOUR
RETURN	CHANGE CURSOR COLOUR
KEYS 1 TO 4	PLOT PIXEL TYPE 1 TO 4
CLR	CLEAR THE SPRITE
HOME	MOVE CURSOR TO HOME POSITION
B	CHANGE BORDER COLOUR
←	DISPLY PREVIOUS SPRITE
N	DISPLAY NEXT SPRITE
E	EDIT SPRITE
H	HIRES/MULTICOLOUR TOGGLE
A	ANIMATE SPRITE SEQUENCE
T	HORIZONTAL FLIP
R	VERTICAL FLIP
F	FILES
L	LOAD SPRITE
S	SAVE SPRITE
D	SWITCH TO TEST MODE
?	DISPLAY HELP SCREEN
C	COPY SPRITE

COMMAND SUMMARY - TEST MODE

KEYS 1 TO 8	SELECT SPRITE TO MOVE
F6	CHANGE SPRITE COLOUR
←	PREVIOUS SPRITE
N	NEXT SPRITE
S	SELECT SPRITE
H	HIRES/MULTICOLOUR TOGGLE
Q	QUIT TO EDIT MODE
?	DISPLAY HELP SCREEN
X	EXPAND HORIZONTALLY
Y	EXPAND VERTICALLY

MENU OPTIION H - THE HIRES GRABBER & PICTURE SAVER - ONLY FOR DISK USERS.

This EXPERT program enables you to save a hires picture on disk. You can then edit/customise it using Kaola Pad or similar utilities. Please note, it is NOT possible to put a hires picture back into a program. Reserve a disk only for pictures - preferably don't use a disk which has program files on it.

COMMAND SUMMARY

1) B - - - - - SAVES A HIRES PICTURE TO DISK.
2) R - - - - - RESTART
3) Z"FILENAME" - COMPACT & SAVE.
4) Most other monitor commands except A are available.

INITIAL PROGRAMMING.

Before using any of these commands, please reprogram your EXPERT by switching it to 'PRG' and selecting option H for back-up on disk only.

CAPTURING A HIRES SCREEN.

Switch off the EXPERT & load in the game from disk or tape.
When the hires screen appears quickly switch on the EXPERT & tap RESTORE to freeze the picture. Often the loading screen of a game is in hires mode - the subsequent screens are most likely not.

SAVING A HIRES SCREEN.

Insert a blank formatted disk into the drive and type:-
B"PICTURENAME" (RETURN)

CONVERTING THE EXPERT PICTURE FILE INTO OTHER FORMATS.

Simply select the converter you want from the menu and follow the on-screen instructions. The purpose of these converters is to enable you to edit/customise a hires picture with one of the graphics utilities whose formats are listed.

DISPLAYING A HIRES PICTURE FROM BASIC.

First you must convert the picture file into KOALA format using the appropriate converter. For example, if it was an EXPERT file you would use option L.

Next select option M and follow the on-screen instructions. The file produced by this utility can be loaded and run just like any BASIC program - so you could incorporate a hires picture into your own BASIC programs. For example, typing: LOAD"PICTURENAME",8 (RETURN) & then RUN will display the saved picture directly on the screen.

MENU OPTIONS I & J - THE 64K MACHINE CODE MONITOR

The Monitor software, which is part of the EXPERT CARTRIDGE TAPE TO DISK SYSTEM is a very powerful tool with several unique features. The Monitor is completely invisible to the user and can be used over the whole of the 64K ram. It can be used to access both Basic & Kernal roms and the $D000 input output block registers and ram under the roms and under this block.

Typical uses are: interrogating/inspecting a program, (M and D commands), altering a program (M command), list any Basic parts of a program (B command), write a machine code program (A command), convert numbers from decimal to hex and vice versa (U & ? commands), search for addresses, data or text (H & K commands), compare blocks of memory (C command) etc etc.

Whenever you tap the RESTORE key (or press the ESM button where necessary), the screen will clear and the EXPERT's machine code monitor will be activated. It is from within this monitor that all the functions of the EXPERT are controlled. The screen will display the registers & will look typically like this:-

```
   C  PC  SR  AC  XR  YR  SP  L1  QA  NV-BDIZC
   / 2677 C3  22  44  56  FB  37  05  CCSCCSCC
```

The top line lists the various important registers and below are the actual values held in the registers at the instant the game was stopped.

C = THIS TELLS YOU WHICH MENU OPTION WAS CHOSEN TO PROGRAM THE EXPERT
PC = PROGRAM COUNTER — SR = STATUS REGISTER
AC = ACCUMULATOR — XR = X REGISTER
YR = Y REGISTER — SP = STACK POINTER
L1 = LOCATION 0001
QA = THIS IS THE CURRENT Q VALUE.
NV-BDIZC THIS SHOWS THE STATUS OF THE FLAGS. S = SET, C = CLEARED

You can change the contents of all the registers by directly overtyping the current value with a new one. You can change any of the flags by altering the SR value.

INITIAL PROGRAMMING

All of the commands below are accessible when your EXPERT is programmed with menu options I or J. With the menu options - B/C, D/E, F/G and H, some may be omitted or the functions changed for specialised uses. The initial start-up screen lists those available each time you program the EXPERT, and the ones that are changed are listed in each section.

THE MONITOR COMMANDS

Type the command followed one or more parameters. A ? will appear if you omit a obligatory parameter or if a command is not implemented in the current operating system you happen to be using. Each command is followed by an example. Hexadecimal notation is used.

COMMAND PARAMETER(S)	FUNCTION
A 1000 LDX $00	ASSEMBLE

Starts assembly at $1000. in this example the X register is loaded with the value in location $00. You will then be prompted for the next instruction address. Press RETURN to terminate the assembly.

TIP: When using the A command to write a short machine code program use the $C000 area where possible. This will avoid affecting any Basic programs

in memory. Also, to execute the program, type W (return) to exit the monitor and then do a SYS to the start of the program. Eg A C000 LDA £$60 (return) and so on assembles at C000. Then SYS 49152 (C000 in decimal) to execute it. Don't use the G command unless you know what you are doing °

B BASIC LIST

This produces a listing of the BASIC part of any program similar to typing LIST in Basic. All anti-listing techniques are bypassed.

C 1000 2000 3000 COMPARES

Compares the block from $1000 to $2000 with the block at $3000 to $4000. The address of any location which differs is displayed.

D 1000. DISASSEMBLES

Disassembles one line of code starting from location $1000. If you omit the final . the disassembly will continue until you press the STOP key, or pause it with the SPACE BAR. This command has been changed in that you can now directly alter the disassembled code by using the cursor keys to locate the characters to be overwritten. Instructions, addresses and data can be altered as necessary. Press return to enter the changes.

D 1000 2000 DISASSEMBLES

As above but disassembles between the two addresses specified.

E 2000 2FFF 45 EXCLUSIVE OR

This command EXCLUSIVELY ORs the memory between the start and end adresses given with the byte specified in this case, $45.

F 1000 2000 XY FILLS

Fills memory from $1000 to $2000 with a value, where XY can be any number from $00 to $FF.

G 1000 GOES TO

Starts executing a program from location $1000 using the current register values. (Equivalent to SYS in Basic but with address in HEX)

H 1000 2000 A9 00 FD HUNTS

Hunts through the memory between $1000 & $2000 for the sequence of bytes - in this case A9 00 FD and displays the addresses if any, where they were found.

H 1000 2000 'HELLO HUNTS

Hunts between $1000 & $2000 for text string "HELLO" (in ASCII) and displays the addresses if found.

H 1000 2000 "TEST" HUNTS

Hunts between $1000 & $2000 for the screen value of the text string "TEST" (the ASCII sequence found with the previous H command would be 54 45 53 54 whereas the screen sequence given by this command would be 14 05 13 14

I 4000 5087 C0 INCREMENTS

Increments the area from 4000 to 5087 by C0.

K 4000 4FFF 0277 SEARCHES

Searches between the specified adresses for any references to the location $0277 including branches.

K 4000 4FFF 0277 0350 SEARCHES

Searches between the specified adresses for any references to the memory block between $0277 and $0350.

K 4000 4FFF 3000 3FFF 70000 SEARCHES

Searches between the specified adresses for any references to the memory block between $3000 & $3FFF and change them to point to the area from $7000 onwards.

L "PROGRAM NAME" LOADS

Loads a program from device 8 (disk) to the address from where it was saved.

L "PROGRAM NAME" 2000 LOADS (relocated - disk only)

Loads a program from device 8 to memory commencing from location $2000.

M 1000. MODIFIES

Displays the contents of one line of memory (8 consequetive locations) starting at address $1000, with the ASCII form on the right of the screen. You can alter the contents of any location with this command. Use the cursor keys to locate the byte you wish to overtype. Enter the new value and press return. The new value will appear in place of the old one unless you are trying to "poke" into a rom location, when the old value will reappear. If you omit the final . the listing will continue until you press the STOP key or pause it with the SPACE BAR.

M 1000 2000 MODIFIES

As above but displays all memory between the specified addresses.

N NEW

Fills the 64k ram with the current fill byte & Resets back to Basic.

N XY NEW

Fills the 64k ram with the byte XY (XY lies within the range 00 to FF)

O REGISTERS

Redisplays the current registers.

P SPECIAL NEW

Fills the memory with occasional random bytes and RESETS back to Basic.

P XY SPECIAL NEW

Fills the memory with XY (XY can range from 00 to FF) plus occasional random bytes followed by a RESET back to Basic.

Q WORK BLOCK

This command will try to find a block of memory suitable for use as explained in section 5 paragraph 2. This command is executed automatically when you enter the EXPERT by tapping RESTORE.

Q 02 WORK BLOCK

This sets the Q value to 02 ie the block used starts at 0200 to approximately 02E1.

R RESTARTS

Restarts the program you halted by tapping the restore key. Can also be used after compacting and saving the program with the Z command.

S "PROGRAM NAME" 1000 2000 3000 SAVES (disk only)

Saves memory from $1000 to $1FFF to device 8 (disk) so that it loads back at $3000.

S "PROGRAM NAME" 1000 2000 SAVES

Saves memory from $1000 to $1FFFF inclusive to device 8 (disk).

T 1000 2000 3000 TRANSFERS

Transfers the contents of the memory between $1000 & $2000 to $3000 & $4000. This is an impoved T command. It will transfer between blocks which overlap. eg T 2000 4000 3000

U UNHEX

Converts a number from HEX to decimal. (opposite of ? command)

V "PROGRAM NAME" VERIFIES (disk only)

Verifies a program on disk with that in the ram and lists the addresses where there is a difference.

V "PROGRAM NAME" 4000 VERIFIES (disk only)

Verifies a program on disk with that in the ram at 4000 and lists the addresses where there is a difference.

W WARM START

Causes a warm start similar to pressing RUN/STOP RESTORE.

X EXCHANGES

Toggling this key selects the memory map that the monitor is working in. The current map is indicated as either 00 which is all 64k ram or FF which is the normal C8M64 default memory map.

Z "PROGRAM NAME" SPECIAL SAVE

Saves the program in a crunched or compacted form on disk or tape.

? This converts a number from decimal to HEX.

/ 1000 SET RESTART ADDRESS

Alters the restart address, in this case to $1000.

@

Reads the disk error channel.

@X PERFORMS DISK COMMAND X

X= S:FILENAME to delete a file X=V to validate a disk etc

. PROGRAM NAME SHOW START & END ADDRESSES.

Displays the start and end addresses of the program.

$ DIRECTORY

Lists the directory to the screen without corrupting memory.

+ bbt SETS SCREEN COLOURS

This command allows you to change the screen colours. The digits (in HEX from 0 to F) sets the colours in the order: border background text.

* SETS SEARCH COMMAND PARAMETERS.

This command sets the parameters used by the search and hunt commands - (K & H). For example, typing: * 1000 8000 (return) and then K* 20 (return) is the same as typing: K 1000 8000 20 (return). It is a useful time saver if you want to search the same block for particular bytes or sequences of bytes.

MENU OPTION N - EXPERT EXPRESS DISK TURBO & PRINTER DUMP

Program the EXPERT with menu option N and follow the on-screen instructions. When you press RESET as instructed, the computer will go back to Basic. The function keys are used as follows:- F1 - EXIT F3 - HARDCOPY OF SCREEN: F5 - DISK TURBO: F7 - INSTRUCTIONS.

TO ACTIVATE THE DISK TURBO

Tap RESTORE and press F5 to use the turboloader and then F1 to go back to Basic. $ will display the directory and to load a file just type: LOAD"FILENAME (RETURN)

TO PRINT OUT THE SCREEN (CBM SERIAL PRINTERS ONLY)

Press F1 to go back to Basic if you've been using the disk turbo. Load the program so that the screen you wish to printout (hi or lo res) is displayed. Now tap RESTORE and press F3 to make a hardcopy.

MENU OPTION P - DIRECT TO TAPE SAVE

This operating system enables you to save any EXPERT operating system or file and any Basic program resident in the computer onto tape so that it will turbo-reload.

Program the EXPERT with option P, type N to go back to Basic & then load BUT DO NOT RUN the program you wish to transfer to tape. For example if you wished to put EASIFREEZE on tape for a friend, then load it in like this:- LOAD"EASIFREEZE",8 make sure you enter the name exactly as shown in the directory and do not use the menu to load it since this will Run it after it has loaded.

Next, tap RESTORE and type: Y"EASIFREEZE" (RETURN) press play & record on tape as instructed.

To reload the program from tape just press SHIFT & RUN/STOP

If you find the tape does not load, your datasette may not be in alignment in which case you can still transfer the files to tape using the slow Basic command: SAVE"PROGRAMNAME" (RETURN).

ROCKET –
A SUPER-FAST DISK TURBO LOADER.

- LOADS INDEPENDENTLY OF THE CARTRIDGE
- RELOAD ON AVERAGE BACK-UP IN 6 SECS.
- LOADS ANY SIZE OF FILE.
- ONE FILE FORMAT.

ADDITIONAL INSTRUCTIONS FOR ROCKET LOADER

ROCKET is a NEW BOOT LOADER for EXPERT files. It will load any size of EXPERT files about 3 times faster than the No Blocks Boot loader. This means that using ROCKET, your back-ups will reload in 5 to 10 seconds. ROCKET will load any EXPERT file produced from the later EXPERT operating systems & FILE PRESS COMPACTOR. In use, ROCKET is used to transfer any EXPERT file onto a separate disk, and then a special ROCKET loader is added. This is done in one step; ROCKETed files are shown in the directory as "R*FILENAME-------" (filenames are padded with dashes). Rocket adds about 5 blocks to each file, but saves them in one file unlike other systems.

HOW TO USE ROCKET.

1) FORMAT A DISK
2) INSERT THE EXPERT MASTER DISK CONTAINING THE ROCKET LOADER PROGRAM (V3.2R)
3) TYPE: LOAD"M*",8 (RETURN) & THEN RUN
4) SELECT OPTION O & THEN PRESS Y OR N AS APPROPRIATE.
4) REMOVE THE MASTER DISK
5) INSERT THE DISK CONTAINING THE FILE TO BE CONVERTED (SOURCE DISK).
6) FOLLOW THE ON-SCREEN INSTRUCTIONS. Briefly, these are:-
   a) Press RETURN to list the directory.
   b) Enter name of file to be transferred - omit the quotes, use DEL to correct a mistake, or RUN/STOP to abort & start again.
   c) Insert the destination disk when prompted. (Long files may be transferred in two stages.)
   d) Finally, the ROCKET loader is saved onto the destination disk.
7) RESET the computer when done.

RELOADING ROCKETed FILES.

SIMPLY TYPE: LOAD"R*FILENAME",8,1 (RETURN)
You can abbreviate the filename so you could just type: LOAD"R*F" (RETURN) to load the first file which has F as the first letter after the *.

NOTES.

Files produced with the EXPERT using operating systems prior to V3.2 may not transfer successfully using ROCKET.

Files are saved sequentially on disk so this may reduce the amount of useable disk space, also it is not advisable to mix ROCKET & non-ROCKET files on one disk.

Files saved on one drive with ROCKET may not reload on another drive if the alignment is different, or may take longer to reload if errors are detected and retries are necessary.

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CHEATS & POKES.

Program the EXPERT with C OR X operating systems.

ENTERING EXPERT CHEATS.

The principle is usually to 'list' a line of the games machine code with the D command and then alter the code by overtyping with the cheat data. In most cases EA is inserted in place of whatever was there - this is interpreted as a NOP instruction. NOP stands for No OPeration and has no effect - it is used here as a safe way of deleting the original instruction or data.

The F command can also be used to fill one or more locations with EA - this has the same effect as using D as above. Similarly, M can be used - just overtype the specified locations with EA and press return.

Some games require changes to be made before the game is saved or the back-up will not run - these changes are detailed on the cheat sheet and there are also several on the UTILITY disk. (Available for £5.95)

CONVERTING BASIC CHEATS INTO MACHINE-CODE ONES

Many cheats have been published in the Commodore magazines which are written in Basic using the POKE command. The actual 'pokes' are entered in DATA statements. Following the example below, you can easily enter these cheats using the EXPERT/'s machine code monitor.

eg. A Basic cheat might look something like this....

```
POKE 12758,32
POKE 57982,248
POKE 23,200
```

What happens is that the number after the comma is put into the memory location specified by the number preceeding the comma. Both groups of digits are in decimal and have to be converted into Hex before being entered using the EXPERT's machine-code monitor. Fortunately, the EXPERT's ? command converts decimal into HEX (The U command does the reverse).

First load & run the game and then freeze it. Next, convert the groups of digits using the ? command thus...

```
?12758  should result in 31D6
? 32    should result in 20  - ignore any leading zeros.
? 57982 = D27E
?248    = 48
?23     = 17
?200    = C8
```

Next, type: M 31D6. This gives a line of 8 two digit HEX numbers. The first pair represents the data in memory location 31D6 which you have to change by overtyping it with the new value - 20 in this case. Now type: M D27E. and change the first pair of digits to 48 (return) Lastly, type: M 0023. and change the first pair to C8 (RETURN). Don't forget to press RETURN after altering each or it won't record the change. That's all there is to it. Now you can restart the game or to be on the safe side, Z it first - the restart command doesn't work with all games. Obviously, a cheat for one game won't work in another, and you have to load the game in & freeze it before entering the cheat.

For more complex cheat such as the one shown below, the principle is the same except that here you are 'poking' 10 different numbers (on line 50) into 10 consecutive memory locations starting from 32768 inclusively.

```
10 FOR J= 0 TO 10                          10 = 0A
20 READ N
30 POKE 32768 + J,N                        32768 = 8000
40 NEXT
50 DATA 23,56,34,128,200,2,48,196,255,112 = 17,38,22,80,C8,02,30,C4,FF,70
```

Note - numbers from 0 to 15 should have a zero added to them to make them a two digit HEX number eg 10 = 0A NOT just A alone.

Next type: M8000 800A this will list the 10 memory location commencing from 8000. Now go along each pair in turn and overtype with the new value - 17 into the first pair, 38 into the next pair and so on. Don't forget to press RETURN at the end of each line. Now you can save the game and then restart it to try out the cheat.

THE EXPERT CHEAT SHEET.

We are indebted to the EXPERT USER CLUB for allowing us to include some cheats from past issues of 'EXPERTISE' - their monthly newsletter.

1) KRAKOUT - infinite lives.

Turn off the EXPERT until the ESM light glows, then switch on. it will jump into the monitor when loaded. Now type:- D AD64. (ret) and change it to read ,. AD64 EA EA EA (ret) Now save it in the normal way. Keep the Expert Off when reloading. The Restart function will not work with this game - it keeps jumping back into the monitor.

2) MUTANTS - infinite lives.

Switch on the EXPERT when loaded and tap Restore, then type:- D 2439. (ret) and change the line to read: ,. 2439 EA EA EA (ret) Alter the restart address to $1000 (type: /1000 (ret)). Now save/restart as per usual.

3) SANXION - infinite lives.

Turn on the EXPERT when ESM light glows. When loaded, press ESM button and then type:- D 373E. (ret) and change the line to read: ,. 373E EA EA EA (ret). Save/restart as per usual.

4) SPIKY HAROLD - sprite collision disabled.

Leave the EXPERT on, it will jump into monitor when loaded. Now type:- D 950D. and change it to read ,. 950D A9 00 EA (return). Now type:- G FCE2 (return) to reset the computer, switch off the EXPERT and enter SYS 28672 (return) to restart the game.

5) KORONIS RIFT - immortality.

Stop the game and type:- F 083E 0840 EA (return)

6) EIDOLON - infinite energy

Stop the game & type:- F 5CEE 5CEE AD (return)

7) ELIDON - unlimited sets of wings.

Stop the game and type:- D 080F. and alter the line to read:-
080F EA EA EA DEC $ 0421

8) BOULDERDASH 3 - infinite lives.

Stop the game & type:- D 876E and change the line to read: D 876E EA EA
Alter the Restart address to 8D67. (/8D67)

9) PSYCASTRIA - infinite lives.

type: D 4F52. and change the line to read: D 45F2 EA EA
Restart address is 4000

10) 1942 - infinite lives.

Stop the game and type: D 16AE. now change the line to read:-
D 16AE EA EA EA DEC $6F

HELP
====

** PLEASE READ THIS. **

The EXPERT and associated software has been tried & tested extensively so if you are experiencing difficulties trying to use your EXPERT, please re-read this instruction book to check that you are doing everything correctly. Next read this section and if you are still having no luck contact us - we will be only too pleased to help if we can.

1) A NOTE FOR ENHANCER DISK DRIVE USERS.

You may not be able to use the "N88 LOADER" with this drive. On the EXPERT MASTER disk is a program called "BOOT" which has the same function but there are two points to remember:-

1) This version of "BOOT" MUST be the first file on the disk.
2) It does occupy a small amount of disk space.

To copy "BOOT" onto your back-up disk, insert the EXPERT MASTER disk & type:- LOAD"BOOT",8 (return) Now insert your back-up disk & type:- SAVE"BOOT",8

2) DISK DRIVE MISALIGNMENT.

If the computer hangs-up during the programming procedure, it is possible that your disk-drive is slightly out of alignment. If the red disk-drive error light flashes during programming, then this is almost certainly the case. To get around this, make a back-up of the EXPERT MASTER disk using (preferably), a slow disk copier program such as the one supplied by Commodore with the drive.

3) FAULTY DISKS & FORMATTING.

Fast formatting utilities, including the one incorporated into the No Blocks Boot program, are not very reliable. Faulty disks - eg 'bad' sectors & format failure give similar symtoms: the disk may keep on spinning after saving a program, the drive error light may stay on or flash, and listing the directory will show "0 blocks" saved and *PRG next to the program your were trying to save. If there is insufficient space on the disk you may get these symtoms too. Try using the BASIC command - OPEN15,8,15,"N:DISKNAME,ID"

4) PROGRAM WILL NOT RUN.

Some programs will not run if a disk drive is connected although they will load normally. If this happens, switch off the drive until you are ready to save the program. Eg Green Beret.

5) EXPERT ACTIVATED UNEXPECTEDLY.

Some programs generate NMIs which activate the cartridge unexpectedly. By leaving the switch in the off position until just prior to pressing the RESTORE key to stop the program, this problem can be overcome in most cases. Eg Spiky Harold & Iridis Alpha.

6) PROGRAM WILL NOT LOAD.

Some programs will not load, apparently detecting that the EXPERT is connected even though it may be turned off. They are in fact simply detecting that the memory has been altered from what it would have been had the computer just been powered up.

Type P (return) instead of N return if this happens. This will reset the machine in a slightly different way. Also try W (return) - this will perform a 'warm' start, and finally, as a last resort, after going back to Basic with N (return), switch off the EXPERT and press the RESET button.

7) OTHER CAUSES OF PROBLEMS.

The RESTORE key is seldom used, and in some cases, does not work. If tapping it with the EXPERT programmed & switched on, does not cause the monitor prompt to appear, then a fault with this key & associated circuitry is probable. Try this test: hold down the RUN/STOP key and tap RESTORE with the EXPERT switched off or unplugged. The screen should clear and 'READY' be displayed on the top line. If not, then your computer requires attention. If this test is passed, then a fault within the EXPERT is indicated.

Faulty EXPERT software, cartridge or computer can make it impossible to program the EXPERT. If a blackscreen remains on power up even with the EXPERT switched off, then suspect the EXPERT or your power unit. (Commodore power units are notoriously unreliable and the slight extra currnt taken by a cartridge can make them fail unpredictably).

8) SAVE FAILURE.

If, having typed Z"PROGRAMNAME" and waited until the program has been saved on disk, you discover that the drive error light is flashing, and that the program has not actually been saved, all is not lost. Some common causes of this are:- insufficient disk space, bad formatting, incorrect type of format - 1570/1571 drives should be formatted in 64 mode on the 128. The 4 digit number which comes up after the drive stops is the end address of the game. This enables you to save the game using the S command as follows. Type: S"PROGRAMNAME" 0801 NNNN (RETURN) where NNNN is the 4 digit number. Our experience is that bad formatting or a damaged/corrupt disk accounts for most save failures.

9) TRANSFERRING MULTIPART PROGRAMS.

There is no universal way of transferring multipart games (this applies to the EXPERT's rivals too) but with the aid the EXPERT UTILITY disk you can transfer many multipart games to disk.

10) THE EXPERT UTILITY DISK

As well as many multipart parameters for specified games, there are also some pokes for heavily protected games which need minor alterations before saving. We've also included over 50 cheats for infinite lives & the like and there is a FILE COPIER & A Super 'FILE PRESS' compactor which can drastically reduce the size of EXPERT files - eg Airwolf comes down from 230 blocks to 123 = more files per disk & faster reloading.

11) A NOTE FOR 1581 DRIVE USERS

The EXPERT software is available on 31/2" disk for use with this drive. We also provide instructions on how to modify the fast loader supplied with the drive for use with long EXPERT files.

==========