Home Computing WEEKLY

An Argus Specialist Publication

Every week: your best buy for software reviews and listings

No. 67
June 19–25, 1984

45p

Win

a flight simulator from **Hewson** in our £1,500 competition

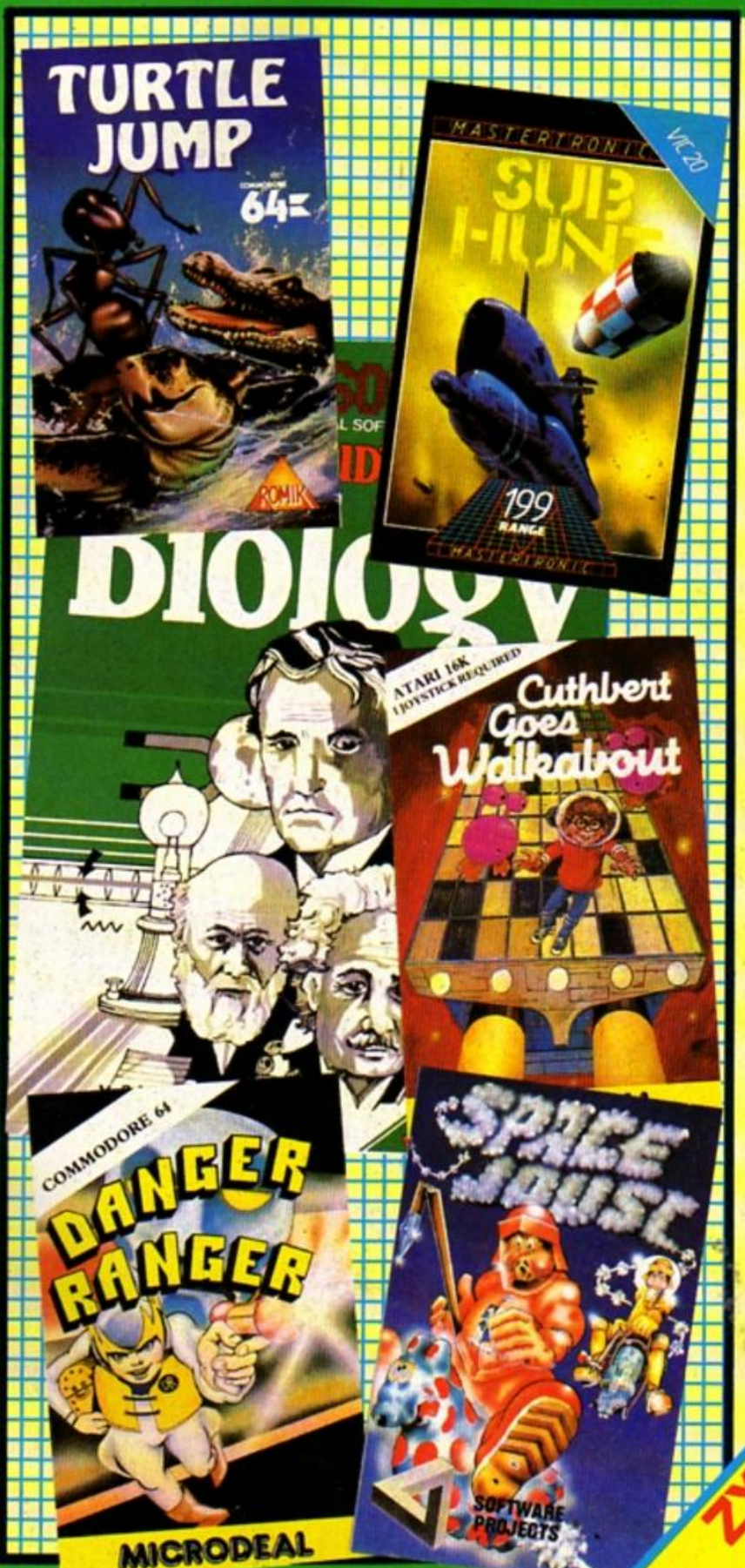
Commodore show: first full report, including the new micros

Software reviews for: Commodore 64, Spectrum, Dragon, VIC-20, Oric and Atari

Programs to type in for: VIC-20, TI, Commodore 64

PLUS news, U.S. Scene, your letters, One Man's View, latest software charts





Battle of the giants

Sales of Commodore computers is claimed to have exceeded those of Sinclair in March, according to a new report.

Research Analysis Marketing came to this conclusion after carrying out a survey on 300 independent hardware and software retailers. However, they left out major high street outlets, such as Boots, W. H. Smith and Dixons, apparently because of the impossibility of obtaining sales figures from these sources.

Continued on page 8

Don't put off buying a computer in the fear that the price will drop, said Commodore's UK boss as he launched two new micros.

Howard Stanworth, speaking at the fifth Commodore show, said the price war had now ground to a halt.

The company's two new computers share many of the same features, including a 32K ROM containing the operating system and BASIC, and a typewriter-style keyboard.

The Commodore 16, designed for beginners and sold in a starter pack for £129, has 16K of RAM and the Commodore Plus/4, priced at £249, has 64K of RAM.

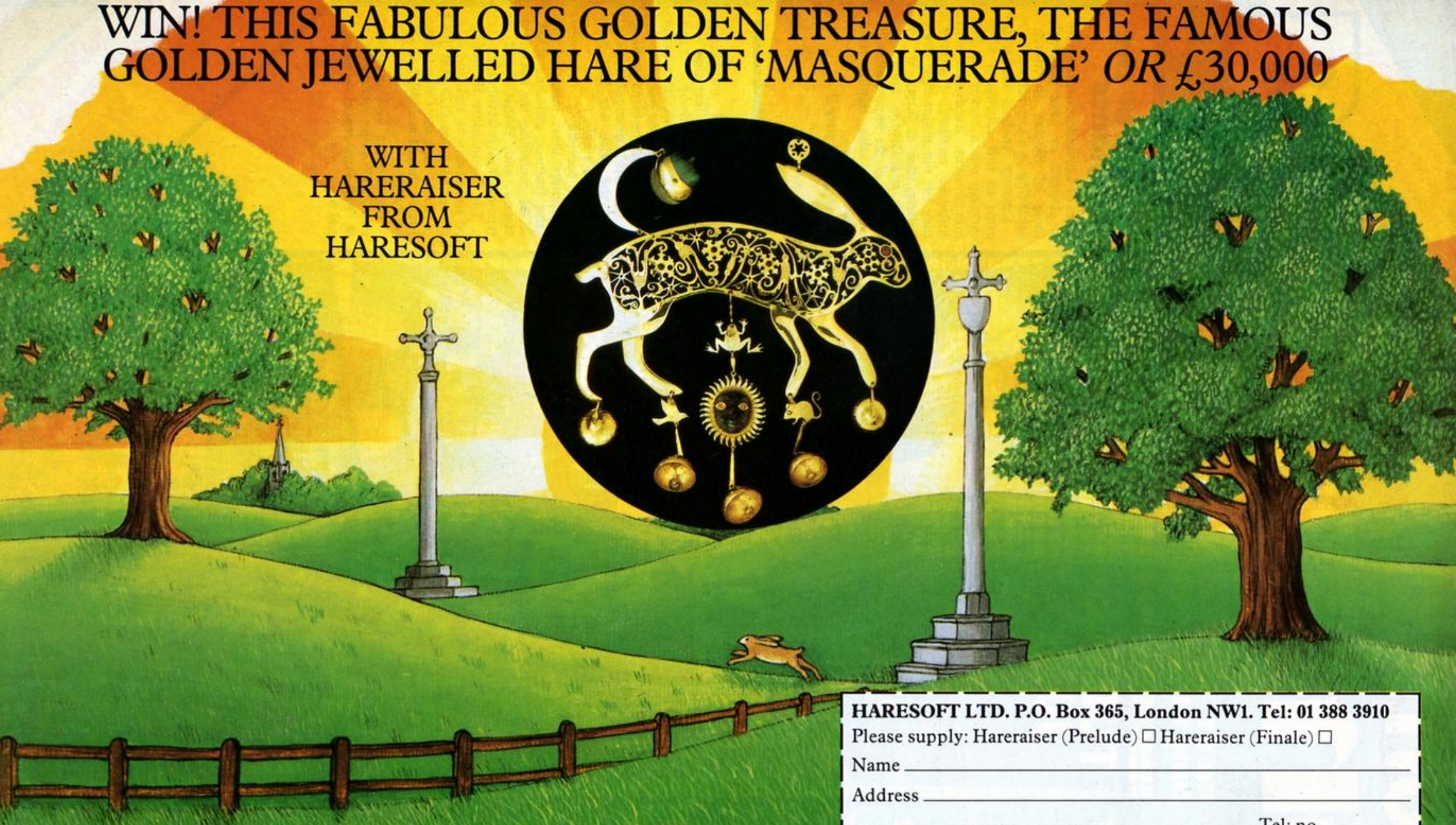
Commodore also previewed two Z8000 16-bit computers.

• **Full show report — pages 5 and 6**

ZX User your free magazine is packed with reviews and listings

WIN! THIS FABULOUS GOLDEN TREASURE, THE FAMOUS GOLDEN JEWELLED HARE OF 'MASQUERADE' *OR* £30,000

WITH
HARERAISER
FROM
HARESOFT



HARERAISER, is an intriguing puzzle of animated graphics and text produced in 2 parts, purchasers of which will have the necessary information and be eligible for entry into a competition to discover the location of the Hare. To avoid desecration of the countryside and give equal chance, the treasure has not been buried, the winner merely having to pinpoint its location, to claim this superb prize. Part 1, Hareraiser (Prelude) is on sale NOW. Part 2, Hareraiser (Finale) from mid September. (Both parts can be ordered on one application). This is a UNIQUE opportunity, you or your family could solve this adventure puzzle and win this beautiful treasure. Be sure of your participation. Order NOW and avoid disappointment. Finders keepers!

HARESOFT LTD. P.O. Box 365, London NW1. Tel: 01 388 3910

Please supply: Hareraiser (Prelude) ☐ Hareraiser (Finale) ☐

Name _____

Address _____

_____ Tel: no. _____

Cheque/P.O. enclosed for _____ at £8.95 each
Price incl. p & p U.K. only

ACCESS/BARCLAYCARD no. _____ Signature _____
Delete as necessary

Available for the following computers. Please tick yours.

SPECTRUM 48		**CBM 64**		**VIC 20 EX**	
BBC B		**ORIC/ATMOS 48**		**DRAGON 32**	
AMSTRAD					

BUY THIS SPACE
TO ADVERTISE YOUR LATEST PRODUCTS!
Ring John or Stuart on 01-437 0626. NOW!

Home Computing WEEKLY

AD ASTRA
"TO THE STARS!"
SPECTRUM ARCADE ACTION BY
GARGOYLE GAMES
021-236 2593

REGULARS

Commodore show report 5,6
Full details of the new micros — and the rest of the new products on show

News 7,8

Software charts 10
Our exclusive guide to best-selling arcade and non-arcade software, plus Top 10s for six home computers

£1,500 Hewson Consultants competition . 15
Win a flight simulator... all you have to do is spot the differences. As usual, entry is absolutely free

Haresoft offer: £1 off 19
Now you can join the £30,000 treasure trail at a special price, just for HCW readers.

U.S.Scene 11
The latest from our man in California

Letters 33
The page where you say what you think. There's free software for the best letter

Classified ads start on 36

PROGRAMS

Unexpanded VIC-20 24
Get trigger-happy... and dodge your opponent's fire in a game that demands fast reactions

Commodore64 28
Two listings to type in: test your chemistry knowledge and then try a flutter on the Grand National

TI-99/4A 32
Will you risk sharks and mines for pearls and treasure?

HOME COMPUTING WEEKLY
BRITAIN'S BRIGHTEST

ZX USER

Another FREE 16-page magazine for owners of the Spectrum and the ZX81. Here's a sample of what's in this issue:

- three pages of Spectrum software reviews
- a great adventure to type in for the 48K Spectrum
- test yourself with our game for the 1K ZX81
- keep track of your software with out chart maker
- be an artist with a graphics utility to type in

There's a full contents list on page three of ZX User



● All the listings in Home Computing Weekly are tested for quality and checked for accuracy. You'll find programs for these micros in this issue

SOFTWARE REVIEWS

Five more for the 64 9
...including a look at new low-priced games

Quick on the draw 13
You need fast reaction for these CBM 64 games

Action packed 18
Arcade games for BBC, Oric, Dragon and Atari

Follow instructions 20
Educational programs for Spectrum, BBC and Dragon

Find the key 23
Adventures and more for TI, Atari, BBC, Oric

Get inside your micro 34
Our experts examine new utilities

Editor: Paul Liptrot
Assistant Editor: Liz Graham
Designer: Bryan Pitchford
Managing Editor: Ron Harris
Group Editor Elspeth Joiner
Advertisement Manager: John Quinn
Assistant Advertisement Manager: Stuart Shield
Divisional Advertisement Manager: Coleen Pimm
Classified Advertising: Debra Stupple
Chief Executive Jim Connell

Argus Specialist Publications Ltd.
No.1 Golden Square, London W1R 3AB. 01-437 0626

Home Computing Weekly is published on Tuesdays. Subscriptions and back issues: Infonet Ltd, 10-13 Times House, 179 Marlowes, Hemel Hempstead, Herts HP1 1BB. Trade distribution: Argus Press Sales and Distribution Ltd, 12-14 Paul Street, London EC2A 4JS. 01-247 8233. Printed by Alabaster Passmore & Sons, Ltd, of London and Maidstone, Kent. Design and origination: MM Design, Circus House, 26 Little Portland Street, London W1N 5AF

WE'VE GOT THE TALENT– and our games prove it!

Amazing graphics, fast and furious action, challenging strategy, compelling adventure – this first wave of games from TALENT has got the lot!
Written by professional computer scientists using powerful new programming techniques (which leave machine code standing), these games have pushed home micros to the very limit!

SPOT YOURSELF A TALENT GAME TODAY - WE'RE GOING PLACES - FAST!



GREAT INTRODUCTORY OFFER

£2 DISCOUNT ON ALL TALENT PRODUCTS!

For every TALENT product you order, we'll deduct £2.00 from the price.
This offer must end on August 31st so don't delay – make sure you've got TALENT! Software from Scotland

INSTANT CREDIT CARD 24 HOUR ORDERING SERVICE TEL 041-552 2128

ARCHIPELAGO

Dare you venture into the ancient undersea labrinths which link the islands of the Archipelago? Fabulous jewels await you there – but the guardians of the treasure mark your every move, waiting to deal a swift and terrible vengeance. How long can you survive?
A fast-moving, action-packed game with brilliant graphics, animation and music.
Commodore 64 (joystick needed) Cassette £7.95 Disk £9.95

KALAH

One of the oldest games in the world! Originally played by Bedouins using pebbles and holes scooped in the desert sand, this strategy game has absorbed the mind of man for thousands of years. Superb graphics and music, with a choice of levels and depth of search. Easy to learn, fiendishly difficult to beat!
Commodore 64 Cassette £7.95 Disk £9.95

LASER REFLEX

A new angle in alien zapping! Against a brilliant backdrop of stars, you must defend your asteroid base from wave after wave of swooping mutating starships. Your defence – a powerful laser deflected against a giant mirror. How long can you hold out before your defences crumble?
BBC Model B Cassette £7.95
Electron Cassette £7.95

WEST

A compulsive adventure game set in a ghost town in the Wild West. Your task – to flush out a gang of bank robbers and retrieve their loot – with only your trusty steed and your six-shooter to aid you!
Test the speed of your draw, your skill at cards, your powers of survival!
The first of a stunning series of adventure games from Allan Black, played in real-time.
Commodore 64 Cassette £9.95 Disk £12.95
BBC Model B (text only) Cassette £7.95
Electron (text only) Cassette £7.95

PANORAMA (H)

An outstanding graphics package for the Commodore 64. Features include: free-hand sketches, circles, ellipses, block move, copy and reverse, magnification, choice of cursor, joystick or key control. PLUS texture definition and texture and colour fill. PANORAMA (H) uses the full colour facilities of the Commodore 64. Pictures can include text and can be stored and incorporated into BASIC programs. The program is menu-driven and comes with a comprehensive illustrated instruction booklet. We use PANORAMA (H) to create all the graphics for our Commodore 64 games. Need we say more?
Commodore 64 Cassette £17.95 Disk £19.95

TALENT
COMPUTER SYSTEMS
CURRAN BUILDING, 101 ST. JAMES ROAD, GLASGOW G4 0NS TEL 041 552 2128

To: TALENT COMPUTER SYSTEMS
FREEPOST (no stamp required)
GLASGOW G4 0BR

Please send me the following items:

		SPECIAL PRICE
COMMODORE 64		
PANORAMA (H)	Cassette (£17.95)	£15.95
PANORAMA (H)	Disk (£19.95)	£17.95
ARCHIPELAGO	Cassette (£ 7.95)	£ 5.95
ARCHIPELAGO	Disk (£ 9.95)	£ 7.95
KALAH	Cassette (£ 7.95)	£ 5.95
KALAH	Disk (£ 9.95)	£ 7.95
WEST	Cassette (£ 9.95)	£ 7.95
WEST	Disk (£12.95)	£10.95
BBC MODEL B		
LASER REFLEX	Cassette (£ 7.95)	£ 5.95
WEST (text only)	Cassette (£ 7.95)	£ 5.95
ELECTRON		
LASER REFLEX	Cassette (£ 7.95)	£ 5.95
WEST (text only)	Cassette (£ 7.95)	£ 5.95

Total (includes postage and packing)
I enclose a PO/Cheque to the value of £ .....
Please debit my ACCESS [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ]
Name (block capitals) .....
Address .....
..... Post Code .....
Signature ..... Tel .....

Please allow up to 28 days for delivery. We shall not bank your remittance until your order has been despatched.
Dealer enquiries welcome. Contact Veronica Colin on 041-552 2128

No gloom as Commodore show new micros

What was new at the Commodore show. Paul Liptrot brings the first full report

There's no reason for gloom, despite the collapse of three computer makers, said Commodore's UK boss as he launched two new home computers.

Speaking at the fifth Commodore show, UK general manager Howard Stanworth said that, with 25 home micros and 300 for businesses on sale, it was easy to understand the confusion in people's minds.

But Commodore did not doubt the buoyancy of the market — the UK was a special case with computers in 15 per cent of homes.

He said: "What we have got to get over is that computers are fun, whether they are used for games or for more serious purposes.

"There's no reason to indulge in techno-fear. There's no need be be afraid of computers.

"People are said to feel that technology is a barrier between them and society. We know that is not true."

Mr Stanworth said **Compunet,** a new micro network using the phone system, would help. Previewed in HCW, Compunet will use a £99.99 Commodore modem — including a free 12-month subscription — to offer discount software, mailbox and, in the future, features like catalogue shopping and financial services.

Compunet, using 12 telephone numbers throughout the UK, is due to be available, first for Commodore 64 users, by the end of the year.

Mr Stanworth said that now the price war had ground to a halt there was no reason to put off buying a computer in the fear that the price was about to drop.

Commodore's two new home computers share many of the same features, including a 32K ROM containing the operating system and more than 100 BASIC keywords, including graphics and sound, and a typewriter-style keyboard, including a HELP key.

The major differences are in memory size and free software.

The **Commodore 16,** designed for beginners, is sold in a starter pack comprising computer, cassette unit, Introduction to BASIC part 1 and four games. It has 16K of RAM, of which 12K is available to BASIC.

The **Commodore Plus/4,** priced at £249, has 64K of RAM, 60K available to BASIC, with four software packages in ROM: word processing, a spreadsheet, database and business graphics.

These are the features they share:

Processor: 7501, running at .89-1.76 MHz

Display: 40 x 25 text, 320 x 200 pixels, including split screen. 121 colours: 15 colours, eight luminance levels, plus black

Sound: two tone generators or one tone and one white noise generator. Nine volume levels

Keyboard: 67 keys (66 on the 16 which excludes BREAK), including four cursour control and four function keys

Input/output: user port, serial port, cassette and disc drive port, two joystick ports, monitor, audio

There is a range of new peripherals, including disc drives and printers.

Commodore previewed two Z8000 16-bit computers: the **Commodore PC,** an IBM-compatible with 256K of RAM, twin 5¼in disc drives and 9in amber screen, and the Commodore Z, with Unix-like Coherent 7 operating system for multi-user and multi-tasking.

The **Commodore Z** also has very high resolution and uses icons — like the Apple Lisa — and windows.

Both are due in the UK in the first quarter of next year. Prices were not given, but the IBM-compatible at present is £1,000 and one rumour suggests that the Commodore Z will be priced at about $3,000 in America.

The show, with more than 100 stands, featured attractions like bodypopping, basketball stars, computer racing against Stirling Moss and TV personality Christopher Biggins, computer soccer with Radio Luxembourg and seminars.

Among the new products on show:

Romik previewed its graphics package for the Commodore 64, which is to offer a graphics editor and sprite handling. Priced at £14.99 it is due out in a week with versions for BBC, Electron, Amstrad and VIC-20 to come.

Micro Power has brought out its first Commodore 64 software — all converted and enhanced from BBC versions and including its Power Load, said to load 3½ times faster. The games, all at £6.95, are: Ghouls, Cybertron Mission and Felix in the Factory.



● The new Commodore 16, designed for beginners

● Commodore's new PLUS/4 and the 1541 disc drive



● Micro Power launched a range of new 64 software

Commodore 3.5 BASIC keywords

AUTO line numbering
ABS
ATN
ASC
BACKUP disc to disc
CONTinue
CHAR text display
CIRCLE
CLOSE file
CLR erase variables
CMD
COLLECT
COLOR
COPY between dual discs
COSine
CR$
DELETE
DIRECTORY
DLOAD
DSAVE
DATA
DEF FN define function
DIMension
DO/LOOP/WHITE /UNTIL/EXIT
DRAW
DECimal value of hex string
END
EXP
ERR$
FOR... TO... STEP
FN returns user.defd function
FRE unused memory
GET keypress
GETKEY
GOSUB
GOTO
GRAPHIC selects mode
HEADER format disc
HELP displays error in inverse
HEX$
IF...THEN...ELSE
INPUT
INSTR
INTeger
JOY reads joystick
KEY define function key
LIST
LOAD
LET
LOCATE
LOG
LEFT$
LEN$
MONITOR for built-in m/c monitor
MID$
NEW
NEXT
ON
OPEN
PAINT
POKE
PRINT
PRINT USING
PUDEF allows redefinition of up to four chars in PRINT USING statement
PEEK
POS
PI
RENUMBER
RUN
READ
REM
RENAME file
RESTORE
RETURN
RCLR returns colour
RDOT pixel values
RGR current graphics mode
RLUM current luminance
RND
RIGHT$
SAVE
SCRATCH delete disc file
SCALE display modes
SCNCLR clears current screen
SOUND
SSHAPE/GSHAPE save, restore screen or area
STOP
SYS
SGN
SINE
SQR
STR$
SPC
TRAP errors
TRON
TROFF
TAN
TAB
USR
VERIFY
VOLume
VAL

New releases from **Quicksilva** for the Commodore 64 and conversion of three popular Spectrum games from New Generation: Trashman, Escape and 3D Tunnel. All are £7.95.

Stonechip now has new software for its £19.95 light pen for the Commodore 64 and the VIC-20. A new cassette interface for both costs £14.95.

Rabbit showed its Death Star game for the Commodore 64 and **Abacus** previewed its CAD (computer-assisted design) package for the 64. It costs £35, including a light pen.

A range of new utility cartridges, at £25-£44, was shown by **Stack,** all for the 64, along with its 64 DTL compiler, costing £14.95 on cassette and £34.95 on disc.

New for the 64 from **Paramount** is Room Lord, a 64 arcade-adventure which involves tracking down heirlooms in a mansion.

Jeff Minter, of **Llamasoft,** said he was off to Peru soon to see the llamas. He was showing Metagalactic Llamas Battle at the Edge of Time, £5.50, which has been converted for the 64 from the VIC. And within a fortnight he plans to release, at £7.50, an Atari version of Attack of the Mutant Camels.

Bubble Bus promised a new game from Bumping Buggies author Richard Clark . . . after he has finished his O-levels. Called Cave Fighter, it will be out in late July for the 64 at £6.99. The company has a new war game, Strike Force, and has put together its three 64 utilities — word processing, label printer, poster printer and a display program — into one package called Quadrillion, costing £14.95 for the 64.

Richard Paul Jones, boss of **Interceptor,** showed Ian Gray's new title, Tales of the Arabian Nights, a £7 arcade game for the 64 which features speech. Where's My Bones? is also £7 and both are on disc too at £9. Interceptor also has a new assembler, Puls (£7).

Anirog launched a graphics package called Cas-Kit, at £14.95 for the 64. And there were two new games for the unexpanded VIC, Minitron, a robot chase game, and Max, similar to Anirog's Hexpert. Both cost £4.95.

Alice in Videoland, £12.95 on disc only, is at last available from **Audiogenic** after being promised at the last Commodore show. Henry Smithson explained that the U.S. company for whom the author was working ran into money trouble, so Audiogenic took over the game. The program, based on Lewis Carroll's book, is 90K long and loads in sections. Audiogenic also brought out Frantic Freddie and Pegasus, also at £12.95.

Melbourne House, which has several games and books lined up for autumn release, launched a 64 arcade game called Star Trooper (£5.95). At the end of June Horace Goes Ski-ing, already out for the 64 and Spectrum, is promised for the Dragon. One of the autumn products is a pre-school program called Animal Antics, in which children change around the heads, bodies and legs of animals.

Music Master is a new 64 utility from **Supersoft** at £17.95 on tape and £19.95 for the disc version, including a comprehensive manual. Supersoft also has Interdictor Pilot, a space flight simulator written by an RAF pilot, at the same prices and Graphics Designer (£9.95 tape, £11.95 disc) as well as three new 64 games, Pesky Painter, Star Command and Star Crash, all at £6.95.

A new fault finder for the 64 was released by **Practicorp.** Called 64 Doctor, it is a series of diagnostic tests designed to find the defect, whether it is in memory, keyboard, disc drive, joysticks, RS-232 port, video display, audio or printer. It costs £17.95 on tape and £19.95 on disc.

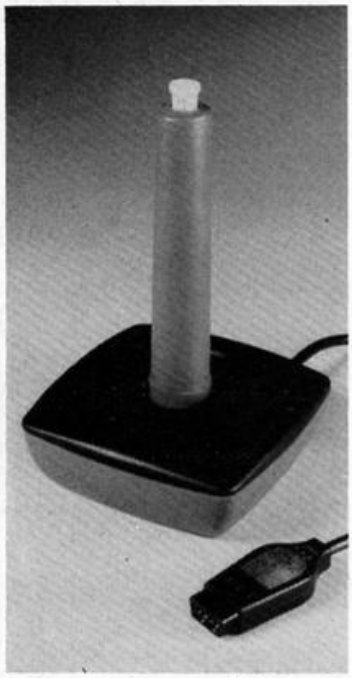
A newly-formed Texas company, **Personal Peripherals,** showed Super Sketch, a graphics tablet for the 64, VIC-20, TI-99/4A and Colecovision, and Super Stik, a joystick claimed to be more durable than its rivals. Both should soon be on sale in the UK. Dollar prices are $49.95 for Super Sketch, including cartridge software, and $9.95 and $24.95 for the two Super Stik models.

Mirrorsoft brought out three new titles for the 64: Go-Sprite, a sprite editor, Look Sharp, an observation trainer for children, and Count with Oliver, which is for four- to seven-year-olds. Look Sharp and Count with Oliver are also available for Spectrum.



● **Super Sketch, a new graphics tablet from America**

● **64 Doctor, a new diagnostic program from Practicorp**



● **Super Stik, a new US import**

● **Compunet in action. The black modem plugs into the back of the Commodore 64**



Where to find them

Computnet, ADP Network Services, Heathrow House, Bath Road, Hounslow, Middx TW5 9QP
Commodore, 675 Ajax Ave, Slough, Berks SL1 4BG
Romik, 272 Argyll Ave, Slough, Berks
Micro Power, Northwood Hse, North St, Leeds
Quicksilva, 13 Palmerston Rd, Southampton, Hants SO1 1LL
Stonechip, Brook Trading Estate, Deadbrook La, Aldershot Hants
Rabbit, Unit 11, Forward Dr, Wealdstone, Middx HA3 8NU
Abacus, 20 Rhosleigh Ave, Sharples Pk, Bolton BL1 6PP
Stack, 290-298 Derby Rd, Bootle, Merseyside
Paramount, 67 Bishopton La, Stockton on Tees, Cleveland TS18 1PU
Llamasoft, 49 Mount Pleasant, Tadley, Hants RG26 6BN
Bubble Bus, 87 High St, Tonbridge Kent
Interceptor, Lindon Hse, The Green, Tadley, Hants
Anirog, 29 West Hill, Dartford, Kent
Audiogenic, 39 Suttons Industrial Pk, London Rd, Reading, Berks
Melbourne House, Castle Yard Hse, Castle Yard, Richmond, Surrey
Practicorp, Goddard Rd, Whitehouse Industrial Estate, Ipswich, Suffolk IP1 5NP
Personal Peripherals, Merrick Pk, 930 North Beltline, Suite 120, Irving, Texas 75061, USA
Mirrorsoft, PO Box 50, Bromley, Kent BR2 9TT

From front page

John Baxter, marketing manager at Commodore, said: "We knew we were close behind Sinclair and now we have overtaken them.

"The Commodore provides better value for money than the Spectrum," he continued. "It has a better memory, proper keyboard and at least 20 per cent of the people who buy our computers are buying disc drives.

"It's the computer for the person who's serious about computing. The Spectrum isn't suitable for business or for word processing."

Mr Baxter also attributed the rise in Commodore sales to software. "There is a lot of good software available for the Commodore 64," he said.

"We will ship 60,000 Commodore 64s in June. Of these, 45,000 are orders, so that leaves only 15,000 to sell. Our back-up service is good. Admittedly after Christmas we did have problems, because we sold so many computers. Four per cent returns on 200,000 machines is still a lot of computers, so there were delays."

However, the problem is now resolved according to Mr Baxter. "Computers are returned to the manufacturers for a variety of reasons, and sometimes because the user doesn't yet know fully how to operate it. We now have a three-day turnaround: that means that from the time we receive a returned computer, within three days we will send it out again.

"We are very pleased at our sales figures."

However, Sinclair was sceptical about the claim that Commodore was ahead. A spokesman said: "The survey which Commodore is quoting is based on a very small selective sample of independent dealers, and isn't a comprehensive sample of the whole market."

He went on: "The AGB Home Audit report on sales of computers for the first quarter of this year, to the end of March, had Sinclair with 43 per cent of the market, and Commodore with 28 per cent, followed by Acorn a long way behind with 14 per cent. These findings are from fully independent research carried out right across the board, and have been confirmed by our own research.

When questioned about Commodore's shipment figures for June, the spokesman said: "Shipment figures aren't as meaningful as sales figures, and can in fact be very misleading. Some dealers may want to stockpile computers for the summer.

He concluded: "I am confident that Sinclair will remain ahead, with Commodore undisputedly in second place."

Boots' sales figures back up Sinclair's arguments. A senior executive said: "The 48K Spectrum is currently our best selling model by a significant margin. It has been considerably outperforming the Commodore 64 over the last couple of months."

First MSX software

Kuma claims to have released the first MSX program in Europe. ZEN Editor/Assembler/Disassembler is reported to be a complete system for generation and analysis of Z80 assembly language programs. Included in the price (£19.95) are a symbolic assembler and disassembler, text editor and machine code monitor. The complete source code of ZEN itself is supplied to every user.

Jon Day, sales manager of Kuma, said: "We are developing a comprehensive range of utility and entertainment software for the MSX. I think ZEN will be invaluable to users wishing to write and debug efficient assembly code programs."

Kuma, Unit 12, Horseshoe Park, Horseshoe Rd, Pangbourne, Berks RG8 7JW

Write your own programs

Home Filewriter is a combined intelligent database/program generator for the BBC with twin five-inch floppy discs. Available from Dynatech, the Filewriter is intended to enable novices to write their own intelligent database programs easily and quickly.

When using Filewriter, you simply type a record layout on screen and instruct the software program to translate the information into the appropriate computer code. The programs produced are self prompting and reject illegal inputs. They also inform you when an error has been made. Price: £39.95.

Dynatech, Rue du Commerce, Bouet, St Peter Port, Guernsey, CI

Spectrum add-on

Here's a new add-on for your Spectrum: the LoProfile keyboard, from Advanced Memory Systems. Featuring a full length space bar and a dedicated numeric keypad, the keyboard increases the number of keys from the Spectrum's 40 to 53. The sculptured keys are height adjusted and clearly labelled.

You place the PCB inside the keyboard housing and all connections use the ports at the rear of the unit. You don't need to adapt any of the connections, which of course makes the add-on much safer.

The LoProfile is available by mail order, price £49.95 plus £2.50 p&p, or from your regular dealer.

Advanced Memory Systems, Green Lane, Appleton, Warrington, Cheshire WA4 5NG

New BBC programs

Two new programs for the BBC: Crazy Caves, an adventure, and Labdis, a labelling disassembler, from Silversoft.

In Crazy Caves you must recover the crystal artichoke from the caverns of death and place it in the hands of an old man. Find other gems on your way and use them to barter for useful items.

Labdis is written by Jeremy San in 100 per cent machine code. It is compatible with all existing filing systems, and is menu driven.

Crazy Caves costs £7.95 for cassette and £9.95 for disc, while Labdis costs £9.95 and is available on cassette.

Silversoft, London Hse, 271-273 King St, London W6

Briefly

Don't curse if you've broken your joystick: Computer Supplies promises a fast joystick repair service — within 24 hours, in fact. Available for most models, including Atari, Commodore, Quickshot and Triga Command, the cost is £2.95 plus 50p p&p. You can also buy stronger replacement handle inserts for Commodore 1311 joysticks from Computer Supplies, at £2.75.

Computer Supplies, 146 Church Rd, Boston, Lincs PE21 0JX

Pop along to the Woodside Computer Event in Slough, on Thursday June 14 between 5 and 9 p.m. You will see demonstrations of hardware and software in education, work and the home. Slough has been suggested as the computer capital of the Thames Valley and Woodside will attempt to prove this.

Woodside County Secondary School, Norway Drive, Wexham, Slough, Berks SL2 5OP

●●●

If you're looking for a new programmable joystick interface, you will be interested in the new release from Custom Cables International. For the Spectrum, it is fully programmable and uses on-board RAM. Price: £15, or including joystick, £24.

Custom Cables International, Units 2,3 and 4, Shire Hill Ind Est, Saffron Walden, Essex CB11 3AQ

●●●

Here's help for solving treasure hunt books — Treasure Hunt Tool-Kit, from GW Components. Its aim is to help you solve anagrams, codes and ciphers. Available for the 48K Spectrum, it costs £4.95, and you get a £1 voucher against the cost of the puzzle book With Interest, by David Betts.

GW Components, 50 Oak Tree Lane, Mansfield, Notts NG18 3HL

●●●

Dillons book shop in London is moving into the computer field. Dillons has extended the lower ground floor computer department to include hardware and is now offering customers hands-on experience in up to eight of the most popular home computers. Also available are games and educational software, as well as computing books, of course. Dillons boasts well over 1,000 titles in its stock range.

Dillons, 1 Malet St, London WC1

●●●

Announcing a new dual-game pack for the BBC: Galaxy Edge from Magic. The Discovery is part 1 — a classic text-only quest to discover priceless technological artefacts from the first empire of earth. Part 2 is an adventure program, Escape from Solaris, which is for two players and two BBCs. Link them with a RS 423 lead, LOAD and play. You can also play on one micro using a split screen format. Price: £7.45.

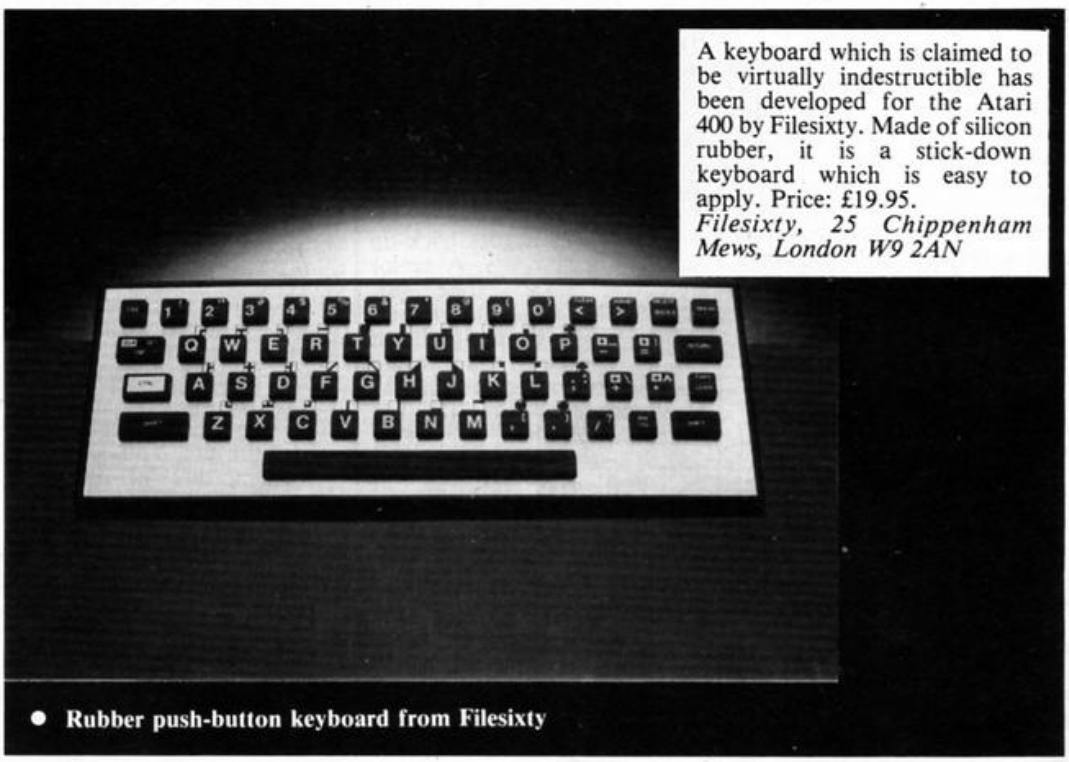
Magic, Elmswell, Bury St Edmonds, Suffolk

Publish your master-pieces

If you write your own games, you will be interested in this: Times Books is publishing two books of computer puzzles and games, one for the CBM 64 and the other for the Spectrum, and will award two top prizes of an Epson HX-20 portable computer to the best programs submitted. Five runners-up could win a Maplin Electronics Modem, and all published entries will win £10 W. H. Smith vouchers.

Submit your entries written in BASIC on a cassette if possible, together with a brief synopsis of the aims of the programs and a note on the level of difficulty. You will retain the copyright.

Times Book of Computer Puzzles and Games, c/o Newtech, 8 Forge Ct, Reading Rd, Yately, Camberley, Surrey GU17 7RX



A keyboard which is claimed to be virtually indestructible has been developed for the Atari 400 by Filesixty. Made of silicon rubber, it is a stick-down keyboard which is easy to apply. Price: £19.95.

Filesixty, 25 Chippenham Mews, London W9 2AN

● **Rubber push-button keyboard from Filesixty**

School's out

Looking for something to do in the long summer holidays? PGL is running two computer day camps for youngsters in the south. The camps will run from 23 July to 20 August at two schools in Croydon, and you can be picked up from one of 100 points in a 20-mile radius of central London.

At the start of the week you will be assessed and then you begin with a familiarisation programme, followed by exercises which have been geared to suit your particular level of experience. You'll work on the BBC and/or Electron.

Try your hand at word processing, design and data base handling and use synthesisers and disc drives. Each person has the use of a terminal. There are two age groups, 9-12 and 12-15 years.

You won't go boggle-eyed over the screen, either: half of the time you'll be able to choose from 40 different activities, including hovercrafting and mini-motorcycling.

For one week you'll pay £79 plus VAT and you get the security that PGL camps are ABTA-bonded. Get your brochure from your local travel agent or direct from PGL.

PGL Young Adventure, Station St, Ross-on-Wye, Herefordshire, HR9 7AH.

War of the Worlds

CRL has released a game based on HG Wells' War of the Worlds, for the 48K Spectrum. Written by Nigel Taylor, a 15-year-old schoolboy, it has you taking the role of the journalist travelling across the home counties to the Martian encampment.

Hazards are the Martian fighting machines, which confuse you so that you wander aimlessly, and the red weed, which will obstruct your passage and force you to find an alternative route.

You must visit six locations on successive days, in the right order, if you are to rescue Carrie from the Martian encampment on the seventh day. You also need to find food and drink and shelter.

You can find clues to the correct order of locations in Jeff Wayne's War of the Worlds double album. CRL says that versions for the CBM 64, Oric/Atmos, BBC, Electron and MSX are also in the pipeline.

CRL, CRL Hse, 9 Kings Yd, Carpenter's Rd, London E15 2HD

Scare off burglars

Use your Commodore 64 or VIC-20 to protect your home from unwanted intruders. The sentinel system from Micro-Security uses an I/O interface unit which connects to the user port of your micro.

A complete DIY kit containing I/O interface unit, control program on tape or diskette, external alarm bell and waterproof housing, internal buzzer, panic switch, 10 sets of magnetic reed contacts, cabling, cable clips and installation and operation instructions, sells for £99, p&p £5 extra.

Interface unit and software alone costs £59.95, p&p £2.50 extra.

Micro-Security, PO Box 18, Havant, Hants PO9 3LB

Where am I?

Lloyds Bank is running a project to support local archaeological societies by donating modest sums of money to help with purchase of equipment. What's that got to do with computing, you may ask?

Archaeologist Paul Brown has written a program to help with a rescue dig by the Maldon archaeological group. His program, Pitcalc, won him £200 from Lloyds. The problem Mr Brown tried to overcome was where he was during a dig. The gravel face of the pit he was working on was constantly moving so he never had time to evaluate his discoveries.

Pitcalc enables him to pinpoint his exact location. He takes three compass readings and feeds them into the computer. The Spectrum does the hard work for him. If you're a computer buff as well as being an archaeology freak, you can obtain copies of the cassette by sending £5 to

Paul Brown, 152 Fambridge Rd, Maldon, Essex.

Switch on to micro show

If you live in Scotland, tune in to Grampian TV's new series Bits 'n' Pieces. It's a six-week series which will begin on Saturday June 9 at 10 a.m. Presented by local DJ Bobby Hain, the series will feature demonstrations and reviews of software. A wide variety of machines will be used and different computers will share the limelight each week.

Also planned are interviews with personalities of the industry. Dr Micro will be on hand to offer advice on your programming problems and Bobby Hain will review hardware.

The first in the series features games reviews for CBM 64, BBC B and Spectrum computers. The prototype Enterprise 64 computer will be making its TV debut and Matthew Smith, author of Manic Miner and Jet Set Willy will be talking about himself.

Five more for the 64

Games for the Commodore 64 — including a look at two of the new low-priced titles from Mastertronic

Colossus Chess 2.0 £9.99

CDS Micro Systems, 10 Westfield Close, Tickhill, Doncaster

This program gives a rather nice high resolution view of a chess board. Your moves can be entered by using a cursor or the standard co-ordinate convention; both are easy to use.

The program offers a second screen which displays the technical information relating to the game. This includes the moves so far, suggested best moves, positional and material state of each player and the details of the depth of search. The level of play is determined by the time you allow the machine to search for its move. This is variable in second increments from 0 to one hour.

There are several other modes of play. I found the program played a strong game although at very easy levels it did make some silly moves.

The real strength of the game is the huge range of options. You can set up any position, save or reload an old game and backstep to make an incorrect move. You can get the machine to replay a game, and this option linked with a command which shows all legal moves for any given piece, acts as a simple aid for beginners. **A.W.**

instructions	95%
ease of use	95%
graphics	85%
value for money	100%

★★★★★

Pub Quest £5.95

Dream, PO Box 64, Basingstoke, Hants RG21 2LB

This must be just about the ultimate in witty adventures. The object is to find your money, which is in the sewers, so you may pay off your bill at the Chequered Flag Inn. To make things a little harder you should bear in mind that you are drunk and will have slight difficulties in such simple tasks such as crossing the road.

Special attention should be paid to the descriptions which may hold clues to possible traps in the game. Be prepared for the program to play some jokes on you. So as not to spoil the game I will not say anything else except that you get what you deserve.

There are no graphics to accompany the text. This is not much of a drawback because the descriptions are so accurate and precise that you soon build up an image of where you are.

Loading takes about 18 minutes. This may sound a long time but the wait is worth it. You could always give your off licence a visit while the program loads — just to get into the swing of things. **K.I.**

instructions	60%
ease of use	85%
display	70%
value for money	95%

★★★★★

Space Pilot £7.95

Anirog, 29 West Hill, Dartford, Kent

This game will appeal to the more adventurous players who have always wanted to rule the sky and kill anything that moves.

The object is to shoot about 56 enemy aircraft, collect the parachutists and finally blow up the zeppelin. Completing this will take you onto another level of enemy aircraft. There are five levels in all, each one containing different types of aircraft from different periods in the history of aviation.

The scenario is a screen of clouds moving left and right with your enemies moving inwards from the sides. You stay in the centre and everything else moves according to how you push the joystick.

The graphics are slightly chunky and lack definition in places. This is quite acceptable though — good use is made of colour which accounts for a drop in resolution.

I found that when playing any minor faults in the graphics were made up by the action.

Space Pilot is a good game which loads well — it only took 80 seconds. A joystick is preferable to the keyboard for playing. **K.I.**

instructions	30%
playability	80%
graphics	85%
value for money	85%

★★★★★

Squirm £1.99

Mastertronic, 48 George St, London W1

This is a variation on the classic ghost maze game. In this case a Queen squirm travels round the maze laying eggs and you score points by following the trail picking them up. Two guard squirms may beat you to it and you have to avoid them.

If you manage to collect 255 eggs you have a bonus run. During this run you are safe from attack but you cannot double back. After a bonus run you go up a level and the fun begins again.

When you eventually run out of lives the high scoreboard is displayed. If you are among the top five highest scorers your score is displayed and you can enter your name against it.

The cassette card gives a good indication of how to play the game and on loading the game a screen repeats the instructions. The screen graphics and colours have been carefully chosen to keep the action clear.

I liked this game. The pace was just fast enough to achieve a creditable score which might be beaten next time round. Not a bad game and slightly different. **L.C.**

instructions	60%
playability	70%
graphics	70%
value for money	60%

★★★

Jungle Story £1.99

Mastertronic, 48 George St, London W1

An avoid-and-shoot game with a difference. The scene is the jungle. Snakes slither and elephants charge. There's no stopping them and you have to avoid them. Leopards run across the screen but you can shoot these. While you're doing this you have to watch out for arrows shot out of the jungle by savages and also avoid coconut bombs dropped from the trees by monkeys.

The situation is loosely based on Jungle Book. You have to get Mowgli through this unfriendly jungle to a village to collect a pot of fire. With this you can confront Khan the Tiger.

The plot sounds appealing but the game is not so good. The graphics are fairly crude with all the action in dead straight lines. The game is made difficult by simply having so many things to avoid on the screen at once that there is no path past them. Consequently I never got to the village and in fact lost interest after a few goes.

The cassette card gives no details of how to play the game or whether a joystick can be used. These details come up on a preliminary screen when the program is loaded. This is not a game I can recommend although the idea is quite good. **L.C.**

instructions	40%
playability	50%
graphics	60%
value for money	50%

★★

CHARTBUSTERS

BRITAIN'S SOFTWARE CHARTS

by the ASP Market Research Group

ARCADE

1	Jack and The Beanstalk	Thor	Spectrum (2)
2	Jet Set Willy	Software Projects	Spectrum (1)
3	Psytron	Beyond	Spectrum (4)
4	Super Pipeline	Task Set	CBM 64 (-)
5	Duck Shoot	Master Tronics	VIC-20 (-)
6	Crazy Kong	Interceptor Micro	VIC-20 (-)
7	Beach-Head	US Gold	CBM 64 (9)
8	1994	Vision	CBM 64 (-)
9	Atic Atak	Ultimate	Spectrum (-)
10	Space Pilot	Anirog	CBM 64 (7)

NON-ARCADE

1	Mugsy	Melbourne House	Spectrum (1)
2	Flight Path 737	Anirog	CBM 64 (2)
3	Fall of Rome	APS	Spectrum (3)
4	Snooker	Visions	CBM 64 (-)
5	Test Match	CRL	Spectrum (4)
6	Twin Kingdom Valley	Bug Byte	CBM 64 (5)
7	Golf	Abrasco	Spectrum(8)
8	Solo Flight	US Gold	CBM 64 (-)
9	The Inferno	Richard Shepherd	Spectrum (-)
10	Colossus Chess	CDS	CBM 64 (10)

Compiled with the assistance of Britain's leading software distributors, including: Pinnacle, SDL, PCE, Websters, PCS and Software Centre.

SPECTRUM

1	Jack and the Beanstalk	Thor (2)
2	Jet Set Willy	Software Projects (1)
3	Psytron	Beyond (4)
4	Blue Thunder	Foundry Systems (3)
5	Fred	Quicksilva (-)
6	Trashman	New Generation (2)
7	Chequered Flag	Psion (2)
8	Alchemist	Imagine (6)
9	Atic Atac	Ultimate (-)
10	Wheelie	Microsphere (-)

COMMODORE 64

1	Manic Miner	Software Projects (3)
2	BMX Racers	Mastertronic (6)
3	Black Hawk	Thorn EMI (1)
4	Space Pilot	Anirog (2)
5	Space Walk	Mastertronic (10)
6	Arena 3000	Microdeal (4)
7	City Attak	K-tel (7)
8	Cosmic Convoy	Taskset (8)
9	Road Toad	Audiogenic (9)
10	Harrier Attack	CBM (-)

DRAGON 32

1	Cuckie Egg	A & F (-)
2	Cuthbert in Space	Microdeal (4)
3	Kriegspiel	Beyond (1)
4	Eightball	Microdeal (3)
5	Hungry Horace	Melbourne House (-)
6	Ugh!	Softek (-)
7	Up Periscope	Beyond (5)
8	Skramble	Microdeal (7)
9	The King	Microdeal (-)
10	Pedro	Imagine (-)

Compiled by W. H. Smith and Websters. Figures in brackets are last week's positions.

VIC-20

1	Duck Shoot	Mastertronic (1)
2	Crazy Kong	Interceptor Micro (5)
3	Tank Commander	Thorn EMI (2)
4	Chariot Race	Micro Antics (3)
5	Computer War	Thorn EMI (4)
6	Sub Commander	Thorn EMI (-)
7	Jet Pac	Ultimate (8)
8	Gridrunner	Llamasoft (6)
9	Mutant Herd	Thorn EMI (7)
10	Tower of Evil	Thorn EMI (-)

BBC

1	Aviator	Acornsoft (1)
2	JCB Digger	Acornsoft (2)
3	Over-Drive	Superior (5)
4	Battle Tank	Superior (4)
5	Q Man	MRM (-)
6	Percy Penguin	Superior (3)
7	Q Man's Brother	MRM (7)
8	3D Munchy	MRM (-)
9	Spitfire Command	Superior (6)
10	Killer Gorilla	Precision Micro (-)

ZX81

1	Krazy Kong	PSS (4)
2	Krypton Ordeal	Novus (1)
3	Walk the Plank	Novus (2)
4	Planet Raider	Novus (3)
5	Asteroids	Quicksilva (8)
6	Scramble	Quicksilva (7)
7	Black Crystal	Carnell (-)
8	Flight Simulation	Sinclair (5)
9	Alien Rain	CRL (6)
10	Chess 1K	Sinclair (7)

Introducing the Challenge Sprint



It loads Spectrums four times faster than an ordinary cassette player, uses standard cassette software, and has improved loading reliability. All for just £64.95.

The new Sprint from Challenge Research will load and save Spectrum programs at four times the speed of conventional cassette players. this even applies to standard program and games cassette software that has been pre-recorded at normal speed. All this plus improved loading reliability is available for just £64.95 inclusive of post, packing, VAT and a 12 month guarantee. The Sprint is dedicated to both the 16K and 48K Spectrum and provides an innovative but inexpensive new concept in cassette tape storage.

Use of the Sprint is simplicity itself:

- Retains the standard Spectrum commands and format.
- Advanced digital circuitry and signal processing improves loading reliability and eliminates volume setting.
- Simply plugs into the Spectrum port – no interface or external power unit is required, it even has it's own expansion slot so that you can still use other peripherals at the same time.
- A full 48K program will load or save in 75 seconds rather than five minutes with a conventional cassette recorder.

Spend less on a Sprint. Spend more time working your Spectrum and be the envy of your friends.
If you have Visa or Access cards you may phone your order to ensure faster delivery by calling Potters Bar (0707) 44063, or post the coupon below.
Please allow 28 days for delivery. If you are not delighted with your Challenge Sprint simply return it within 7 days and we will refund your money in full.

TRADE ENQUIRIES WELCOME

CHALLENGE RESEARCH
A DIVISION OF A.E. HEADEN LTD.

218 High Street, Potters Bar, Herts EN6 5BJ Potters Bar Tel: (0707) 44063

To: Challenge Research,
218 High Street, Potters Bar, Herts EN6 5BJ. Tel: Potters Bar (0707) 44063

Please supply 1 Challenge Sprint at £64.95 (inclusive of post, packing, VAT and 12 months guarantee).

Please tick box if you require a further 2 years guarantee at an additional cost of £7.50 ☐

Name *(Please print)*

Address

Signature

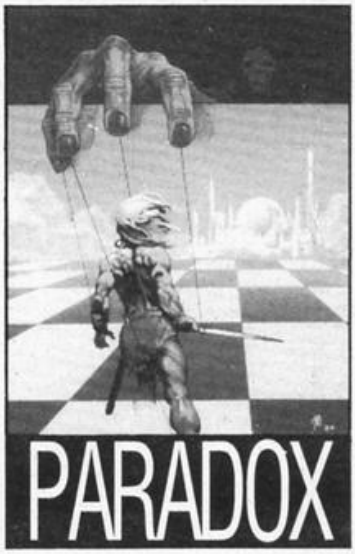
I enclose cheque/postal order made payable to Challenge Research for £

Please charge my Access/Visa No *(delete as appropriate)* the sum of £

HCW 19/6

RUNESOFT PRESENT

Enter the realm of Dream and Paradox — Survive 150 locations on what is probably the most difficult task you've ever been set — If you can!





Help Yaw Ning to find SPOOF the magic dragon, despite the whole world being set against him. Poor Yaw — You'll probably die laughing.

Popular Computing Weekly (15:04:84): "Paradox looks, from a quick play and the complex maps I've been sent explaining it, like one of the most complicated adventures ever designed . . . addiction is probably ensured."

LOOK for the RUNESOFT Logo

★★ COMMODORE VERSIONS AVAILABLE SOON ★★
RUNESOFT artwork by Nick Bibby

PARADOX, SPOOF and **SPECTREALM** (a strategy game for budding Emperors), for the Spectrum 48K computer, are available from selected shops nationwide at the following prices.

PARADOX: £7.50; SPOOF: £7.50; SPECTREALM: £6.95

In case of difficulty, ask your local stockist to contact his distributor, or send cheques/POs direct to:

RUNESOFT
Charnwood House, 67 Lower Parliament St, Nottingham NG1 3BB. (Tel: 0602 (STD) 287667 & 271748)

Spectool

makes Basic easier, faster, more efficient

The most comprehensive toolkit ever devised for the 48K Spectrum

Spectool gives you 30 powerful new single-key entries to make Basic programming easier for the beginner, faster and more efficient for the advanced programmer. Commands include AUTO start, CLOCK, COPY, HEXDEC, INSERT to, JOIN line no, MEM, MOVE, PEEP, REMKILL, REN, SLIST, SQUASH, TRACE and lots, lots more.

£7.95

complete with operating manual

Post & Packing: 40p

Send cheque/PO, payable to Mikro-Gen, or phone your Access/Visa number for immediate despatch.

Look out for Mikro-Gen's superb selection of sensational games software in Boots, Menzies, W H Smiths, Co-op and other leading retailers. Write for complete list:

MIKRO-GEN

44 The Broadway, Bracknell, Berks RG12 1AG Tel: 0344 427317

Quick on the draw

All these games need a quick wrist — lasers and rifles shoot down Cyborgs, Moronians and ducks. Score bullseye and hit the mark every time

Sub Hunt £1.99

Mastronic, 48 George St, London W1

In this game your mission is to guide your submarine and pick up frogmen as they come into view on the screen. Meanwhile enemy aircraft fly overhead dropping depth charges. The sea is populated by submarine-eating fish which you must avoid or torpedo.

When you have rescued several frogmen you go up a level and the game becomes more difficult. At the top of the screen are your score, highest score and the number of remaining lives. You have three lives.

After a while I found I could frequently get up to the next level with all my lives intact. However the game didn't change. I would have prefered a different sea monster, giant squids or crabs, for instance.

I found the game rather tame after the initial interest had worn off. The screen graphics are not outstanding and the game is short on instructions. The inlay card gives no instructions at all. Only when you load the program do you get two screens of instructions. The inlay card should at least say whether joysticks can be used. All in all I was not terribly impressed by this offering. **L.C.**

instructions	40%
playability	50%
graphics	50%
value for money	40%

★ ★

Duck Shoot £1.99

Mastertronic, 48 George St, London W1

This is a shooting gallery-type of game. There are three conveyors moving across the screen on which are ducks, rabbits, owls, numbers and letters. Above the conveyors is a row of spinning plates.

You have limited bullets and limited shooting-time. In addition to scoring points for hitting the items on the conveyor you need to hit all eight spinning plates to go up a level. This is complicated by a duck which flies across the top of the screen. If you don't hit this duck all the spinning plates are restored and you start again.

The ducks on the conveyor are apt to fly down and eat your bullets. If you run out of time before you run out of bullets the conveyor speeds up. Bonus points can be obtained if you hit the letters bonus in that order on the conveyor. I never got beyond n as I was too busy trying to stop the ducks eating my bullets.

Despite all the action I found the game did not hold my interest for long, partly because there were too many bullet-eating ducks. **L.C.**

instructions	70%
playability	50%
graphics	60%
value for money	50%

★ ★

Cuthbert in Space £8

Microdeal, 41 Truro Rd, St Austell, Cornwall PL25 5JE

Cuthbert is in space this time. You have to fly around the screen picking up fuel pods. When you have cleared the screen you can collect the loot. Simple? No, to make the game harder there are Moronians flying across the screen. If you should collide with one you lose one of your four lives. To help you overcome the Moronians you are equipped with a laser. From time to time you will be sent for repairs to your spacecraft, this is spoiled since it is done in text mode.

The game has 12 levels increasing in difficulty, with more Moronians flying across the screen.

Sound and the graphics just manage the good rating in my books. However the graphics are fast and can be distracting.

The instructions have been laid out very well, more so than the game. You are told that by using keys J or K you can change your control from joystick to keys. They have got that wrong somewhere since you can change without using the keys. Also the restore key is supposed to restart the game, instead it made a mess of the screen. **G.J.**

instructions	90%
playability	55%
graphics	60%
value for money	45%

★ ★ ★

Attack on Windscale £9.99

Phoenix, Spangles Hse, 116 Marsh Rd, Pinner, Middx

This is one of a series of arcade/adventure games which are starting to appear on the software market. You play the arcade game and you are given clues to help in the adventure game.

The arcade game is a fast shoot-'em-down version of space invaders. One enemy flies across the screen and one moves down. I found it too hard after level 1 because the speed gets too fast.

When or if you have completed all four levels you may move on to the adventure game. The problem is that if you cannot master the arcade game then you are unable to start the adventure.

I found the adventure slightly tedious — it is menu-driven. This stops you from wasting time by entering commands which will not work but you also find that you miss the excitement and versatility of "let's try it and see".

Overall I have not managed to do wonders with the game due to the time scale needed to get through it. I would recommend it to anyone who does not like 'trial and error' adventures and has a friend who is good at fast arcade games. **K.I.**

instructions	30%
playability	60%
graphics	50%
value for money	60%

★ ★ ★

Turtle Jump £6.99

Romik, 272 Argyll Ave, Slough, Berks

The screen setting is a map of a group of Caribbean islands with turtles swimming between them. Your objective is to get from one island to another, collecting treasure points.

You can jump short distances and travel on anything solid, like the backs of the turtles. However, if a crocodile appears all the turtles dive. There are a few logs and small volcanic islands which sporadically appear.

Food grows on the islands and is used to top up your energy level. There is an energy barometer displayed on the screen to inform you when it's time for a forage. On one island there is a treasure chest. You must recover the treasure by jumping in while the lid is open and getting out again before it closes. The longer you're in the chest the more treasure you collect. Collected treasure must be taken back to your home base.

This is quite a nice game with an original theme. I found it difficult to keep on the backs of the turtles and consequently tended to end up on one island far from the treasure but feeding myself silly. I can see the attractions of opting out and living on a desert island.

There are no game control instructions and it took a while to discover how to jump. But all in all it is a nicely written average game, whose strength is the unusual plot. **L.C.**

instructions	70%
playability	60%
graphics	70%
value for money	70%

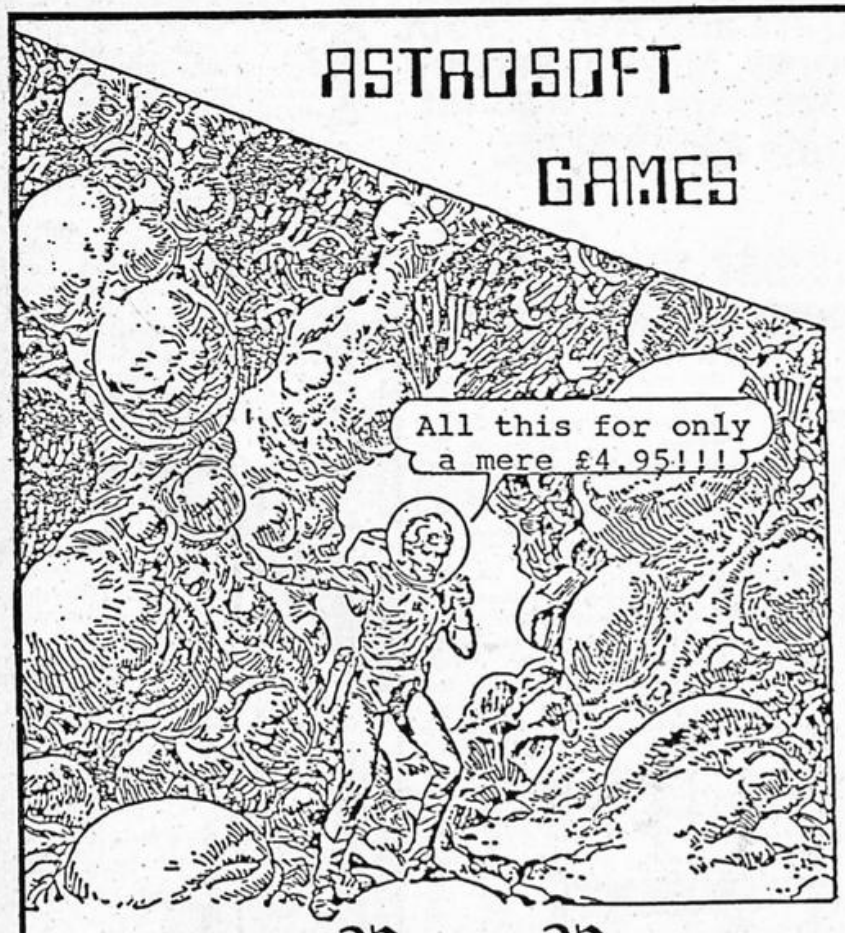
★ ★ ★



LIMITED
ABRASCO
A TOUCH OF MAGIC

Available Through: Good Distributors & Retailers
Including, J.MENZIES, TIGER Distribution, SDL.

ABRASCO The Grange Barn, Pikes End, Eastcote, Middlesex HA5 2EX. Tel:01-866 925



* Over 180 locations
* A 300+ word vocabulary
* Over 70 messages
* Over 60 objects
* Bags of baddies:

  TROLLS, VAMPIRES, PHANTOMS, GHOULS, GOBLINS, DRAGONS, WEREWOLVES, FIZZY VENDING MACHINES, etc,etc,etc,etc!!
* LOAD/SAVE routine
* QUIT and HELP commands
* Screen picture
* 100% machine code
* 47.8K of SPECTRUM memory!

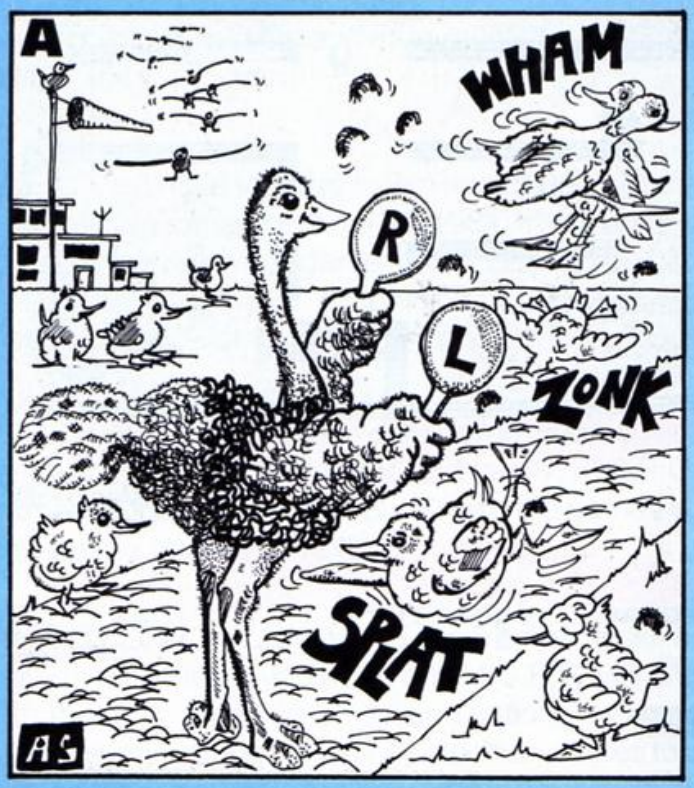
FREE---All orders recieved before 1st of July will be accompanied by an authentic imitation of the original authentic imitation of the Pink Pearl! Gasp, lucky you!

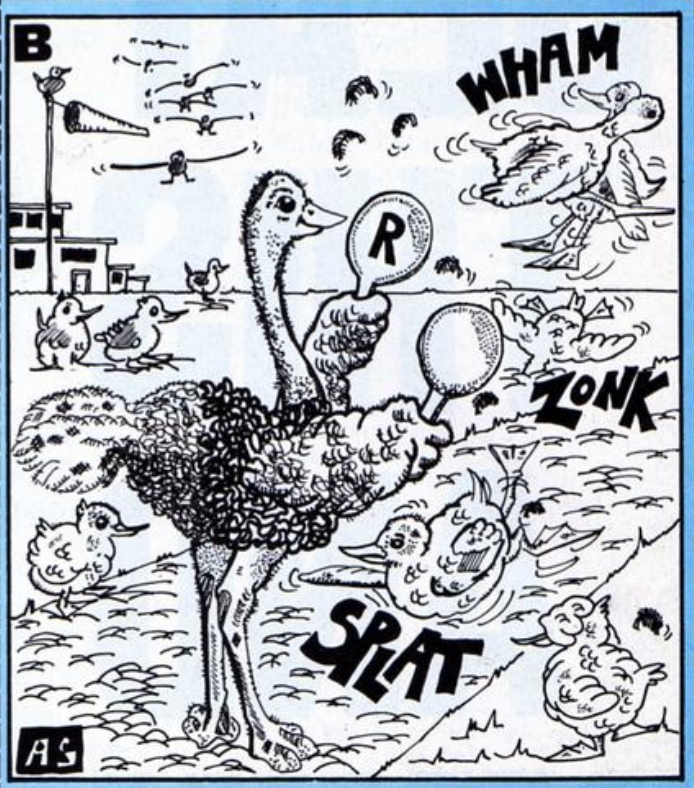
Despatched by first class return of post.

Send cheque/PO for £4.95 to:

Dealer enquiries welcome

Astrosoft
101 Church Road
Ferndown
Wimbourne
Dorset
BH22 9ET





100 prizes: soar up and away with Hewson Consultants

If your one ambition in life is to fly, this will set you on the right tracks.

Hewson Consultants is giving away two great games for the Spectrum, Nightflite II and Heathrow Air Traffic Control, to 100 winners of this week's spot the difference contest. As each game costs £7.95, the total value of prizes is more than £1,500!

If you want to earn your wings, practise flying on Nightflite II. Your competence and judgement will be tested to the full in this realistic game. A shifting perspective gives you a lifelike view of runway lights and surrounding houses as you come in to land.

To help you chart your progress, a personal debrief is displayed on screen after each flight. There are two autopilot modes and a training mode to help you find your feet gradually, and soon you'll be advancing to the top of six levels of difficulty.

Alternatively, if you're scared of heights or prefer to be in control of those at the controls, play Heathrow ATC. The highest rate of nervous breakdowns is reputed to occur in ATCs, so if you want to learn the profession without suffering the side-effects, practise at home.

Again, the realism is a star feature. Your display shows a constant radar sweep and you guide down four types of aircraft in one of seven levels of play. If you are a beginner, you can warm up on the demonstration exercise. Radio failure, loss of a runway and rogue aircraft make the game more tense and exciting — but remember, it's only a game!

Both these simulator games were written by an expert in all three fields — an ATC at Heathrow who's an accomplished computer programmer and flies planes in his spare time! Mike Male is the man of many talents and has written these programs from his own experience of air traffic control and flying.

As well as simulators, Hewson Consultants also has adventures, Quest is the best-known and Fantasia Diamond the newest release — and arcade games like 3D Seiddab (also for the Dragon) and Lunattack. Future plans include software for the MSX and a 3D adventure/arcade game, with the emphasis on the adventure.

Heathrow ATC is also available on the BBC, Electron and CBM 64.

Take control and enter this week's spot the difference — and win not one but two exciting games, which will give you hours of pleasure and enjoyment — if not relaxation!

How to enter

Study the two cartoons — there are a number of differences between them. Circle the differences on cartoon B and seal the cartoon and coupon in an envelope. Write clearly the number of differences you found on the back of the envelope.

Post your entry to Hewson Consultants Competition, Home Computing Weekly, No. 1, Golden Square, London W1R 3AB. Entries close at first post on Friday July 6, 1984.

You may enter as many times as you wish, but each entry must be on an official coupon — not a copy — and sealed in a separate envelope.

Important! please follow carefully the guidelines on entering — incomplete coupons and entries in an envelope with no number on the back cannot be considered. If you are a winner, the coupon will be used as a label to send your prize so clear writing is essential.

The winners will be the senders of the first 100 correct entries opened at random after the closing date.

The prizes will arrive from Hewson Consultants within 28 days of the publication of the issue containing the names of the winners, or earlier.

Hewson Consultants Competition

Entry Coupon

Name _____

Address _____

_____

_____

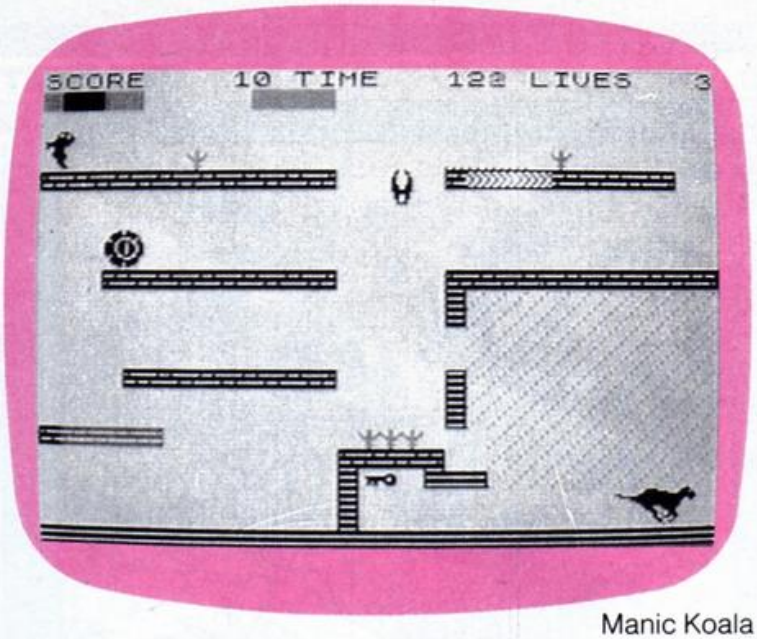
_____ **post code** _____

Number of differences found _____

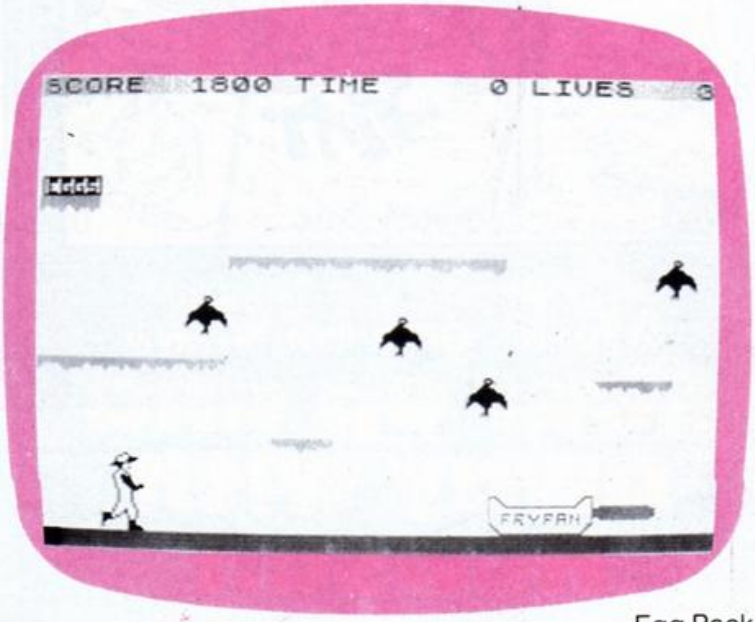
Complete clearly and fully — if you are a winner this will act as a label for your prize. Post to Hewson Consultants Competition, Home Computing Weekly, No. 1 Golden Square, London W1R 3AB. Closing date: first post, Friday July 6, 1984. Don't forget to write the number of differences on the back of your envelope.

So, you've always wanted to fly? Here's the next best thing — a realistic flight simulator. Or, if your feet are firmly on the ground, be a Heathrow traffic controller

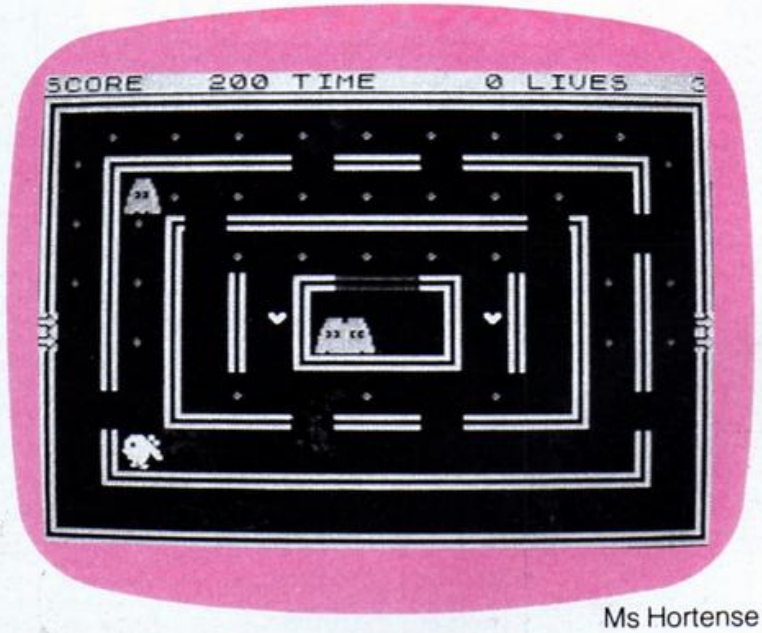
BEAT THIS AND WIN £3000



Manic Koala



Egg Pack



Ms Hortense

H·U·R·G

All games above were designed and created using 48K Spectrum H.U.R.G.

MELBOURNE

The H.U.R.G. competition offers you over £3,000 of prizes for your game designs without the need of any programming knowledge! Only H.U.R.G. gives you the chance to earn royalties from programs based on your ideas — it's the easiest way to join the software revolution without having to learn how to program!

But you will have to hurry to win the £3,000 prize as the competition closes on April 30, 1984. It's so easy you owe it to yourself to enter your game ideas. Games will be judged on the basis of originality, graphics and playability. Further details are available with every copy of H.U.R.G.

Whether you want to share your game ideas with the world at large or just with your friends and family, H.U.R.G. is the game design progam for you. At last, the games you imagine can be the games you play!

H IGH LEVEL — requires no programming skills — simply design the shapes you want, and H.U.R.G. will animate them into the most amazing on-screen action you've ever seen. Choose any setting for your game, from mazes to outer space or sinister caverns — the only limit is your imagination.

U SER FRIENDLY — H.U.R.G. will lead you through a series of easy-to-follow procedures, ending in the creation of a game that is as wild as your imagination.

R EAL TIME — You can see exactly what you're creating at all times. Every game has hundreds of variations, and you can change its features at any time. You can speed up the action, change the size of the characters and even make them more vicious — it's all up to you; and you can see it all on-screen immediately.

G AMES DESIGNER — H.U.R.G. enables you to design and store the games you create on cassette and play them later using H.U.R.G. as the control program. It's the one program you will never tire of.

Now you can create all the stunning arcade effects on your 48K Spectrum that up until now have only been available to professional software houses.

BY PUBLIC DEMAND COMPETITION EXTENDED TO JUNE 30, 1984

HOUSE

Orders to:
Melbourne House Publishers
131 Trafalgar Road
Greenwich, London SE10

Correspondence to:
Church Yard
Tring
Hertfordshire HP23 5LU

All Melbourne House cassette software is unconditionally guaranteed against malfunction.

Trade enquiries welcome.

☐ Please send me your free 52 page catalogue.
Please send me:

SPECTRUM

☐ Spectrum The Hobbit 48K	£14.95
☐ Spectrum Penetrator 48K	£6.95
☐ Terror-Daktil 4D 48K	£6.95
☐ Melbourne Draw 48K	£8.95
☐ H.U.R.G. 48K	£14.95
☐ Abersoft Forth 48K	£14.95
☐ Spectrum Classic Adventure 48K	£6.95
☐ Spectrum Mugsy 48K	£6.95

COMMODORE 64

Software

☐ Commodore 64 The Hobbit	£14.95
☐ Commodore 64 Hungry Horace	£5.95
☐ Commodore 64 Horace Goes Skiing	£5.95
☐ ACOS+	£8.95
☐ Commodore 64 Classic Adventure	£6.95
☐ Commodore 64 Star Trooper	£6.95

VIC 20

☐ VIC Cosmonauts	£5.95
☐ The Wizard & Princess	£5.95

ORIC-1

☐ Oric-1/48K The Hobbit	£14.95

BBC

☐ BBC Model B The Hobbit	£14.95

All versions of "The Hobbit" are identical with regard to the adventure program. Due to memory limitations, BBC cassette version does not include graphics.

£ .....

Please add 80p for post & pack £ 80

TOTAL £ .....

I enclose my ☐ cheque
☐ money order for £ .....

Please debit my Access card No .....

.....

Expiry Date .....

Signature .....

Name .....

Address .....

.....

.....

..... Postcode .....

HCW3/6

Access orders can be telephoned through on our 24-hour ansafone (01) 858 7397.

GSH

Action-packed arcade games

Fast-moving fun-filled games require quick thought and reactions. Our panel of reviewers have done a trial run — here's their verdict

Nifty Lifty 32K BBC £5.95

Visions, 1 Felgate Mews, Studland St, London W6 9JT

With two controls and very quick reflexes you must guide yourself up through layers of shop floors. You can move left and right, and are constantly threatened by vertically moving lifts.

The object is to work your way up the screen by running across each shop floor, avoiding the menacing guard-controlled lifts. At the end of each shop floor is an upward pointing arrow and by running into this you automatically climb the stairs. Each screen consists of about 10 floors, and it's not long before the lifts start to crowd you out of the game.

The deafening music is immediately recognisable as the theme music from The Sting. The problem is that once you have made the sound option your choice is irrevsible.

Overall I thought the graphics were great, and I found the smooth movement a pleasure to watch. A fantastic game.

After playing I am having second thoughts about who produces quality software for the BBC. I'm sure Visions will soon get its name associated with some of the finest software made for the BBC. **M.B.**

instructions	70%
playability	100%
graphics	100%
value for money	100%

★★★★★

Pengi 32K BBC £6.95

Visions, 1 Felgate Mews, Studland St, London W6 9JT

This is similar to the good old arcade game Pengo. If you have never heard of this game here is a brief description. You are a cute little penguin, locked in a freezer with those horrid, lethal snow bees. Your only hope of survival is by being a vicious little penguin and kicking ice blocks at any of the three snow bees. You can also electrify the perimeter of the freezer so that any snow bees standing close to the wall get a momentary shock, which will turn into a nasty shock if you finish him off by trampling over him.

Visions has produced a faithful version of the arcade original, with many extra features, such as defining your own keys, sound on and off options, and the practice mode, which allows you to play the game without dying.

This must be the best version of Pengo currently available for the BBC micro. The added extras and features give this game a really professional finish. **M.B.**

instructions	90%
playability	95%
graphics	100%
value for money	100%

★★★★★

Pengon Atari £8

Microdeal, 41 Truro Rd, St Austell, Cornwall PL25 5JE

A novel idea sees Willy the penguin protecting himself and his home from mutant sealions. Willy's house is constructed of blocks of ice which he can use when under siege from the sealions. By kicking an ice block in the direction of an advancing sealion the intruder is sent flying and crushed between ice blocks.

Willy must run up as high a score as possible by walking over the ice blocks, killing all the sealions in the process, and position three magic ice blocks in a straight line. Then you advance to level two. Here the sealions move a little faster until by level five the game is almost impossible to play as the sealions appear much more and travel around the ice blocks at high speed.

The graphics are excellent, particularly Willy who is as similar to a penguin as he could be. A pause facility is also included which helps when an irritating telephone call threatens to call a halt to a potential high score. This is definitely a fast action game with a lot of fun! **D.W.L.**

instructions	60%
playability	80%
graphics	85%
value for money	80%

★★★★

Beam Rider Dragon 32 £8

Microdeal, 41 Truro Rd, St Austell, Cornwall, PL25 5JE

The object of this game is to clear as many boards as possible by running your beamer over blocks. Movement is by joystick and your speed depends on whether a block is in the direction you are travelling. If there is no block you move slowly. If there is at least one block then you move along an energy beam at twice the normal speed.

The blocks are set out in different designs. There are two opponents. A yellow spinning ring moves about at random and there are chasers which follow you around. Hitting or being hit by either of these causes the loss of one of your three lives. The ring can change the blocks to energizers and if you manage to hit one of these your scores are doubled for a short while. Scores vary greatly depending on the distance travelled. Bonuses are awarded for each enervizer hit. The top five scores are displayed after each game ends.

The program loaded eventually, though it took a long time. The screen display is good. I thoroughly enjoyed this game. **J.E.M.**

instructions	70%
playability	85%
graphics	85%
value for money	80%

★★★★

Gravitor Oric 1/ Atmos 48K £7.50

Severn, 15 High St, Lydney, Gloucs GL15 5DP

In Gravitor you control a small spaceship which must be guided from its home base to one of four satellite systems. Here it must collect fuel from four dumps before entering the third stage where more fuel must be stolen. During your mission you are fired at from enemy bunkers and must avoid guarding UFO. However gravity is probably the major problem since you are continually falling back to the planet surface.

Control is provided by forward thrust and clockwise or anticlockwise rotation. The secret revolves round how well you can control your spacecraft. I think this is more for the experienced player, as novices could become very frustrated.

The graphics are simple but clear, which is probably best since it is important not to let your concentration wander too far. Sound effects are good and probably help in controlling your ship. As you progress, a further hazard is that you have a limited amount of fuel.

If you have tried Super Meteors or similar games, then Gravitor is best described as the graduates' game. A challenge for those brave enough to accept it. **P.S.W.**

instructions	80%
playability	85%
graphics	75%
value for money	75%

★★★★

ONE MAN'S VIEW

Leave it to experts

I can't resist any longer, I've been wanting to write one of these columns for ages but only today have I felt that not only do I have a strong view, but I want the rest of the world (well, the HCW world!) to hear it.

I am a man of many hats (or chairs, if you see what I mean). Besides my teaching post, I also write for this magazine, chair a computer club, work in a computer shop, write software for pleasure and sale, am a youth leader and have a book to write for the autumn, quite apart from reviewing software for HCW. It is in this last capacity that I have become incensed today.

Today in the post I received three programs for review. One was produced by a large organisation and two by much smaller outfits. I began to look at them immediately and started to formulate ideas and opinions about them.

The two from the small producers began to play on my mind as the day progressed. I can only presume that both are being marketed by the programmers themselves because I cannot believe that the games would have seen the light of day if they had been offered to a software house of any repute. To put it bluntly, they are pathetic, and even worse, almost laughable in both concept and execution. They are without doubt the sort of thing a magazine editor would have rejected, and yet their authors believe they are going to find a market and make money from such rubbish.

Perhaps what infuriated me most was the realisation that they actually might trick some of the buying public into parting with their money. These poor souls would not discover their mistake until later.

This is bad for all concerned. It's bad for the purchaser who looks at other companies' products with a more jaundiced eye next time, bad for the industry which, in the main, tries to offer good products and what's more it's bad for the programmer who dosn't realise that his progamming could develop to a more acceptable level given time and encouragement.

My advice to such programmers is this:

1 *Develop your software and then get someone else to test it for you. Take note of their comments.*

2 *Revise your program in the light of those comments and then try sending it to a software house. Choose one you admire because of the quality of its programs. Ask for comments. If you have such a house locally, try going in with the program and getting someone to tell you what they think.*

3 *If you are rejected, and remember 90 per cent of programs are, try to improve it again and then resubmit. Alternatively, send it to a magazine and see if it meets their criteria. Many of us start this way and there is money and prestige to be gained.*

4 *If still rejected, try to accept that there isn't a market for your program. Don't under any circumstances try selling it yourself. You could lose money, friends and only gain a great deal of trouble.*

In short, what I'm saying is that large software houses do know what will sell and what won't. They have people to evaluate software, and suggest improvements. They also have the expertise and contacts to sell them in large quantities. All you have to do is accept the royalty agreement and then use the time left to write other programs while waiting for the cheques to arrive.

Even very short tips and simple routines can find a home in magazines. Sending in such things will be more lucrative than tying your money up in cassettes and advertising which could never pay off. So do yourself, the public and software industry a big favour and leave it to the experts. Then everyone will benefit!

D.C.
HCW software reviewer
Leeds

SPECIAL OFFER

£1 off your chance to win the £30,000 hare



This is the final week of our Haresoft offer. Be among the first to join the search for the Jewelled Hare of Masquerade — if you find it, you could be the new owner of a prize worth £30,000!

The clues to the location of the hare are to be found in two adventure games. The first is called Hareraiser Prelude and our exclusive offer entitles you to £1 off the purchase price, by mail order.

You must enclose with your coupon the vouchers from the last two issues of Home Computing Weekly.

The second part, Hareraiser Finale, will be available in mid-September. If you participate in our special offer you will be offered the second by mail on the day of issue. However, it does not form part of this offer.

The treasure is not buried in the countryside as in the original book, Masquerade, by Kit Williams; you must pinpoint its location by deduction.

Haresoft will send your tape to you within five days, and guarantees to replace faulty tapes.

Haresoft is intent on preventing piracy, and copied tapes will not contain all the data. Registration numbers of the two tapes must be held by the winner.

If you win, you may exchange your prize for £30,000 in cash. We're talking big money!

● Hareraiser Prelude may also be ordered at the full price of £8.95, including postage and packing, from Haresoft, P.O. Box 365, London NW1 7JD.

Haresoft Offer Coupon

Tick your computer:

Commodore 64	☐	**32K BBC**	☐
48K Spectrum	☐	**Dragon**	☐
VIC-20 + 16K	☐	**Amstrad**	☐
Oric/Atmos	☐		

Name _____

Address _____

_____

_____

_____ **postcode** _____

This offer is made to you by Haresoft, to whom all enquiries should be addressed. Haresoft will send your tape to you within five days and guarantees replacement of faulty tapes. Complete this coupon clearly and fully — it will be used as a label. Post, together with a cheque/postal order for £7.95, and vouchers 1 and 2 from HCW 65 and 66, to Haresoft, P.O. Box 365, London NW1 7JD. Closing date: Tuesday July 16, 1984.

Look Sharp! 48K Spectrum £7.95

Mirrorsoft, Holborn Circus, London EC1P 1DQ

These programs, for age four- to seven-year-olds respectively, deal with short term recall and observation skills. At their highest levels they will tax the most observant adults!

The structure of both programs is the same, the difficulty and subject matter varying with age. A Snap-type game calls for the child, on spotting a match, to press a key; Odd One Out is just that, from a selection of three; Memory presents a whole picture, and the child has to choose various components to remake the picture. There are score keeping routines and second chances.

Both graphics and sound are superb, no review could do them justice. For the younger user, the theme is Old MacDonald's Farm. For the older user, the theme is a selection test for the observer in a space mission. Rockets, aliens, space stations and moon landscapes abound.

Two quibbles. Though it looks good, the re-designed character set of the space program really doesn't make reading easy for under 10-year-olds. The needlessly ornate packaging must have put the price up by £1.

D.M.

instructions	90%
ease of use	95%
display	95%
value for money	85%

★ ★ ★ ★

Words and Letters Spectrum £5

Webco, 26 Nuns Orchard, Histon, Cambridge CB4 3EW

Though promoted as compatible with any Spectrum fitted with Interface 1, even a 48K runs out of memory.

The child must type in the missing letter or word in these games. However, the context of the games is unexplained by the instructions, and the screen layout only confuses the issue.

Though the programs are designed for 3-year-olds, the words chosen are totally unsuitable, belonging in the vocabulary of a nine-year-old. They appear to have been selected at random. Introducing speech marks to a three-year-old, as this program does, is ludicrous. And any teacher knows you don't use capital letters to write whole words.

The letters to be typed are all vowels. Here again, the words in which they occur are totally unsuitable, the vowels to be supplied often break up the vowel digraphs like "ea" in "read"; and to cap it all, input an incorrect response and the program chastises you with the ungrammatical "you should OF pressed...". At least one of the words is mis-spelled.

Not only will this program not run properly, it is educationally, grammatically and linguistically unsound. **D.M.**

instructions	3%
ease of use	40%
display	30%
value for money	0%

★

Follow your micro's instructions

Use your computer as a learning aid. Learn biology or teach youngsters to read, using graphics and games

Words and Pictures BBC 32K £9.95

Chalksoft, 37 Willowsea Rd, Worcester WR3 7QP

Educational programs are progressing by leaps and bounds and this program is one of the rare yet growing number of good packages for the infant or pre-school age range. The aim of the program is to improve sight vocabulary by teaching children the meaning of a word using pictures. There are five programs, a menu and two programs each for the two wordsets.

The Words program introduces a word and shows four pictures. The child moves the arrow until the correct picture is pointed out and then presses the return key. Interest and rewards are provided by the frogs who populate the program and the tune that is played. You can select a teacher's record table and enter all the childrens names at one sitting, which means that they only have to remember how to use two keys. The Sents program presents the same words but in sentences for the child to read. The manual is well written and very comprehensive. My only criticism is that the words don't apply to any particular reading scheme. **D.C.**

instructions	95%
ease of use	100%
graphics	90%
value for money	97%

★ ★ ★ ★ ★

Words, Words, Words Dragon 32 £10.95

Dragon Data, Kenfig Industrial Estate, Margam, Port Talbot, Wales SA13 2PE

This cassette is one of the first in a series of educational software to be released by Dragon Data, strengthening the common belief that the Dragon is an underrated computer for educational purposes. This program is for children aged between five and eight years.

The program involves recreating a story in graphical form by recongising and spelling correctly an object, which is then placed somewhere on the screen and takes its place as part of the story. When I say story, I mean a simple scenario with several events occurring. For instance, in the city scene, once completed, vehicles move along the road, a truck has its load removed by a crane and the clouds start to rain. Eight scenarios are available.

The program is graphically excellent using, in some cases, six or seven colours on the supposedly four colour screen. Useful as a simple aid although lacking in versatility. **C.G.**

instructions	80%
ease of use	65%
graphics	90%
value for money	65%

★ ★ ★

Biology 48K Spectrum £8.95

Scisoft, 5 Minster Gardens, Eastwood, Notts NG16 2AT

Another very impressive package from Scisoft. You get a complete set of revision notes, and a revision program containing good advice and useful techniques.

Add to that a series of programs posing multiple choice questions on enzymes and hormones, the ear and the eye, botanical terms, the alimentary canal and its associated organs. Each one analyses your responses and gives a list of areas of weakness for further study.

Then ponder the program on genetics, in a "supply the genotype from the accompanying data" form, an enormous amount of data being held within the program. Also included is a program on identifying unknown substances, and one on anatomical and botanical diagrams, which also delivers a copy of the diagram to the ZX printer.

To say this is a comprehensive package is an understatement. There is an amazing amount of work and information here. There are one or two quirks in the screen layout, and the Spectrum's graphics capabilities are well stretched by the diagrams. I experienced some difficulty in loading side two. None the less, an excellent suite of programs. **D.M.**

instructions	100%
playability	80%
graphics	85%
value for money	100%

★ ★ ★ ★ ★

Journey into space

Travel beyond this galaxy in this set of space-age games. Explore the furthest regions of the universe

Cuthbert in Space Dragon 32 £8

Microdeal, 41 Truro Rd, St Austell, Cornwall PL25 5JE

A machine code arcade game featuring that intrepid hero Cuthbert.

This time you have been sent on a looting mission in outer space. First you must collect all the fuel cans from various shelves on each planet you visit. The cans must be collected one at a time and returned to the mother ship. At the same time you must shoot or avoid the police craft. There are 15 cans on each planet and Cuthbert only has four lives. The shelves are arranged differently on each planet and you visit them at random each time you play. I must confess that I haven't yet managed to collect all the cans on one planet so I do not know what happens next.

The instructions on the insert indicate this is merely the first step. After this stage is completed Cuthbert then begins looting and that's not all.

The game is for one player using either joystick or keys. The graphics are good. Loading was a long slow process, but eventually successful. Despite my poor result, I did enjoy playing the game. **J.E.M.**

instructions	75%
playability	80%
graphics	80%
value for money	80%

★ ★ ★ ★

Lone Raider Oric 1/ Atmos 48K £8.50

Severn, 5 School Cres, Lydney, Gloucs GL15 5TA

This is a space arcade game similar in its initial screen to Harrier or Penetrator, but you are in for a surprise. As the program loads you are presented with a colourful title page and catchy tune. A nice touch, I thought.

After skimming the alien planet surface and destroying everything in sight, you have to guide your ship into the depths of a volcano crater past mines, sharks and other nasties to the final battle on the fourth screen against Zug's mothership and her attendant tie fighters.

The game is difficult, but is compatible with the PASE joystick which may help. Using the keyboard I found I could only operate keys singly which can be a little frustrating.

The options mean that the player can control the degree of difficulty to a fine degree. Thus you can tune the game to score heavily in your favourite sections and ease your problems elsewhere.

This is a game which needs a lot of practice, but it is addictive and should appeal to all games players whatever their ability. **P.S.W.**

instructions	85%
playability	85%
graphics	75%
value for money	75%

★ ★ ★ ★

Space Joust VIC-20 £5.95

Software Projects, Bear Brand Complex, Allerton Rd, Woolton, Liverpool

From the cassette design, I thought this game would involve space-age knights in armour. However, although nicely drawn, the design is totally misleading. Tut tut!

Imagine you control an egg-shaped spaceship which bounces up and down. The opposition is craft of identical design. Coincidentally both sets of vehicles are indestructible except by attack from above. The idea is to bounce on top of the enemy before it bounces on you. If you destroy an alien, it changes into a pod which reverts to it's original form if you don't jump on it first. As in all games of this genre, you have to survive as many waves of aliens as possible...

For some reason, the programmer has only included a joystick option, so if you don't have a joystick, forget it.

The graphics and sound in this game are well above average and movement is smooth and fast. So, I have mixed feelings over this game. Whilst it is nicely written and quite testing, it is also utterly boring.

Whilst it's not my cup of tea, I am quite sure that many lovers of alien destruction will enjoy it. **A.W.**

instructions	60%
ease of use	75%
graphics	75%
value for money	80%

★ ★ ★

Arena 3000 Oric 1 £5.50

Microdeal, 41 Truro Rd, St Austell, Cornwall PL25 5JE

You are in an arena with various other combatants to overcome. You have a fast firing weapon and can move across the screen in eight different directions, firing as you go. Some enemies follow you while others float by harmlessly, but do not be deceived. There is definitely a need for a tactical approach and you can manoeuvre the enemy into a position where you can blast a dozen or more in one go. Having cleared one screen you enter the next gladiators's arena.

Oric's high resolution screen is employed and colour and, in particular, sound effects are put to good use. I especially liked the smooth movement. Huge scores can be achieved although I thought the Hall of Fame was less than spectacular.

Only slow recorded programs are available, but these are not too long, since the game is written for both 16K and 48K machines.

Although quite simple, I think this is a well constructed game, and Microdeal also offers an attractive back-up with the Cuthbert Club. The lucky owner automatically becomes a member of the club and will receive a badge. **P.S.W.**

instructions	75%
playability	90%
graphics	85%
value for money	85%

★ ★ ★ ★

Cuthbert goes Walkabout Atari £8

Microdeal, 41 Truro Rd, St Austell, Cornwall PL25 5JE

The object of Cuthbert's walkabout is to light up all the squares on the lunar pad. You are faced with a large grid of squares and, using the joystick, must direct Cuthbert around activating light switches at the four corners of each square, scoring 10 points per switch and 50 points when the whole square lights up. After lighting the entire grid (score 1000 points) you proceed to grid 2 and start again. Sounds easy? Well it's not.

Cuthbert is hounded by a group of ruthless moranians, semi-intelligent beings who try to bump off poor old Cuthbert. If Cuthbert takes too long the chief moranian appears. He is more intelligent, quicker and more difficult to avoid. Cuthbert can leap over any moranians approaching him but must take care not to jump too soon. The moranians do not take kindly to him landing on their heads.

A rather repetitive tune accompanies what is a reasonably good game. I like Cuthbert, a lovable little character who could develop a real cult following. Oh, and you can record your high scores in Cuthbert's Hall of Fame. **D.W.L.**

instructions	70%
playability	75%
graphics	90%
value for money	75%

★ ★ ★ ★



SOFTWARE FOR SPECTRUM AND ZX81

48K SPECTRUM

"Day of the Match" **£5.00**
Fascinating and realistic simulation of an entire football season. Name your own teams if you wish (English league provided on cassette). Rate each team from one to nine in various success categories such as attack, defence, manager, etc. Watch the season unfold, includes knock-out option.

"Ball by Ball" **£5.00**
Simulates a test match series of one day international series. Set up your own teams and pool of players (England v Australia provided). Rate each player's capabilities as batsman and bowler on a one to nine scale for qualities such as talent, effort etc. Pick your teams and play the match. Electronic scoreboard shows progress of a match. Full supporting score card and series averages.

16K ZX81
Here is a selection of titles still available for ZX81. Send s.a.e. for illustrated catalogue. These are the ZX81 equivalents of the Spectrum programs described above. Although similar in concept the specifications fall short of the descriptions given for the Spectrum.

"FOOTBALL LEAGUE"
Forerunner of "Day of the Match" **£4.00**
"TEST MATCH"
Forerunner of "Ball by Ball" **£4.00**

VIDEO SOFTWARE LTD.,
Stone Lane, Kinver,
Stourbridge, West Midlands
Telephone: 0384 872462

VIDEO SOFTWARE LIMITED

FOR THE BEST TI-99/4A SOFTWARE

Packaged in Audio Wallets



ADVENTUREMANIA. (BASIC) £5.95
NO COMMAND MODULE NEEDED. HCW GAVE THIS FULL GRAPHIC AND TEXT ADVENTURE 4 STARS. CAN YOU DISCOVER THE ULTIMATE QUEST IN THIS SPECTACULAR MISSION. 30 LOCATIONS

MANIA. (BASIC) £5.95
NO COMMAND MODULE NEEDED HCW GAVE 5 STARS AND SAID "I WOULD CERTAINLY BUY MANIA" FULLY GRAPHIC AND TEXT. CAN YOU SURVIVE IN MANIA AND ESCAPE TO THE CORRIDORS OF TIME.

LIONEL AND THE LADDERS. £7.95
EXTENDED BASIC CARTRIDGE NEEDED THE VERY BEST SPRITE GRAPHIC ADVENTURE YOU HAVE EVER SEEN ON YOUR TI-99/4A. HELP LIONEL AS HE JOURNEYS THROUGH THE LABYRINTH IN SEARCH OF HIS PRINCESS. BUT MAKE SURE HE DOES NOT GET CAUGHT. CAPTIVATING AND SPELLBINDING.

NEW RELEASE.

BENEATH THE STARS. (BASIC) £5.95
FULL ARCADE ACTION. DEFEND AND MAINTAIN YOUR SPACE BASE. 8 CONTROL KEYS TO KEEP YOU BUSY

TELEPHONE FOR DETAILS

At your dealer now or -
Mail order by return post free!
Send PO/Cheque to:

Games to remember from
INTRIGUE SOFTWARE Telephone 05806 4726

Cranbrook Road, Tenterden, Kent TN30 6UJ

TEXAS OWNERS
GET INTO PRINT

At last, a 40 column thermal printer that just plugs into the right hand port on your TI-99/4A. List from Basic, ExBas etc. Works with any module that asks for printer. e.g. PRK, Household budget etc.

£145.00 inc VAT & carriage

Order to Arcade Hardware, 211, Horton Road
Fallowfield, Manchester, M14 7QE
Access orders to 061 225 2248

Wide range of modules also available.

U.S. SCENE

Teachers go on-line

Using SchoolNet, on-line teachers all over the U.S. can compare notes. This network is designed similarly to The Source and CompuServe (the nation's two best known networks). A national system of computers with local access in major cities offers subscribers virtually instant access to an electronic-mail service with other capabilities too.

Through SchoolNet, teachers can present their views on various educational issues and problems, post their opinions on educational software, supplies, suppliers, and so forth. For an additional fee, teachers can take advantage of an on-line consulting service for professional advice as well as being able to receive opinions from some very well known and highly respected computer consultants.

They can also arrange and participate in on-line conferences which can link educators from anywhere in the country, and offer each an equal chance to participate. To get on-line, the initial fee is $200, plus an annual subscription fee of $100, and a $10 charge, billed monthly, for use of the network itself.

If you are interested in further information, contact SchoolNet, c/o Techware Telecommunications Services, 474 Wilamette Street, Suite 201, Eugene, Oregon 97401. (503) 484-0520.

★ ★ ★ ★

Comprende Ingles? You need no longer be an international language master to participate in foreign dealings if you tie in to Linguanet, the U.S.'s first foreign language translation (computer) network.

This service was recently formed by Agnew Tech-Tran and the famous Berlitz Translation Services. The network is comprised of foreign language translation centers in seven U.S. cities linked by telephone communications lines. The translation work is actually performed by human beings, but is all computer-assisted. Services available include translation of sales, advertising, and technical material into any major foreign language; computerized foreign language typesetting, layout, and production of printed materials; foreign language narrative development for movies and videotapes; provisions for multi-language teleconferences.

To use the system, an interested party need only contact the service by computer and modem and can tie right in to their word processor. If you are interested in further details, contact Linguanet at 3345 Wilshire Blvd., Suite 410, Los Angeles, California, 90010. (213) 380-1144.

★ ★ ★ ★

From Futurehouse Inc., comes an interesting program for the Commodore 64 and Atari 400/800 compatibles. Called Alphabet Construction Set, this program uses a light pen, an arcade video game-like setting, and computer voice to teach children how to draw the letters of the alphabet. After input, the program points out mistakes, records the child's performance, and makes suggestions for improvement. This program is part of a line called Playground Software which emphasizes interactive learning coupled with ease of use and a sense of fun. See your local software dealer for details.

That's it for this week. See you next time.

Bud Izen
Fairfield, California

CheetahSoft

Soft we're not

FOR SPECTRUM 48K



CONQUEST

CONQUEST A tactical game which even veteran players will find both challenging and rewarding.

Mediterranean Europe is divided into grid squares. Your aim, as Emperor, is to gain 100 squares of territory as quickly as possible – at the same time dealing with Barbarian counter-attacks, plagues, civil war and rival Emperors.

5 levels of skill, plus a continuous 'Conquest' game where all the difficulty levels are thrown in together.

3D BAT ATTACK An all action, 3 dimensional maze game where you gather up blocks of gold, at the same time pitting your wits against vicious vampire bats whose only purpose in life is to locate, hunt and kill you.

4 levels of skill. At each level the game gets faster and more complicated, and the vampires more dangerous.

CheetahSoft

Soft we're not

FOR SPECTRUM 48K



3D BAT ATTACK

AFTER THESE, THE REST IS KIDS STUFF.

Are you ready for CheetahSoft? There's only one way to find out. But be warned: these vampire bats know a good meal when they see one. And our friend with the scythe has had years of experience . . .

So don't play unless you're ready to play the game for real. Because you'll find there's one sure thing about CheetahSoft: Soft we're not.

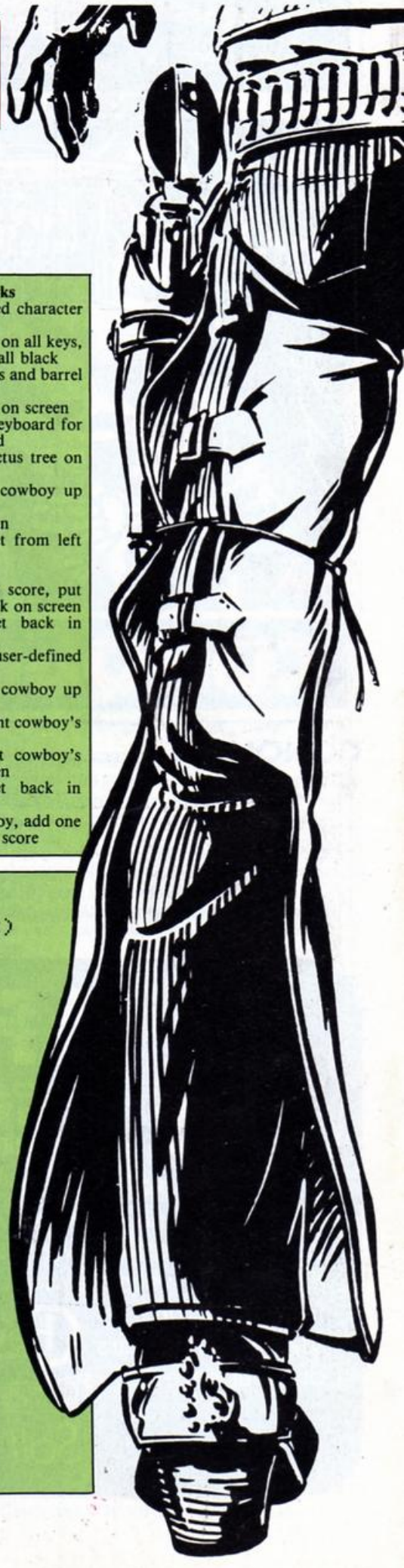
£6.95 at all good stores.

CheetahSoft

Soft we're not

ALSO AVAILABLE BY SENDING CHEQUE OR P.O. FOR £6.95 TO CHEETAHSOFT LTD, 24 RAY ST, LONDON EC1 01-833-4733

Wild West gunfight



Get trigger-happy and riddle your opponent with bullets, while dodging his fire in this game by Massimo Lenza

Okay, pardners, reach for your guns! It's a shoot-out!

Play with a friend and find out who's quickest on the draw. Fast reactions are essential, so let's hope your brain and finger co-ordination is up to standard.

Not only must you shoot your opponent, but you must also dodge bullets whistling past you. Move up, down and down two spaces at a time. Whenever you hit the mark and wound your foe you gain a point. Get ready to fire — the winner is the first to reach 20 points.

Keys to use: left cowboy: **q** up, **w** down, **e** down two at a time, **f** fire. Right cowboy: **i** up, **o** down, **p** down two at a time, **k** fire.

Variables

SC score
LS score
A$ keyboard input
A position of left cowboy
X,Y positions of bullets
B position of right cowboy

How it works

6 set up user-defined character mode
8-12 put auto repeat on all keys, change screen to all black
65-78 put cactus trees and barrel on screen
80-110 put cowboys on screen
130-174 check the keyboard for keys being pressed
175 put another cactus tree on screen
250-270 move left cowboy up and down screen
275-279 sound of gun
280-285 move bullet from left cowboy
350-354 kill cowboy
360-370 add one to score, put other cowboy back on screen
380-390 put bullet back in original position
400-460 data for user-defined characters
532-720 move right cowboy up and down screen
721-724 sound of right cowboy's gun
730-750 move right cowboy's bullet across screen
760-770 put bullet back in original place
78-814 kill left cowboy, add one to right cowboy's score

```
5 REM GUNSLING
6 POKE56,28:POKE36869,255:FORT=7168TO7168+(9*8)
  :READA:POKET,A:NEXTT 7 CLR
8 POKE650,255
11 FORT=7680TO8185:POKET,0:NEXTT
12 POKE36879,8
65 FORT=1TO1000:NEXTT
66 FORT=7680TO8185:POKET,0:NEXTT
75 POKE7756,6
76 POKE7984,6
77 POKE7781,7
78 POKE 7763,6
80 A=7905
90 POKEA,1
100 B=7917
110 POKEB,4
130 GETA$:IFA$=""THEN130
140 IFA$="Q"THEN250
150 IFA$="W"THEN260
160 IFA$="E"THEN270
170 IFA$="F"THEN275
171 IFA$="I"THEN700
172 IFA$="O"THEN710
```

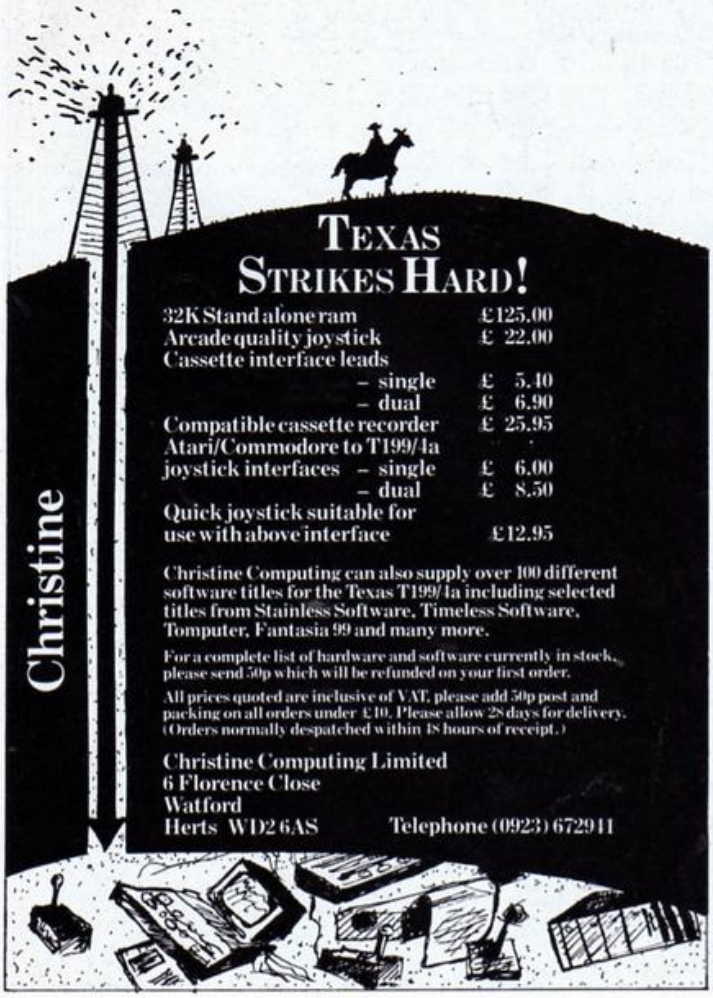


```
173 IFA$="P"THEN720
174 IFA$="K"THEN721
175 POKE 7756,6
180 GOTO130
250 POKEA,0:A=A-22:POKEA,1:GOTO130
260 POKEA,0:A=A+22:POKEA,1:GOTO130
270 POKEA,0:A=A+44:POKEA,1:GOTO130
275 POKE36878,15
276 POKE36877,140
278 FORT=1TO10:NEXTT
279 POKE36878,0
280 X=A+1:FORT=1TO12:POKEX,0:X=X+1:POKEX,2:
    IFPEEK(X+1)=4THEN350:NEXTT
285 NEXTT
290 GOTO380
350 POKEB,3
351 POKE36878,15
352 POKE36874,255
353 FORT=1TO40:NEXTT
354 POKE36878,0
359 FORT=1TO200:NEXTT
360 SC=SC+1:PRINT"(1)SCORE";SC:GOSUB900
370 POKEB,4
380 FORT=1TO13:POKEX,0:X=X-1:NEXTT
390 POKEA,1:GOTO130
400 DATA 0,0,0,0,0,0,0,0
410 DATA 24,126,24,31,24,20,18,17
420 DATA 0,0,62,63,62,0,0,0
430 DATA 0,16,64,0,20,0,34,8
440 DATA 24,60,24,248,24,40,74,136
450 DATA 12,31,4,255,0,0,0,0
451 DATA90,90,90,102,24,24,24,126
452 DATA56,124,253,255,255,126,0,0
453 DATA0,0,126,254,126,0,0
460 DATA0,0,0,0,0,0,0,0
532 POKE36876,255
533 FORT=1TO500:NEXTT
534 POKE36876,0
700 POKEB,0:B=B-22:POKEB,4:GOTO130
710 POKEB,0:B=B+22:POKEB,4:GOTO130
720 POKEB,0:B=B+44:POKEB,4:GOTO130
721 POKE36878,15
722 POKE36877,128
723 FORT=1TO10:NEXTT
724 POKE36878,0
730 Y=B-1:FORT=1TO12:POKEY,0:Y=Y-1:POKEY,8
740 IFPEEK(Y-1)=1THEN800
750 NEXTT
760 FORT=1TO50:NEXTT
770 FORG=1TO13:POKEY,0:Y=Y+1:POKEY,0:
    NEXTG:POKEB,4:GOTO130
780 POKEB,4
800 POKEA,3:FORT=1TO100:NEXTT:POKEA,
    1:POKEB,4
810 POKE36878,15
811 POKE36874,128
812 FORK=1TO10:NEXTK
```

UNEXPANDED VIC-20 PROGRAM

```
813 POKE36878,0
814 LS=LS+1:PRINT"■■■■■■■■■■■■■■(2)SCORE";LS
815 GOSUB 960
816 GOTO770
899 REM[RVS ON][2 CRSR DOWN][2 CRSR RIGHT]
900 IF SC>19 THEN PRINT"■■■■COWBOY ONE WINS":GOTO920
910 RETURN
919 REM[RVS ON][CRSR DOWN][3 CRSR RIGHT]
920 PRINT"■■■■PRESS 'S' KEY"
930 GETA$:IFA$=""THEN930
940 IFA$="S"THENRESTORE:GOTO950
945 GOTO930
950 GOTO6
959 REM[RVS ON][2 CRSR DOWN][2 CRSR RIGHT]
960 IFLS>19THEN PRINT"■■■■COWBOY TWO WINS"
    :GOTO980
970 RETURN
979 REM[RVS ON][CRSR DOWN][3 CRSR RIGHT]
980 PRINT"■■■■PRESS ANY KEY"
990 GETA$:IFA$=""THEN990
1000 RESTORE
1010 GOTO6
1020 END
```





MILES BETTER SOFTWARE
221 Cannock Road Chadsmoor
Cannock, Staffs WS11 2DD
TEL 05435 3577

U.S. GOLD SOFTWARE	CASS	DISC
Beach Head	£ 9.00	12.00
Solo Flight	£14.00	14.00
Dallas Quest	£	12.00
Bruce Lee	£ 9.00	12.00
Astec Challenge	£ 8.00	12.00
Forbidden Forest	£ 8.00	12.00
Pooyan	£ 9.00	12.00
O'Riley's Mine	£ 9.00	12.00
Slinky	£ 8.00	12.00
Caven of Khafka	£ 8.00	12.00

64 HARDWARE

1541	DISC DRIVES	£199.00
1520	PRINTER-PLOTTER	£ 99.00

64 Accelerator Load and Save
10 times normal cassette speed only £6.95

Phone for software list for the 64

Coming soon
Firefox
— a 3D Scramble for the 64

PiKaDee Software
FOR THE UNEXPANDED
TI-99/4A

PKD1: GRAPHICS CREATOR & SCREEN EDITOR £5.95

This highly praised utility program makes the creation of graphics and large screen layouts quick and simple. Commands include MIRROR, ROTATE, INVERT and many more. HCW No. 54 said "A Must For all TI Owners"... Instructions 100% Ease of Use 95% Display 95% Value for money 95%. Price includes full instructions and 3 sets of demographics.

★ ★ ★ ★ ★

PKD2: MUSIC MAKER by David Martin
TI-LUDO by Roy Hollingworth £5.95
CHARSET ONE (BOLD)

Three high-quality programs on one tape. MUSIC MAKER is a novel way to play with TI's sound. Notes are entered onto 2 musical staves and can then be edited in different ways. They can be played back with 1, 2 or 3 voices or with an echo. Many commands. Full instructions and demonstration tune included. TI-LUDO is a classic version of the classic board game. You can play your friends and/or the computer. 1 to 4 players can take part. CHARSET ONE (BOLD) is a complete ready-to-use character set which will enhance your own programs 100%.

PKD3: RIVETS! by John Haworth
CHARSET TWO (PICA) £4.95

Arcade action with Rivets! You have to pick up all of the rivets left lying around by your workmates. The boss is timing you so you had better be quick. Beware the banana skins and don't run too quick as it's a long way down to the ground. 5 skill levels. 21 floors. Timer. "This is a must for all game players.' CHARSET TWO (PICA) is the second off-the-shelf character set for your own games. Instructions included.

PKD4: ESCAPE FROM MICA! by B Dhooper £4.95

This has to be the most addictive arcade game yet for your unex-TI-99/4A! You've been captured by the Count of Mica. To secure your release you have to collect valuable items from 3 fields. These fields are guarded by a terrifying monster who eats people like you for dinner!!! The Count has given you 4 Hyperspace pills — use them wisely. This is a very entertaining game with 4 skill levels, animated running, good graphics, sound and a High-Score table. Not to be missed!

All cheques, PO's etc... to PiKaDee Software
35 Parker St PRESTON
Lancs PR22AH

SUPER SAVERS

SPECTRUM	R.R.P.	OUR PRICE
OMEGA RUN	£7.95	£6.95
GLUG GLUG	£5.95	£5.20
OLYMPICS	£5.95	£5.20
JUNGLE FEVER	£6.90	£6.10
SKULL	£6.95	£6.15
BARRELDROP	£5.95	£5.20
CHUCKIE EGG	£7.90	£6.95
KAMAKAZI	£6.90	£6.10
BLADE ALLEY	£5.95	£5.20
LIGHT CYCLE	£5.95	£5.20
KONG	£5.95	£5.20
SLAP DAB	£5.95	£5.20
MOON BUGGY	£5.95	£5.20

COMMODORE 64	R.R.P.	OUR PRICE
FLIGHT SIMULATOR	£9.95	£8.70
OMEGA RUN	£7.95	£6.95
BUMPING BUGGIES	£6.99	£6.15
FLYING FEATHERS	£6.99	£6.15
WHEELIN WALLY	£7.00	£6.15
CHINA MINER	£7.00	£6.15
GET OFF MY GARDEN	£7.00	£6.15
BURGER TIME	£7.00	£6.15
FABULOUS WANDA	£7.95	£6.95
CHUCKIE EGG	£7.90	£6.95
SPACE PILOT	£7.95	£6.95
FLIGHT PATH 737	£7.95	£6.95
CYBOTHRON	£7.95	£6.95

VIC 20		
SLAP DAB	£5.95	£5.20
DOTHAN	£5.95	£5.20
FALCON FIGHTERS	£5.95	£5.20
FROG RUN	£5.95	£5.20

BONGO	£7.95	£6.95
SKRAMBLE	£7.95	£6.95
THE PITZ	£6.00	£5.25
THE DUNGEONS	£5.95	£5.20

POST & PACKING FREE
SEND CHEQUES/P.O. TO:

ACCESS WELCOME

LAWTON LIMITED

FOR COMPREHENSIVE CATALOGUE SEND S.A.E. TO:

16 COATES CLOSE
BRIGHTON HILL
BASINGSTOKE RG22 4FE

TEL: 0256-51444

TI-99/4A LANTERN TI-99/4A

SAVE £ £ £ ££'S ON THESE TI-99/4A GAMES

Hunchback Havock (BASIC) £5.95
Arcade action in TI-BASIC! Race with Egor thru four castles and 24 different sheets. Superb graphics and great fun.
SAVE £1

Daddie's Hot Rod (BASIC) £5.95
Drive through sheep fields, woods, over rivers and avoid all obstacles, then pick up hitch-hikers down perilously twisting roads.
SAVE £1

The Black Tower (BASIC) £5.95
Unlock the mysteries of the black tower and rescue the Lady Gwen in our latest full 16K adventure. Addictive and entertaining.
SAVE £1

Builder/Minefield (BASIC) £4.95
Two great games in one. Builder, drive a truck, pick up bricks and build a wall but watch the obstacles. Minefield, drive a tank through a minefield while being shelled.

Runner On Treiton (BASIC) £5.95
You are on the planet Treiton your task is to collect jewels. This semi-text, semi-graphics adventure requires skill and a good memory.
SAVE £1

Battlestar Attack (EXT-BASIC) £6.95
Stop the battlestar before it blows up your home planet. A fast game with excellent graphics. HCW said: 'even at level one a very addictive game'.
SAVE £2

SPECIAL OFFER

You've seen the reviews, your know the quality of Lantern Products. Mention this ad when ordering any of the above games and you will only pay £4.95 per title!
Don't delay — order now! Offer ends 31st July.

Send cheque or P.O. to
LANTERN SOFTWARE,
4 Haffenden Road, Tenterden, Kent TN30 6QD
or SAE for full list. Look out for our products at your TI retailer.



COURSEWINNER

The Punters Computer Program

COURSEWINNER allows you to use the power of your computer to get the edge on the bookmaker.

- COURSEWINNER contains a database full of detailed information on all English and Scottish flat courses. The ten leading jockeys and trainers, and effect of the draw is detailed for each course. This information can be displayed on the screen at any time.
- The program analyses these factors combined with the results of the last three outings, starting price and weight carried.
- COURSEWINNER is simple and quick to use, yet very powerful.
- Boxed with detailed instruction booklet.

Price £12.50 all inclusive IMMEDIATE DISPATCH (RETURN OF POST)

Available for:
SPECTRUM (48K), BBC (B), COMMODORE 64, DRAGON, APPLE II/IIe, ATARI (48K).

POOLSWINNER

The Ultimate Pools Prediction Program



- POOLSWINNER is the most sophisticated pools prediction aid ever produced. It comes complete with its own massive database.
- Can be used for Scoredraws, Draws, Aways and Homes.
- The database contains over 20000 matches (10 years league football). It updates automatically as results come in.
- The precise prediction formula can be set by the user. This allows development of your own unique method.
- Package is complete with program, database and detailed instruction booklet.

Price £15.00 all inclusive IMMEDIATE DISPATCH (RETURN OF POST)

Available for: SPECTRUM (48K), ZX81 (16K), BBC (B), COMMODORE 64, DRAGON, APPLE II/IIe, ATARI (48K).

Available from dealers or direct (return of post) from:

VISA PHONE

selec
SOFTWARE

ACCESS PHONE

37 Councillor Lane, Cheadle, Cheshire. Phone: 061-428 7425

Symbol and valency test by Ian Goldsack

With exams approaching, this short test on the symbols and valency of 32 elements and simple compounds is a very useful and effective revision aid. It covers most of the common elements used for practical experiments in the classroom. The program also includes several compounds, such as sulphate and nitrate, which are often needed when calculating formulae. It covers a maximum of two possible valencies, and does not distinguish between positive and negative valencies.

Control characters

150 Clear home, reverse text, cyan text, SHIFT: SYMBOL & VALENCY TEST, green text, cursor down, cursor down

```
210 SHIFT: S
230 SHIFT: V
2010 SHIFT: H,H
2020 SHIFT: L,L
2030 SHIFT: S,N
2020 SHIFT: L,L
2030 SHIFT: S,N
2040 SHIFT: P,K
2050 SHIFT: S,A
2060 SHIFT: C,C
2070 SHIFT: M,M
2080 SHIFT: C,C
2090 SHIFT: I,F
2100 SHIFT: B,B
2110 SHIFT: Z,Z
2120 SHIFT: N,N
2130 SHIFT: T,S
2140 SHIFT: L,P
2150 SHIFT: M,H
2160 SHIFT: A,A
2170 SHIFT: C,C
2180 SHIFT: B,B
2190 SHIFT: I,I
2200 SHIFT: N,O
2210 SHIFT: H,C,O
2220 SHIFT: H,S,O
2230 SHIFT: O,H
2240 SHIFT: O,O
2250 SHIFT: S,S
2260 SHIFT: S,O
2270 SHIFT: C,O
2280 SHIFT: S,O
2290 SHIFT: N,N
2300 SHIFT: P,P
2310 SHIFT: C,C
2320 SHIFT: S,S
```

This program operates in lower and upper case and in some graphics mode. This is entered with PRINT CHR$(14); by using PRINT CHR$(8), it is possible to disable the changing of case when the shift and Commodore keys are depressed simultaneously. This means that the mode cannot be changed by accident.

Variables

- **I** reference of elements of arrays
- **X** during FOR...NEXT loop underlines element
- **D** time delay FOR...NEXT loop
- **A** is valency correct? 0 = YES 1 = NO
- **V** answer to valency
- **E$(X)** element name
- **S$(X)** symbol of element
- **V1(X)** one valency of the element
- **V2(X)** second valency of the element

How it works

- **1-12** REMarks
- **50** set volume
- **100** clear screen and set screen mode
- **110** DIMension arrays
- **120-140** READ data into arrays
- **150** PRINT title
- **160** choose random number
- **170-200** PRINT element and underline it
- **210-220** INPUT symbol and check answer
- **230-270** INPUT valency and check answer
- **290** time delay — 2 seconds
- **300** return to PRINT title
- **1000-1040** give a bleep if answer is incorrect
- **2000-2320** data for arrays in the format ELEMENT, SYMBOL, VALENCY, OTHER VALENCY

Hints on conversion

I have tried to write this program in a way which makes it easy to convert for any BASIC microcomputer. The only machine which will present serious problems is the ZX81, which does not have the READ or DATA commands.

A list of the control characters is given, and this will be of great value if you are attempting to convert the program.

Lines 1000 to 1040 define an envelope and create the sound. On some machines it is possible to achieve this with only one or two statements. For example, on the BBC this could be replaced with:

```
ENVELOPE 1,128,1,-1,1,70,100,
  0,-20,-5,126,0: SOUND 0,4,
  100,40
```

There are one or two character numbers and pokes which must be known when trying to convert this program. These are listed below:

- **POKE 54296,15** set the volume to its highest level
- **PRINT CHR$(147)** clear the screen, leaving cursor in top left corner
- **PRINT CHR$(14)** enter lower and upper case and some graphics screen mode
- **PRINT CHR$(8)** prevent the user from accidentally changing mode from the keyboard

Grand National by Darren Gray

Pick one of five horses to win the Grand National, and put your money where your mouth is. You have £200 to bet and it is up to you to calculate all the risks and shell out the readies when the odds are good.

Who will be the favourite? You have a choice of Red Rum, Luck Vane, Grittar, Ben Nevis or Hallo Dandy. The going is good, so get ready to place your bets.

If your chosen horse loses the race, you forfeit your wager. Minimum bet is £50, and if your luck is out and you lose all your money, the game ends when you fall below the £50 level.

Best of luck, and use your judgement to make a fortune!

Get help with revision or have a flutter

The choice is yours: you can go symbols over your Chemistry or splash out and bet on the National. Work or play — that's the question

```
10 DATA0,160,48,0,144,60,0,160,63,0,128,63,0,160,240
20 DATA0,171,48,0,160,48,0,160,240,15,171,240,63,235,240
30 DATA63,251,240,15,251,255,15,250,255,15,63,195,15,3,3
40 DATA15,3,11,60,195,8,48,195,0,48,227,0,56,35,128,8,0,128
50 DATA0,160,48,0,144,60,0,160,63,0,128,63,0,160,240
60 DATA0,171,48,0,160,48,0,160,240,15,171,240,63,235,240
70 DATA63,251,240,15,251,240,15,250,255,15,207,255,63,0,195
80 DATA255,192,195,240,192,203,60,240,200,15,56,192,3,136,224,0,128,32
85 REM*** SET UP SPRITES ***
90 FORT=0TO62:READA:POKE12288+T,A:NEXTT
100 FORT=0TO62:READA:POKE12352+T,A:NEXTT
110 V=53248:POKEV+21,31:POKEV+28,31:POKEV+37,0:POKEV+38,0
120 POKEV+39,1:POKEV+40,3:POKEV+41,13:POKEV+42,15:POKEV+43,7
125 REM*** INSTRUCTIONS ***
130 PRINT"♥":POKE53280,15:POKE53281,15:PRINT"♥■▶▶▶▶QTHE GRAND NATIONAL"
140 PRINT"S▶▶▶▶QQ______________________"
150 PRINT"QQIN THIS GAME YOU PLACE A BET ON"
160 PRINT"▶ANY OF THE 5 HORSES WHICH ARE"
170 PRINT"▶1-RED RUM"
180 PRINT"▶2-LUCK VANE"
190 PRINT"▶3-GRITTAR"
200 PRINT"▶4-BEN NEVIS"
210 PRINT"▶5-HALLO DANDY"
220 PRINT"Q▶TYPE IN THE HORSES NO. AND HOW MUCH."
230 PRINT"▶YOU START OFF WITH 200 POUNDS.":G=200:REM G=YOUR MONEY
240 PRINT" SMALLEST BET IS 50 POUNDS.ENTER YOUR     BET ▶NOW"
250 INPUTA,B:IFB>GTHEN GOTO250
253 IFB<50THENGOTO250
255 REM***SET UP SCREEN***
260 PRINT"♥QQ▶▶THE GRAND NATIONAL "
270 PRINT"SQQQ▶______________________"
275 POKE53280,5 :POKE53281,5
280 FORT=55536TO56056:POKET,2:NEXTT
290 FORT=0TO29:POKE1264+T,114:POKE1384+T,114:POKE1504+T,114:POKE1624+T,114
295 POKE1744+T,114:NEXTT
300 PRINT"SQQQQQQQ▶1QQQ▶2QQQ▶3QQQ▶4QQQ▶5"
302 PRINT"S":PRINTSPC(31)"QQQQ▶FQQQ▶IQQQ▶NQQQ▶IQQQ▶SQQQ▶H"
305 REM***MOVING HORSES***
310 Y1=100:Y2=125:Y3=150:Y4=175:Y5=200:P=192
320 POKEV+1,Y1:POKEV+3,Y2:POKEV+5,Y3:POKEV+7,Y4:POKEV+9,Y5
330 X(1)=50:X(2)=50:X(3)=50:X(4)=50:X(5)=50
335 S=54272
340 F=INT(RND(1)*5)+1
345 POKES+24,15:POKES,220:POKES+1,68:POKES+5,15:POKES+6,20 :POKES+7,120
348 POKES+8,100:POKES+12,15:POKES+13,215
350 POKEV,X(1):POKEV+2,X(2):POKEV+4,X(3):POKEV+6,X(4):POKEV+8,X(5)
360 LETX(F)=X(F)+4
370 FORT=0TO4:POKE2040+T,P:NEXTT:P=P+1:IFP=194THENP=192
380 IFX(F)>250THENGOTO500
385 POKES+4,129:POKES+4,128
390 GOTO340
500 POKEV+21,0:PRINT"♥QQ▶▶THE HORSE IN LANE ";F;" WON"
510 IFF=ATHENPRINT"SQ▶ YOUR HORSE WON THE RACE":G=G+B:
520 IFF<>ATHENG=G-B
530 PRINT"QQ▶YOU HAVE ";G;" POUNDS LEFT"
540 IFG<50THENGOTO560
550 POKEV+21,31:POKEV+28,31:GOTO240
560 PRINT"♥QQYOU HAVE NOT GOT ENOUGH MONEY LEFT TO   MAKE A BET"
570 PRINT"▶▶▶▶▶▶▶▶▶▶QQQQQQSO GOODBYE ! ! !"
```

COMMODORE 64 PROGRAM

```
 1 REM  ***************
 2 REM  *             *
 3 REM  *  SYMBOL  &  *
 4 REM  *   VALENCY   *
 5 REM  *    TEST.    *
 6 REM  *             *
 7 REM  *  BY:        *
 8 REM  * I.GOLDSACK  *
 9 REM  *    1984     *
10 REM *              *
11 REM ***************
12 REM
50 POKE 54296,15
100 PRINT CHR$(147);CHR$(14);CHR$(8)
110 DIM E$(32),S$(32),V1(32),V2(32)
120 FOR I=1 TO 32
130 READ E$(I),S$(I),V1(I),V2(I)
140 NEXT I
150 PRINT "■■▲          ♥ ↖|┌└ & X♠└¯/¯ | | ¯♥|          ■■■"
160 LET I=INT(RND(I)*32)+1
170 PRINT E$(I)
180 FOR X=1 TO LEN(E$(I))
190 PRINT "¯";
200 NEXT X
210 PRINT:PRINT:INPUT"♥YMBOL >";S$
220 IF S$<>S$(I) THEN GOSUB 1000:PRINT "    "S$(I)
230 PRINT:INPUT "XALENCY >";V
240 LET A=0:IF V<>V1(I) AND V<>V2(I) THEN GOSUB 1000:LET A=1
250 IF A=1 THEN PRINT "   ";V1(I):IF V1(I)=V2(I) THEN GOTO 280
260 IF V<>V2(I) THEN PRINT " OR";V2(I)
270 IF A=0 AND V<>V1(I) THEN PRINT " OR"V1(I)
280 PRINT
290 FOR D=1 TO 2000:NEXT D
300 GOTO 150
1000 REM ***** INCORRECT ANSWER *****
1010 POKE 54276,0:POKE 54277,0:POKE 54278,0:POKE 54272,0:POKE 54273,0
1020 POKE 54277,9:POKE 54278,0:POKE 54276,17
1030 POKE 54272,75:POKE 54273,34
1040 RETURN
2000 REM ***** DATA *****
2010 DATA " ¥DROGEN"," ¦",1,1
2020 DATA "LITHIUM","LI",1,1
2030 DATA "♥ODIUM","/A",1,1
2040 DATA "¯OTASSIUM","¯",1,1
2050 DATA "♥ILVER","♠G",1,1
2060 DATA "¬OPPER","¬U",1,2
2070 DATA "↖AGNESIUM","↖G",2,2
2080 DATA "¬ALCIUM","¬A",2,2
2090 DATA "↖RON","¬E",2,3
2100 DATA "¦ARIUM","¦A",2,2
2110 DATA "♦INC","♦N",2,2
2120 DATA "/ICKEL","/I",2,2
2130 DATA "¦ IN","♥N",2,4
2140 DATA "LEAD","¯B",2,4
2150 DATA "↖ERCURY"," ¦G",2,2
2160 DATA "♠LUMINIUM","♠L",3,3
2170 DATA "¬HLORINE","¬L",1,1
2180 DATA "¦ROMINE","¦R",1,1
2190 DATA "↖ODINE","↖",1,1
2200 DATA "-NITRATE","/┌3",1,1
2210 DATA "-HYDROGEN CARBONATE"," ¦¬┌3",1,1
2220 DATA "-HYDROGEN SULPHATE"," ¦♥┌4",1,1
2230 DATA "-HYDROXIDE","┌ ¦",1,1
2240 DATA "┌XYGEN","┌",2,2
2250 DATA "♥ULPHUR","♥",2,2
2260 DATA "-SULPHATE","♥┌4",2,2
2270 DATA "-CARBONATE","¬┌3",2,2
2280 DATA "-SULPHITE","♥┌3",2,2
2290 DATA "/ITROGEN","/",3,3
2300 DATA "¯HOSPHORUS","¯",3,5
2310 DATA "¬ARBON","-",4,4
2320 DATA "♥ILICON","♥I",4,4
```

tters Letters Letters Letters Letters Le
ers Letters Letters Letters Lett

Value for money

Firstly, thanks to G.W. Hoygard (HCW 61) for the clue to the cheat mode for Revenge of the Mutant Camels. It was a great help. Can anyone tell me how to get more lives on Manic Miner for the 64?

Now, with regard to your item on pocket money games (HCW 57). I saw these Mastertronic games in W. H. Smith.

My children bought three, Munch Mania, Duck Shoot and Space Walk for the Commodore 64. We all tried the games and found them excellent. I have paid a lot more for some games with top names and found them very disappointing and of poor quality.

So, with regard to Neil Johnson's comment "you only get what you pay for", I can only say that I think the three games I have tried were excellent value for money.

Mrs J Dugdale, Garston, Liverpool

Commodore: I'll join in

Since everybody seems to be complaining about the back-up service of Commodore, I thought I might as well join in.

Commodore is a company which knows how to make excellent computers (referring to the VIC and 64) and have some excellent software, especially the International Soccer cartridge. But when it comes to a back-up service and ability to provide the goods, they are hopeless.

I have had two incidents, one of which isn't solved yet. They regard getting the computer and, at this moment in time, trying to get International Soccer.

When the 64 first came out, I couldn't wait so I rang a dealer and he promptly told me he'd had one machine, and had a waiting list of 20, so I put my name on the list anyway. I also put my name on four other dealers' lists.

Between September '82 and March '83, I rang Commodore approximately 20 times. I got my computer in March and have enjoyed it since.

The incident about International Soccer is worse because I've waited a year for it, as it was at last year's Commodore show when Commodore said "the game is soon to be released."

I'm top of the list at a dealer and I've been waiting for two months since its release, and still heard nothing. Every week I ring, and they haven't received the game and they tell me it's the same situation on the cassette deck front (not that that bothers me, I've got one).

Now, to end on a better note, I think HCW is brilliant, but more 64 reviews wanted and more of David Rees's programs. The Extended BASIC (HCW 45-47) saved me spending £50 on a long awaited cartridge! It's very good. Perhaps we could get David Rees to do a decent Donkey Kong since money can't buy a decent version for the 64.

Finally, Julian Cowtland-Smith (HCW 32), your friend's score of 169,990 on Interceptor's Frogger isn't the highest ever as I reached 208,360 after approximately one hour (didn't time it).

Terry Gilroy, Penzance, Cornwall

Whose is most rare?

Good work, HCW. I'm a TI owner but I was constantly bugged by BBC and Spectrum owners who claimed that they had the best home computers in the world. They constantly criticised me for buying a TI-99/4A and said it was an utter waste of £150.

However, after reading Bud Izen's U.S. Scene and M.C. Adams' letter (HCW 58), the BBC and Spectrum owners are not so proud anymore.

It all happened at the beginning of May. I was at my friend's house playing Manic Miner on his Spectrum and a friend of mine who owns a BBC was also there.

I began saying how good a game Manic Miner was when my BBC friend pipes up: "You'll never get anything as good on the Texas. It's got no software. Hardly anyone's got a Texas".

My Spectrum friend also joined in. Then in response I told them that Texas owned a larger part of the home computer market in the United States than Timex Sinclair.

Then using M.C. Adam's information in his letter I told him that the Spectrum in Australia costs $1,500. When I told him that the Hobbit was marketed for $40 they'd had enough. They rushed down to check the exchange rate in the newspaper. Working away on their calculators they found that the Spectrum costs around £250 and the BBC about £1,000 in English money.

Whose computers are the utter waste of money now and who has the more rare computer?

Sam Singh, Dartford, Kent

Minority are unlucky

I am writing in reply to Sheila Maguire's letter (HCW 53) in defence of the Commodore 64.

For the past three years I have been the happy and contented user of the VIC-20, Commodore 64 and PET micro computers. In all this time, I have not once had any problem or cause for complaint. Also many of my friends own Commodore 64 and VIC-20 computers and agree with my previous comments.

I can only say that Sheila Maguire and others like her (HCW 57) are unlucky, and in the minority.

At the moment I own a Commodore 64-based computer system comprising computer, Seikosha GP-100 VC printer, 1541 disc drive, C2N datasette and a rather large library of games software! I am completely happy and hope to further expand my system.

I also must congratulate you on a most enjoyable and informative magazine with listings that actually work when typed in!

Keep up the good work.

Alastair Heaton, St Helens, Merseyside

Give it some thought

After reading many issues of your magazine, I have noticed that BASIC programmers always seem to blindly follow their computer manuals.

For example, in Pacman-type games the object is to eat all the pellets or to collect objects which are littered around the maze etc. To check whether a collision has occured most computers use the PEEK command to determine which character is where, on the screen. The TI-99/4A — which I own — uses the CALL CHAR (Row, Column, ASCII, Variable) command.

However, with a little thought these two machine-specific commands can be done away with for certain types of BASIC programs, thus ensuring a degree of compatibility.

One method which I have developed is as follows: The screen is mapped using a two-dimensional array, dimensional to the number of rows and columns available i.e. DIM A (Row, Column. Then, using a nested FOR...NEXT loop:

```
10 FOR Row = 1 to 24
20 FOR Column = 1 to 32
30 A (Row, Column) = 1
40 NEXT Column
50 NEXT Row...
```

all values are set to 1. The number 1 then signifies a square on which there is no object, i.e. a space.

Then, when the screen is drawn, each stationary object — when plotted — can be given its own code number as follows:— 1: reserved for space, 2: wall for maze, 3: pellet, 4: power pill.

It is a simple matter then, to use the ON A (Row Column) GOTO... statement to direct the program to various procedures depending upon which object has been encountered.

In this way, machine-specific commands need only be used for checking for collisions between two moving characters, since all stationary obstructions have been catered for.

B. Dhooper, Goldthorn Pk, Wolverhampton

Questing for help

I would like to ask any reader who owns a Commodore 64 if they could help me with the adventure game, The Quest. In the instructions it says you have to "locate the maker and his power source".

We have visited all the rooms (we think) and still cannot find the maker or his power source.

Please, if anyone can help write before I throw the disc drive out of the window.

Andrew Wilkins, Stroud, Glos

End your misery

For all those people out there who have got Jet Set Willy, I think it's about time someone put you out of your misery. A few POKES to help you — a la Manic Miner:

Firstly, and most importantly, the no loss of life POKE:

POKE 35899,0

POKE 37202,0 will keep quite a few of the nasties caught up. These have to be entered at line 35 in the BASIC program.

You type in LOAD " " then as soon as the BEEP starts press BREAK then type in 35 POKE (whatever),0. Then type RUN and push ENTER and play the cassette.

If anyone knows how to enter the conservatory roof please tell us.

Gareth Trevers, Watford

New TI club

I would like to tell readers of a new club for TI-99/4A owners. Membership is free and the club offers various services including a newsletter and hints on better computing for the TI. There is also a tape magazine available. If anyone is interested they should write to the address below.

Joseph Murphy, 41 Winchester Street, Acton, London, W3 8PA

Praise for Commodore

Reading your letters page, I have noticed many complaints about Commodore. When my computer went faulty I telephoned Commodore and they told me to send my computer to them. After a week my computer came back to me and it works perfectly.

I have owned a VIC-20 computer for 18 months and I have found Commodore both very helpful and reliable.

I cannot praise them enough for their after-sales service.

Darren Allen, Warley, West Midlands

Send your letters to Letters, Home Computing Weekly, No.1 Golden Square, London W1R 3AB. Don't forget to name your computer — the best letter could win £5-worth of software. Got a problem with your micro? We'll soon be starting a queries page, so send your technical questions to Queries at the above address.

TI-99/4A PROGRAM

```
10 CALL CLEAR
20 CALL SCREEN(2)
30 FOR I=1 TO 8
40 CALL COLOR(I,16,1)
50 NEXT I
60 PRINT " PEARL DIVERS  BY PHIL ORD.":::
70 PRINT "          INSTRUCTIONS":::" USE DIRECTION KEYS(ESDX)":::"TO GUIDE YOUR D
IVER AROUND":::
80 PRINT " THE SEA,PICKING UP PEARLS":::"   BEWARE OF THE RANDOMLY":::"    PLACED
MINES AND THE":::
90 PRINT "  MAN-EATING SHARKS.IF YOU":::"  MAKE CONTACT WITH THESE":::"     YOUR D
IVER,IS LOST":::
100 PRINT "  PRESS ENTER TO CONTINUE"
110 CALL KEY(0,K,S)
120 IF S=0 THEN 110
130 IF K=30 THEN 140
140 CALL CLEAR
150 PRINT "     IF YOU LOSE 5 DIVERS":::" THE GAME ENDS AND YOU LOSE":::"ALL THE PE
ARLS YOU COLLECTED":::
160 PRINT "YOU LOSE PEARLS FOR STRAYING":::"INTO THE BARRACUDAS OR CORAL":::"    W
HEN YOU COLLECT 400":::
170 PRINT "PEARLS,THE BLACK CAVE HIDING":::"   THE TREASURE WILL OPEN.":::
180 PRINT "  WARNING!! IF YOU TOUCH THE":::"  BLACK WALLS OF THE CAVE,":::"     TH
E GAME  WILL END":::
190 PRINT "  PRESS ENTER TO CONTINUE"
200 CALL KEY(0,K,S)
210 IF S=0 THEN 200
220 IF K=30 THEN 230
230 CALL CLEAR
240 CALL SCREEN(2)
250 MEN=5
260 P=0
270 PP=0
280 REM  DEFINE CHARACTERS
290 CALL CHAR(40,"0000001010000000")
300 CALL CHAR(41,"1192543FFF385492")
310 CALL CHAR(42,"FFFFFFFFFFFFFFFF")
320 CALL CHAR(43,"0042001010004200")
330 CALL CHAR(96,"FFFFFFFFFFFFFFFF")
340 CALL CHAR(104,"02077FDFFF1F7C00")
350 CALL CHAR(105,"0102FCF8F8FC0201")
360 CALL CHAR(106,"00013EFC3E010000")
370 CALL CHAR(112,"FF7F3F1F0F070301")
380 CALL CHAR(113,"FFFFFFFFFFFFFFFF")
390 CALL CHAR(114,"FFFFFFFFFFFFFFFF")
400 CALL CHAR(115,"FFFF000000000000")
410 CALL CHAR(120,"1010385492284444")
420 CALL CHAR(121,"10C8241F24C81000")
430 CALL CHAR(122,"222214492A1C0808")
440 CALL CHAR(123,"00081324F8241308")
450 CALL CHAR(128,"FFFFFFFFFFFFFFFF")
460 CALL CHAR(136,"0000001010385492")
470 CALL CHAR(144,"007E7E1010101000")
480 CALL CHAR(152,"FFFFFFFFFFFFFFFF")
490 REM  DEFINE COLOURS
500 CALL COLOR(2,15,6)
510 CALL COLOR(9,7,1)
520 CALL COLOR(10,2,6)
530 CALL COLOR(11,13,15)
540 CALL COLOR(12,2,6)
550 CALL COLOR(13,6,6)
560 CALL COLOR(14,2,15)
570 CALL COLOR(15,2,11)
580 CALL COLOR(16,2,2)
590 REM  SET UP SCREEN
600 CALL HCHAR(5,1,40,640)
610 CALL HCHAR(1,1,42,128)
620 RESTORE 710
630 FOR I=1 TO 24
640 READ A,B,C
650 CALL HCHAR(A,B,96,C)
660 NEXT I
670 FOR I=1 TO 3
680 READ A,B,C
690 CALL VCHAR(A,B,96,C)
700 NEXT I
710 DATA 1,1,3,2,1,3,3,1,3,4,1,6,5,1,6,6,1,6,7,1,6,8,1,6,9,1,6,10,1,6
720 DATA 11,1,6,12,1,6,13,1,6,14,1,5,15,1,2,16,1,2
730 DATA 17,1,2,18,1,11,19,1,2
740 DATA 20,1,3,21,1,6,22,1,11,23,1,2,24,1,2
750 DATA 4,31,21,4,32,21,7,30,12
760 T=2
770 T=T+4
780 IF T>23 THEN 890
790 M=0
800 M=M+1
810 IF M=5 THEN 880
820 RANDOMIZE
830 U=INT(RND*21)+7
840 A=INT(RND*20)+8
850 CALL HCHAR(T,U,43)
860 CALL HCHAR(T+2,A,105)
870 GOTO 800
880 GOTO 770
890 CALL HCHAR(21,26,106,3)
900 CALL HCHAR(22,24,106,4)
910 CALL HCHAR(23,25,106,3)
920 CALL HCHAR(24,25,106,3)
930 CALL HCHAR(22,29,106)
940 CALL HCHAR(24,29,106)
950 RESTORE 1040
960 FOR I=1 TO 12
970 READ A,B,C
980 CALL HCHAR(A,B,104,C)
990 NEXT I
1000 FOR I=1 TO 12
1010 READ A,B,C
1020 CALL HCHAR(A,B,105,C)
```

Using the direction keys, E,S,D, and X, collect as many pearls as you can without being eaten by the sharks or blown up by mines. There is also a treasure hidden in a secret cave which is revealed during the game.

Variables

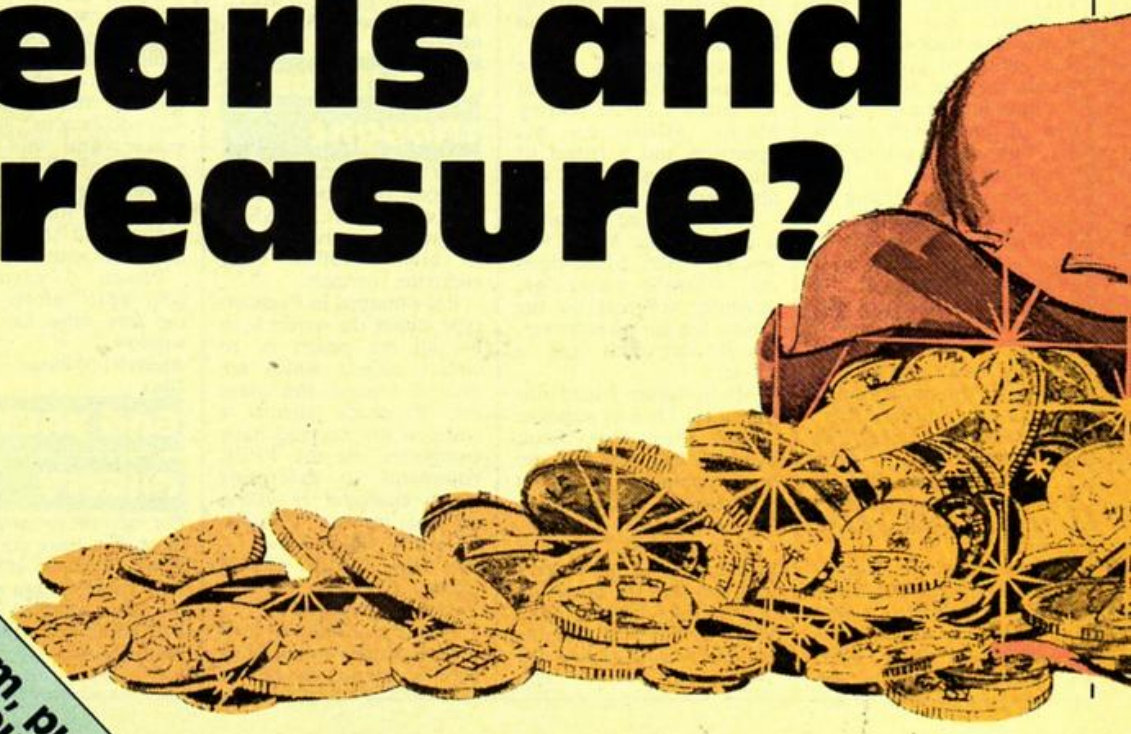
R - C row and column of diver
R2 - C2 row and column after diver
DIV diver
MEN number of divers
P pearls
PP penalty points
TR treasure

How it works

10-220 instructions
230-270 set initial values
280-480 define characters
590-1200 set up screen graphics
1210-1450 move diver
1460-1500 diver at edge of screen or on surface of water
1510-2050 position of diver and consequences
2060-2830 end routines and score
2140-2300 reveals treasure cave

Will you risk sharks and mines for pearls and treasure?

Type in Phil Ord's program, put on your diving gear and you're ready to face twin dangers for rich rewards



TI-99/4A PROGRAM

```
1030 NEXT I
1040 DATA 11,15,1,13,24,1,15,7,1,21,13,1,19,29,1,22,10,1
1050 DATA 5,16,1,8,22,1,9,11,1,16,19,1,17,26,1,19,21,1
1060 DATA 11,16,1,13,25,1,15,8,1,21,14,1,19,30,1,22,19,1
1070 DATA 5,17,1,8,23,1,9,12,1,16,20,1,17,27,1,19,22,1
1080 CALL HCHAR(4,25,112)
1090 CALL HCHAR(4,26,113,4)
1100 CALL HCHAR(3,27,114)
1110 CALL HCHAR(3,28,115)
1120 CALL HCHAR(3,26,136)
1130 CALL HCHAR(5,29,120)
1140 CALL KEY(0,K,S)
1150 IF S=0 THEN 1140
1160 R=5
1170 C=29
1180 X=1
1190 Y=0
1200 DIV=120
1210 REM   MOVE DIVER
```

```
1220 CALL KEY(0,K,S)
1230 R2=R
1240 C2=C
1250 IF S=0 THEN 1440
1260 CALL SOUND(10,44733,0)
1270 IF K<>69 THEN 1310
1280 Y=-1
1290 X=0
1300 DIV=120
1310 IF K<>88 THEN 1350
1320 Y=1
1330 X=0
1340 DIV=122
1350 IF K<>83 THEN 1390
1360 Y=0
1370 X=-1
1380 DIV=123
1390 IF K<>68 THEN 1440
1400 Y=0
1410 X=1
1420 DIV=121
1430 REM  MOVE DIVER
1440 R=R+Y
1450 C=C+X
1460 REM  DIVER AT EDGE OF SCREEN
1470 IF R<5 THEN 1660
1480 IF R>24 THEN 1680
1490 IF C<1 THEN 1700
1500 IF C>32 THEN 1720
1510 REM   CONTACTS OF DIVER AND CONSEQUENCES
1520 CALL GCHAR(R,C,PSN)
1530 CALL HCHAR(R2,C2,128)
1540 CALL HCHAR(R,C,DIV)
1550 IF PSN=105 THEN 1760
1560 IF PSN=104 THEN 1930
1570 IF PSN=40 THEN 1640
1580 IF PSN=96 THEN 2310
1590 IF PSN=128 THEN 1220
1600 IF PSN=106 THEN 2340
1610 IF PSN=144 THEN 2370
1620 IF PSN=43 THEN 2590
1630 IF PSN=152 THEN 2710
1640 P=P+1
1650 IF P=400 THEN 2140 ELSE 1220
1660 R=R+1
1670 GOTO 1730
1680 R=R-1
1690 GOTO 1730
1700 C=C+1
1710 GOTO 1730
1720 C=C-1
1730 CALL KEY(0,K,S)
1740 IF S=0 THEN 1730
1750 GOTO 1220
1760 MEN=MEN-1
1770 CALL CHAR(107,"40E0FEFBFFF81E00")
1780 CALL CHAR(108,"00403F1F1F3F4000")
1790 CALL HCHAR(R,C,107)
1800 CALL HCHAR(R,C-1,108)
1810 CALL SOUND(1,110,5)
1820 FOR D=1 TO 100
1830 NEXT D
1840 CALL HCHAR(R,C-1,104)
1850 CALL HCHAR(R,C,105)
1860 CALL HCHAR(3,26,42)
1870 IF MEN=0 THEN 2060
1880 IF MEN=1 THEN 1890 ELSE 1920
1890 CALL HCHAR(3,26,42)
1900 IF MEN=0 THEN 2060
1910 GOTO 1130
1920 GOTO 1120
1930 MEN=MEN-1
1940 CALL CHAR(109,"02077FDFFF1F1C60")
1950 CALL HCHAR(R,C,109)
1960 CALL SOUND(1,110,5)
1970 FOR D=1 TO 100
1980 NEXT D
1990 CALL HCHAR(R,C,104)
2000 IF MEN=0 THEN 2060
2010 CALL HCHAR(3,26,42)
2020 IF MEN=1 THEN 2030 ELSE 2050
2030 CALL HCHAR(3,26,42)
2040 GOTO 1130
2050 GOTO 1120
2060 CALL CLEAR
2070 FOR I=5 TO 8
2080 CALL COLOR(I,16,2)
2090 NEXT I
```

```
2100 PRINT "   YOU RAN OUT OF DIVERS"::"  AND LOST ALL YOUR PEARLS"::"      PLAY
AGAIN Y OR N"::::::::
2110 CALL KEY(0,K,S)
2120 IF S=0 THEN 2110
2130 IF (K=89)+(K=121)THEN 230 ELSE 2060
2140 CALL HCHAR(12,3,128,4)
2150 CALL HCHAR(11,3,128)
2160 CALL HCHAR(10,3,128,3)
2170 CALL HCHAR(9,5,128)
2180 CALL HCHAR(8,4,128,2)
2190 CALL COLOR(15,2,11)
2200 CALL HCHAR(7,4,144)
2210 CALL HCHAR(6,3,152,3)
2220 CALL HCHAR(7,3,152)
2230 CALL HCHAR(7,5,152)
2240 CALL HCHAR(8,3,152)
2250 CALL HCHAR(9,2,152,3)
2260 CALL HCHAR(11,4,152,3)
2270 CALL VCHAR(7,6,152,4)
2280 CALL VCHAR(10,2,152,3)
2290 CALL HCHAR(13,2,152,5)
2300 GOTO 1220
2310 PP=PP+100
2320 CALL SOUND(10,4000,3)
2330 GOTO 1220
2340 PP=PP+1000
2350 CALL SOUND(10,2000,3)
2360 GOTO 1220
2370 TR=100000
2380 T=TR+P*100-PP
2390 FOR I=660 TO 1100 STEP 110
2400 FOR J=110 TO 660 STEP 110
2410 CALL SOUND(10,I,5)
2420 CALL SOUND(10,J,5)
2430 NEXT J
2440 NEXT I
2450 CALL CLEAR
2460 CALL SCREEN(15)
2470 FOR I=1 TO 16
2480 CALL COLOR(I,16,2)
2490 NEXT I
2500 PRINT "   WELL DONE YOU FOUND THE"::
2510 PRINT "  TREASURE, WORTH $100,000"::
2520 PRINT "   YOU COLLECTED";P;"PEARLS"::"   WORTH 100 DOLLARS EACH"::
2530 PRINT "      LESS";PP;"DOLLARS"::"     FOR LOST PEARLS"::
2540 PRINT "   FOR A TOTAL FORTUNE OF"::"      ";T;"DOLLARS"::::
2550 PRINT "PLAY AGAINT Y OR N"
2560 CALL KEY(0,K,S)
2570 IF S=0 THEN 2560
2580 IF K=89 THEN 230 ELSE 2060
2590 MEN=MEN-1
2600 CALL HCHAR(R,C,41)
2610 FOR I=0 TO 30
2620 CALL SOUND(100,-7,I)
2630 NEXT I
2640 CALL HCHAR(R,C,128)
2650 IF MEN=0 THEN 2060
2660 CALL HCHAR(3,26,42)
2670 IF MEN=1 THEN 2680 ELSE 2700
2680 CALL HCHAR(3,26,42)
2690 GOTO 1130
2700 GOTO 1120
2710 FOR I=1 TO 16
2720 CALL SOUND(-100,-7,I)
2730 CALL COLOR(I,7,1)
2740 CALL COLOR(I,16,1)
2750 CALL COLOR(I,7,1)
2760 NEXT I
2770 FOR I=1 TO 16
2780 CALL COLOR(I,16,2)
2790 NEXT I
2800 CALL CLEAR
2810 PRINT "   YOU CRASHED INTO THE"::"   BLACK CAVE,YOU FORFEIT"::"     ANY PE
ARLS YOU MAY"::
2820 PRINT "        HAVE COLLECTED"::"      TRY AGAINT Y OR N."::::::
2830 CALL KEY(0,K,S)
2840 IF S=0 THEN 2830
2850 IF (K=89)+(K=121)THEN 230 ELSE 2060
2860 END
```



Get inside your micro

New utilities for the BBC and Spectrum are put through their paces by our experts

Machine Code for Beginners Spectrum £7.95

Dream, PO Box 64, Basingstoke RG21 2LB

Another excellent package from Dream. Most programs which say they are for "absolute beginners" to machine code turn out to be anything but! You flounder around in hexadecimal and registers, and end up lost.

This is different. It's a simulation of a simple microprocessor with just four registers and a limited instruction set. The whole of the CPU is displayed on the screen. The accompanying manual takes you gently through each instruction together with the processes which take place within your micro. If you don't like hex, you can do it in decimal. After considering the action of the instruction, you can enter it in a simple program and watch the CPU at work. The graphics are very clever, and a real aid to understanding.

By following the manual you can build up the necessary information to understand the real thing, like a Z80, later. The manual itself is so well written it's almost worth the package price. Even though this is a simulation, the mnemonics are very like those of the Z80. First class for the student or enthusiast. **D.M.**

instructions	100%
ease of use	100%
display	100%
value for money	100%

★★★★★

BBC BASIC & BBC Advanced BASIC Courses BBC 32K £10.50 each

Honeyfold, Bath Place, Barnet, London

Two courses, part of the Dr Watson series, comprise a book and a tape. They have the same author and are meant to be seen as stages in a single course, so much so that the books have common indexes and appendices. This is unfortunate for the purchaser of both, as they are paying for more than 40 duplicated pages.

The tapes contain copies of the programs used to emphasise the text, in their final working form and this might give you an idea of the type of books these are, i.e. made up of highly detailed program notes leading up to the finished product.

Having said that they are not really BBC specialist books, in that early part of the books could have been for any machine and doesn't really use the BBC's special features, I am particularly surprised by the way GOTO is introduced very early in the text and PROCedure very late. These are not the best books I have seen for the learner, I'm afraid. **D.C.**

instructions	65%
ease of use	70%
graphics	N/A
value for money	50%

★★

Logo Graphics Interpreter Spectrum 48K £9.95

Kuma, Unit 12, Horseshoe Park, Horseshoe Rd, Pangbourne, Berks

A sort of primitive screen-designer plus poor man's Forth, and I'm not sure at which market it is aimed.

The on screen turtle (round cursor and direction pointer) is moved by entering commands: draw, reverse, jump, left, right, round, etc, followed by pixel length or angle, plus 'erase' on straight lines. Features are circles and ink change, in-built calculator and screen dump to printer.

You can define 20 complex commands, incorporating original commands, i.e. to draw a square (repeat 4, draw 60, right 90, continue, end) you can simply command Square. User commands mixed together with originals can form more complex user commands. Further commands allow limitation and changes of size. No SAVE SCREEN facility but you can BREAK into the BASIC written program and SAVE normally.

However, drawn lines have pixel gaps, there's no way to erase circles if you make a mistake, the jumping turtle leaves a space, and error-trapping is not perfect. I was advised 'out of screen' when trying to draw something too big but, instead of returning to 'command' sequence, I was requested to enter 'length'.

A bit pricey for limited usefulness. **D.C.**

instructions	90%
ease of use	65%
display	75%
value for money	50%

★★★

Supercode Spectrum £9.95

CP, 2 Glebe Rd, Uxbridge, Middx UB8 2RD

This program contains 100 machine code routines for use in your own programs. Initially they are linked, indexed and demonstrated by a BASIC program, which also gives details of the parameters which must be passed to them to tailor them to your specifications.

The variety is really stunning. The routines range from toolkits like compress, REMkill, renumber etc. to superior laser zaps, and a sound recording routine. Also included are at least 20 different ways of scrolling and colours, together with about a dozen different ways of protecting your program... and ON ERROR GOTO...and ON BREAK GOTO... if I describe them all I'll run out of space!

This program provides the sort of graphic effects you just can't get from BASIC. If you are prepared to work hard with it, Supercode will help you achieve professional standards with no knowledge of machine code.

Just one word of warning. The program did crash when used with Microdrives connected, so follow the instructions for relocating the code carefully. **D.M.**

instructions	100%
ease of use	100%
display	100%
value for money	90%

★★★★★

BBC/Electron Assembly Language Courses BBC 32K £12.50 each

Honeyfold, Bath Place, Barnet, London

Both part of the Dr Watson series, these texts deal with programming the 6502 microprocessor. As both machines have identical assemblers, as part of the BASIC, the books are very similar with only the minimum of changes.

In fact I am prepared to believe that they are also very similar to the books for the PET, VIC and CBM 64 and it is in this similarity that my main criticism is found.

Acorn machines have a very well documented operating system and you are advised, indeed forced if you want your program to run on all configurations, to use the facilities provided within the OS. These books have only one reference to the OS and are therefore almost useless in this respect. Further to this error they also insist on POKEing values to the screen in the early stages, and start off using decimal rather than hexadecimal values. This may seem a good idea to some but those battling with machine code are going to have to get used to hex so why not start that way? The tape contains useful but not remarkable utility programs. **D.C.**

instructions	35%
ease of use	50%
graphics	N/A
value for money	20%

★

ANSWER BACK
SENIOR
QUIZ
GENERAL KNOWLEDGE

THE ULTIMATE EDUCATIONAL QUIZ FOR AGES 12 & OVER

BBC (32K)•ELECTRON

The ANSWER BACK Quiz provides an incredible adventure in education by combining a compelling Space-Age game with an immense series of questions on General Knowledge. The thought-provoking and well-researched quizzes contain an enormous total of 750 questions with 3000 answer options covering the following subjects:

☐ Astronomy ☐ Music ☐ Natural History ☐ Famous People ☐ Science ☐ Sport ☐ History ☐ Art and Architecture ☐ Know your Language ☐ Discoveries and Inventions ☐ Legends and Mythology ☐ Geography ☐ Literature ☐ Films, TV and Theatre ☐ Pot Luck

The highly sophisticated control program rewards each correct answer with another turn in the colourful, animated game.

FEATURES INCLUDE

☐ Multiple choice answers ☐ True or False? ☐ Find the missing letters ☐ "Pass" facility ☐ Immediate correction of errors ☐ Timer option ☐ Performance summary ☐ Re-run of questions passed or incorrectly answered ☐ Full facilities for creating and saving an unlimited number of new quizzes

Available from your computer store or by mail order Price £10.95.

AVAILABLE SHORTLY:
ANSWER BACK
Junior Quiz
for the under 11's



Other educational titles include...
"The French Mistress"
"The German Master"
"The Spanish Tutor"



KOSMOS Software, 1 Pilgrims Close, Harlington, DUNSTABLE
Telephone (05255) 3942

The ANSWER BACK Senior Quiz will educate and fascinate ANYONE over 11 years old.

KOSMOS SOFTWARE, 1 Pilgrims Close, Harlington, DUNSTABLE, Beds. LU5 6LX
Please send me the ANSWER BACK Senior Quiz for the BBC/ELECTRON computer.

Mr/Mrs/Miss .....

Address .....

.....

Post code .....

I enclose a cheque/postal order for £10.95 payable to KOSMOS Software

QUICKSILVA
TOP 20
THE FASTEST MOVING GAMES!

APRIL/MAY 1984

1.	FRED (48K Spectrum) – Paco & Paco/Indescomp	£6.95	☐
2.	ANT ATTACK (48K Spectrum) – Sandy White	£6.95	☐
3.	THE SNOWMAN (48K Spectrum) – David Shea	£6.95	☐
4.	BOOGABOO (CBM 64) – Paco & Paco/Indescomp	£7.95	☐
5.	DRAGONSBANE (48K Spectrum) – M. Preston/ P. Hunt/R. Rose/D. Moore	£6.95	☐
6.	ULTISYNTH (CBM 64) – Nalin Sharma	£14.95	☐
7.	SKYHAWK (Vic 20) – Steve Lee/Chartec	£7.95	☐
8.	BUGABOO (48K Spectrum) – Paco & Paco/ Indescomp	£6.95	☐
9.	LASERZONE (48K Spectrum) – Jeff Minter/ Salamander	£6.95	☐
10.	STING 64 (CBM 64) – Anton Hinxman	£7.95	☐
11.	RING OF POWER (CBM 64) – F. J. Preston	£9.95	☐
12.	AQUAPLANE (CBM 64) – John Hollis/Steve Hickman	£7.95	☐
13.	PURPLE TURTLES (CBM 64) – Mark & Richard Moore	£7.95	☐
14.	QUINTIC WARRIOR (CBM 64) – Terry Watts	£7.95	☐
15.	TORNADO (Vic 20) – Steve & Dave Lee/Chartec	£5.95	☐
16.	SUBSPACE STRIKER (Vic 20) – Joe Gillespie/Pixel	£7.95	☐
17.	MINED OUT (Lynx) – I. Andrew/Incentive	£6.95	☐
18.	AQUAPLANE (48K Spectrum) – John Hollis	£6.95	☐
19.	QS SCRAMBLE (ZX81) – John Hollis	£3.95	☐
20.	TRAXX (48K Spectrum) Jeff Minter/Salamander	£6.95	☐

Chart compiled from sales figures through CBS Distribution for April 1984.

Available at:
Boots · John Menzies · WHSMITH
and leading multiple retailers and specialist computer stores.



Please send me the games I have ticked.
I enclose cheque/P.O. for _____
Send to Quicksilva Mail Order, P.O. Box 6, Wimborne, Dorset BA21 7PY. Telephone: (0202) 891744

Name _____

Address _____

_____

_____

_____

HCW67

NATIONWIDE SHOPS & DEALERS

BEDFORDSHIRE

SOFTWARE CENTRE
Computers, Software and accessories.
The Educational Software Specialists
Large S.A.E. for lists.
52A Bromham Road, Bedford.
Tel: Bedford 44733

BERKSHIRE

NOW OPEN
MU Games & Computers Ltd
HOME
COMPUTERS
SOFTWARE & ACCESSORIES
COMMODORE, SINCLAIR, MEMOTECH, ACORN & OTHERS STOCKED. PRINTERS, INTERFACES, JOYSTICKS AND A HOST OF OTHER PERIPHERALS. HUGE RANGE OF SOFTWARE (OVER 1000 DISKS & TAPES) INCLUDING ALL THE LATEST RELEASES. VISIT US BEFORE YOU BUY!
245, HIGH ST
SLOUGH
SLOUGH 21594
A member of the SPECTRUM group

LANCASHIRE

LANCASHIRE MICROS
BBC, Sinclair, Commodore, Dragon and Lynx personal computers.
Also the widest range of software, books and accessories in the area.
89 Euston Road, Morecambe, Lancs. Tel: (0524-411435)
OPEN 7 DAYS

ESSEX

BBC ★ COMMODORE 64
SPECTRUM ★ DRAGON 32
Extensive range of software/ hardware/books always in stock.
ESTUARY SOFTWARE PRODUCTS
261 Victoria Avenue, Southend, Essex. Tel: 0702 43568.

SOMERSET

RAINBOW
COMPUTER CENTRE
Massive range of software in stock for BBC, COM 64, VIC-20, SPECTRUM, DRAGON, ELECTRON, ZX81.
Huge stocks of peripherals (Joysticks, Interfaces, Cassette units, Paddles, Introduction series, Reference Guides etc).
Open Monday-Sunday 9am-8pm.
Any visa accepted
For the largest selection of hardware and software in the area contact:
VICTORIA ROAD, YEOVIL, SOMERSET
TEL: 0935 26678

PHOENIX SOFTWARE CENTRE
MAIL ORDER SOFTWARE
BBC SPECTRUM ETC.
Phoenix Software Centre
88 Huish, Yeovil, Somerset
Tel: 0935 21724

CAMBRIDGESHIRE

NEMESIS COMPUTING SHOP NOW OPEN: 27 HIGH STREET, HUNTINGDON, CAMBS.

The established business computer consultants have now branched into the HOME COMPUTER market. To discuss *your* needs at whatever level call today — **0480 411984.** We pride ourselves on the individual help and attention which each of our customers receive.



MANY GAMES AT DISCOUNT PRICES
All Credit Cards accepted.

STAFFS

COMPUTER CABIN
24 The Parade Silverdale, Newcastle Tel: 0782 636911
Official dealers for Commodore, Sinclair & Acorn. BBC service and information centre
Huge range of hardware and software backed up by sophisticated service department.
New Memotech Computers now in Stock.

SURREY

COMPUTASOLVE LTD.
8 Central Parade, St. Marks Hill, Surbiton, Surrey KT6 4PJ. Tel: 01-390 5135. Open 9.30-18.30 Mon-Sat
Over 900 different software titles in stock. We are pleased to demonstrate any program before you buy.
48K SPECTRUM £129.95

LONDON

G. C. B. Software Centre
A complete range of software for *all* popular computers.
Call now at:
22 MAXTED ROAD, PECKHAM
LONDON SE15 or TEL: 639 3424

COMPUTER VID
The **leading** computer software shop.
Mail order or personal callers welcome.
GAMES FOR SPECTRUM, CBM 64, VIC-20 etc FROM £1.99
Many special offers on all software and hardware.
S.A.E. for catalogue & details to:
278A WIGHTMAN ROAD
HORNSEY N8
TEL 340-4074

CLASSIFIED – RING 01-437 0699

CLASSIFIED ADVERTISEMENT — ORDER FORM

1.	2.	3.
4.	5	6.
7.	8.	9
10.	11.	12.
13.	14.	15.

PREFERRED CLASSIFICATION

Please place my advert in Home Computing Weekly for weeks.
Please indicate number of insertions required.

Advertise nationally for only 35p per word (minimum charge 15 words).
Simply print your message in the coupon and send with your cheque or postal order made payable to Argus Specialist Publications Ltd to:

CLASSIFIED DEPT., HOME COMPUTING WEEKLY,
1 Golden Square, London W1R 3AB
Tel: 01-437 0699.

Name .....
Address .....
.....
.....
Tel. No. (Day) .....

VISA

HOME COMPUTING WEEKLY CLASSIFIED

Lineage:
35p per word

Semi display: £7.10 per single column centimetre
Ring for information on series bookings discounts.

All advertisements in this section must be prepaid.
Advertisements are accepted subject to the terms and conditions printed on the advertisement rate card (available on request).

01-437 0699
EXT 341.

Send your requirements to:
Debra Stupple
ASP LTD.
1 Golden Square,
London W1R 3AB

ACCESSORIES

COMPUTER CABINETS

A range of cabinets and housing units especially designed for your home computer system. Keep it dust free, tidy and secure.

Send S.A.E. for colour brochure

MARCOL CABINETS
PO BOX 69, SOUTHAMPTON
Tel: 0703 731168

COURSES

HOLIDAY COURSES FOR CHILDREN — Now Booking!
£46 for 5 mornings.
Adult Courses as usual
Ring: **COMPUTER WORKSHOP on 01-318 5488**
4 Lee High Road (Dept HCW), Lewisham, London SE13 5LQ

FOR HIRE

To hire a computer from Spectrum 48K upwards, please phone or write to Business & Computer Services, 294a, Caledonian Rd., London N1 1BA Tel. 01 607 0157

ADVERTISE IN OUR NATIONWIDE GUIDE AND SEE YOUR BUSINESS GROW.

COMMODORE 64 Software library

2 weeks hire £1. Annual membership £5. Stamp for list. Les Wilson, (C) 100 Blenheim Walk, Corby, Northants.

Oric Software Library. Two weeks hire £1. Annual Membership £5. Stamp for list. Les Wilson, 100 Blenheim Walk, Corby, Northants.

HARDWARE

ZX SPECTRUM INTERFACE CABLE
c/w 3 connectors and 2 PCB's £16 inclusive.
c/w 2 connectors and 1 PCB £11 inclusive.
Cash with order.
E.C.P.S.
7 Harehill Crescent, Wingerworth, Chesterfield, Derbyshire.
Tel: 0246 74003

LIBRARIES

BBC/Dragon software library — Membership £5.00. — Tapes £1 (+23p postage). Stamp for details. E. Tucker, (H) 8 Springwood Estate Grimston Road, Sough Wootton, King's Lynn, Norfolk.

COMMODORE 64 SPECTRUM
All top titles. £5.00 life membership. 75p full 7 day hire + 23p p&p SAE details
INVICTA SOFTWARE Dept HCW
42 Wardon Road Rochester Kent
Cheques PO to Invicta Software

COMMODORE 64 GAMES LIBRARY
Over 230 titles, all originals. Hire of first two games absolutely free. Life membership only £6. Join **now** on money back approval.
Send for details to:
Commodore 64 Games Library
c/o Yorkshire Software Library,
13 Park Top, Pudsey, West Yorks.
Cheques/PO's to "Yorkshire Software Library".

Computer Vid. Unique rent a tape service from £1 a week. If you like the game we take a rental fee off the cost of the game. £5 life membership. Available for popular computers. Write to: 278A Wightman Road, Hornsey N8. Tel: 340-40

VIC-20 & VECTREX LIBRARY
now available
Details to
DUKERIES SOFTWARE
39 HIGH STREET, WARSOP
NR. MANSFIELD, NOTTS

REPAIRS

Commodore repairs. By Commodore approved engineers. Repair prices — VIC-20 modulators £6.50, VIC-20 from £14.50, CBM 64 from £18.00, C2N from £7.00, printers, disk, etc. For more details write or tel. G.C. Bunce & Son. 36 Burlington Road, Burnham, Bucks SL1 7BQ. Tel: (06286) 61696.

ZX81 – Spectrum. We can now offer out-of-guarantee repairs by our Computer Dept. Our engineers have had over three years experience servicing Sinclair Computer products. Price including p&p. ZX81 — £11.50; 16K Ram — £9.95; Spectrum — £18.75. Send with cheque or PO. T.V. Service of Cambridge, French's Road, Cambridge CB4 3NP. Phone (0223) 311371.

FOR SALE

TI-99/4A SOFTWARE HALF PRICE

PARSEC/MUNCHMAN	£15.95
SOCCER/TOMBSTONE CITY/ CAR WARS/THE ATTACK	£10.95
PERSONAL REC. KEEPING	£21.95
SPEECH SYN. £29.99	JOYSTICKS £9.99
ACCESS/VISA	ACCEPTED

KETTS OF WATFORD
0923 37013

COMPUTARISTS
Your computer in colour on a large (55mm) BADGE. (Popular Home Micros). Send £1.00 your name, address and which micro to:
65 GUILDFORD RD, FRATTON, PORTSMOUTH PO1 5HU

VIC-20 programs. Twenty including six expanded games £5 inclusive Write A. Bellamy, 201 Model Village, Creswell, Worksop, Notts.

READ OUR DEALER DIRECTORY AND FIND OUT THE LOCATION OF YOUR NEAREST COMPUTER SPECIALIST.

SOFTWARE APPLICATIONS

BACK-UP TAPE COPIERS
Unique machine code programs to allow security back-up copies of your software

Available for:

COMMODORE 64	£5.95	ELECTRON	£5.95
VIC 20	£5.95	ATARI	£5.95
BBC	£5.95	SPECTRUM	£5.95

TAPE TO DISK TRANSFER UTILITIES
Speed loading and transfer your games, etc to disk
Available for:
COMMODORE 64 ..... £9.95
BBC £9.95
ATARI £9.95
ALL COMPLETE WITH FULL INSTRUCTIONS
Price includes VAT, Post & Packing. Cheques or Credit Card Number to:
EVESHAM MICRO CENTRE
Bridge St, Evesham, Worcestershire
Tel: 0386 49641
NEW SHOP NOW OPEN – Micro Centre, 1756 Pershore Rd, Cottenidge, Birmingham Tel: 021-458 4564

COPYMATE TWO
CBM 64 BACK-UP COPIER
Outstanding features include an option to *SAVE TO TAPE OR DISK*
Easy to use. Send £5.75 to:—
HORIZON SOFTWARE
15, Banburg Close, Corby
Northants NN18 9PA

Speedyload 64 loads Commodore 64 software twice as fast. Send £2.99 to G. Connell "Rosebank" Garsdon, Malmesbury SN16 9NJ

PROBLEMS WITH YOUR MACHINE? SCAN OUR SERVICE/REPAIR SECTIONS.

The contents of this publication, including all articles, plans, drawings and programs and all copyright and all other intellectual property rights therein belong to Argus Specialist Publications Ltd. All rights conferred by the Law of Copyright and other intellectual property rights and by virtue of international copyright conventions are specifically reserved to Argus Specialist Publications Ltd and any reproduction requires the prior written consent of the company.
© 1984 Argus Specialist Publications Ltd

SSN0264-4991

SPECTRUM KOPYKAT BACK-UP TAPE

Simply the best for LOADing and SAVEing your own programs. Any of your own ZX Spectrum programs can be backed-up onto a fresh tape. 100 per cent machine code. SPECTRUM KOPYKAT uses no program area so your full size programs can be copied.

Despatched by first class return of post.

Send cheque/PO for £4.95 to:

MEDSOFT
PO Box 84, Basingstoke
Hants RG25 2LW

COMMODORE 64 AND VIC-20 BACK-UP COPIERS

For *your* BASIC, machine code, and multi-part programs of any size. Both are written in machine code and audio and visual prompts are used for easy operation. Full instructions are contained in the programs.

VIC IMITATOR	£6
IMITATOR 64	£6

Please state which is required and make cheques/PO's payable to IAN WAITE

Send orders to:
IAN WAITE, DEPT HCW
11 HAZLEBARROW ROAD
SHEFFIELD S8 8AU

BACK-UP TAPE COPIER SPECTRUM/DRAGON

Makes BACK-UP COPIES of *your* SPECTRUM programs easily with MANY unique features.

- M/Drive backs-up Basic/mc/ arrays on the **microdrive** STOPS programs to help the run.
- LOADS in all program parts CONTINUOUSLY — even without pressing a key. Others require many loadings — MASSIVELY saves you time and trouble and uses no program area!
- Full instructions, very user friendly. BREAK at any time then carry on LOAD. Ideal for *security* back-up copies.

Spectrum copier only £4.49 or £5.50 with M/DRIVE. (Update service for old customers £1.50 plus old tape and S.A.E.) Dragon Copier £6.99.
FULL MONEY BACK GUARANTEE.

LERM (DHC), 10 Brunswick Gardens, Corby, Northants.

COMMODORE 64 COPYCAT TAPE

Makes security back-up copies of your own programs. m/c or Basic. Screen prompts with full instructions. £4. Cheques/PO's to: S. Galli. Dept HCW, 131 Norton Hill Drive, Coventry CV2 3BA

JET SET WILLY NEWS!

Re-design all the levels of these games by moving the girders etc around the screen with our designers. Jet Set Willy £4, Manic Miner £3.50. Chuckie Egg £3.50.

Redesign all the graphics for Jet Set Willy £3. Manic Miner £3. Back-up tape copier £3 (16 or 48K). Send S.A.E. for details or cheque/PO to: P&M Software, 16 Bridge Road, Parkgate, Nr Southampton SO3 7AE

BBC "IMAGE"

The ultimate tape back-up copier

This amazing program *must* be the best of its kind: Makes security back-up copies of *your* software and can lock your programs. Send S.A.E. for list of outstanding features 100% m/c. An amazing £3.80

PETER DONN, 33 LITTLE GAYNES LANE, UPMINSTER, ESSEX RM14 2JR

Commodore convert S.S. discs into D.S. discs/ed. + ass/scr. util./file/ home management £3.99 each + much more. S.A.E. for list. Firkin Software, 22 Toll Gardens, Bracknell, Berks RG12 3EX

HCW — COMPATIBLE WITH ALL POPULAR HOME COMPUTERS.

SOFTWARE GAMES

Computer Software and Accessories, send 2 x 16p stamps for free lists stating which computer to: Electronic Facilities, 3 High Street, Sandy, Beds. SG19 1AG

THIS WEEKS SOFTWARE BARGAINS

BBC	ATLANTIS (IJK)	5.25
DRAGON	SCANNER 13 (Bamby)	5.75
ORIC	DALLAS (CCS)	5.00
VIC-20	SPACE TRAVEL (Mikrogen)	4.50

Prices include p&p
MAIL ORDER SOFTWARE 9 KNOWLE LANE, WYKE, BRADFORD. BD12 9BE

★ TI-99/4A SOFTWARE ★ INDEX

Keeps up to 150 items by title/ language/number, with routines to autosort by title, search, delete, print hard copy. TI BASIC £3.50. Send S.A.E. for list. B. JACKSON, 21 ROWAN WAY, NEW BALDERTON, NEWARK, NOTTS NG24 3AU

BEWARE!

LORDS OF MIDNIGHT (Beyond) Spectrum	**£8.00**
SABRE WULF (Ultimate) Spectrum	**£8.00**
SHEEP IN SPACE (Llamasoft) C64	**£6.25**
BATH TIME (PSS) C64	**£6.25**
CHUCKIE EGG (A & F) C64	**£6.90**
VALHALLA 64 (Legend)	**£11.25**
FALL OF ROME (ASP)	**£5.95**

Cheques/P.O.'s to:
LA MER SOFTWARE
22 WEST STREET
WESTON-SUPER-MARE
AVON BS23 1JU
TEL. 0934 26339
(for your computer needs between 10-6pm)

PLEASE NOTE

DUPLICATING COPYRIGHTED SOFTWARE FOR COMMERCIAL PURPOSES IS ILLEGAL

SPECTRUM GAMES

We only sell the best. Order Today, Deliver Tomorrow. Postage and Packing FREE.

LORDS OF MIDNIGHT	£8.75	MOON ALERT	£4.95
SABRE WULF	£8.75	AD ASTRA	£5.00
WORLD CUP	£6.00	FIGHTER PILOT	£6.50
H.U.R.G.	£13.95	CHEQUERED FLAG	£5.95

Write or phone for our free brochure.
Orders with cheque/P.O. to:

CYGNUS TWO COMPUTER GAMES,
62 WOODLAND ROAD, CHINGFORD, LONDON E4 7EU.
TEL: 01-529 1891

SHARP

SAE for MZ-700 or MZ-80A/K software catalogue, or SAE & £2 for catalogue and sample games cassette
DCS, 38 South Parade, Bramhall, Stockport, SK7 3BJ

SPECTRUM GAMES

BEAKY	£5.50
SABRE WULF	£8.50
LORDS OF MIDNIGHT	£8.50
KOSMIC KANGA	£4.99
COSMIC CRUISER	£4.50
MUGSY	£5.99
PSYTRON	6.99

AT LEAST £1 off all SPECTRUM games. POST FREE IN UK. Send for list to
G.I. RECORDS, Cockburn St, Edinburgh Tel: 031-225 9565
ACCESS/VISA ORDERS WELCOME

WANTED

Software company with established product line requires original games and education programs. Telephone 0386 792008 evenings or weekends for details

NEW RELEASES

TI-99/4A. This magazine has a quarter-page advert with the best unexpanded programs from ★★★ PiKa Dee Software.

UTILITIES

TI-99/4A
"UNIFILE" (Cassette)
Useful filing Program for home or small business £2.95 + 50p p&p. Screen Plotting Sheets 3 types. SAE for details
A.C. Software. P.O. Box 3 Burntwood Walsall WS7 9EE

MAIL ORDER PROTECTION SCHEME

If you order goods from Mail Order Advertisers in this magazine and pay by post in advance of delivery, this publication will consider you for compensation if the advertiser should become insolvent or bankrupt, provided:

1. You have not received the goods or had your money returned; and
2. You write to the publisher of this publication explaining the position not earlier than 28 days from the day you sent your order and not later than 2 months from that day.

Please do not wait until the last moment to inform us. When you write, we will tell you how to make your claim and what evidence of payment is required.

We guarantee to meet claims from readers made in accordance with the above procedure as soon as possible after the advertiser has been declared bankrupt or insolvent to a limit of £1,800 per annum for any one advertiser, so affected, and up to £5,400 p.a. in respect of all insolvent advertisers. Claims may be paid for higher amounts, or when the above procedures have not been complied with, at the discretion of this publication, but we do not guarantee to do so in view of the need to set some limit to this commitment and to learn quickly of reader's difficulties.

This guarantee covers only advance payment sent in direct response to an advertisement in this magazine (not, for example, payments made in response to catalogues, etc, received as a result of answering such advertisements).

CLASSIFIED ADVERTISEMENTS ARE EXCLUDED.

ANIROG



Bongo

Enjoy the hilarious antics of the comical mouse as he collects the lost diamonds. He climbs ladders, slides down chutes, use transporter and trampolines to jump across the divide. Multi screen game with three levels of difficulty.

Commodore 64 £7.95 — Vic 20 £7.95 — Spectrum £5.50

Space Pilot

Realise your dreams of being king of the open skies. Fly your aircraft into unrelenting dog fights with enemy fighters. Prove how well you can handle your craft. Five stages of tough engagements.

Commodore 64 £7.95 — Spectrum £5.50

Flight Path 737

An advanced Pilot Trainer. Written by a flight simulator instructor and pilot. Panoramic Pilot's eye view.

Commodore 64 £7.95 — Vic 20 £7.95

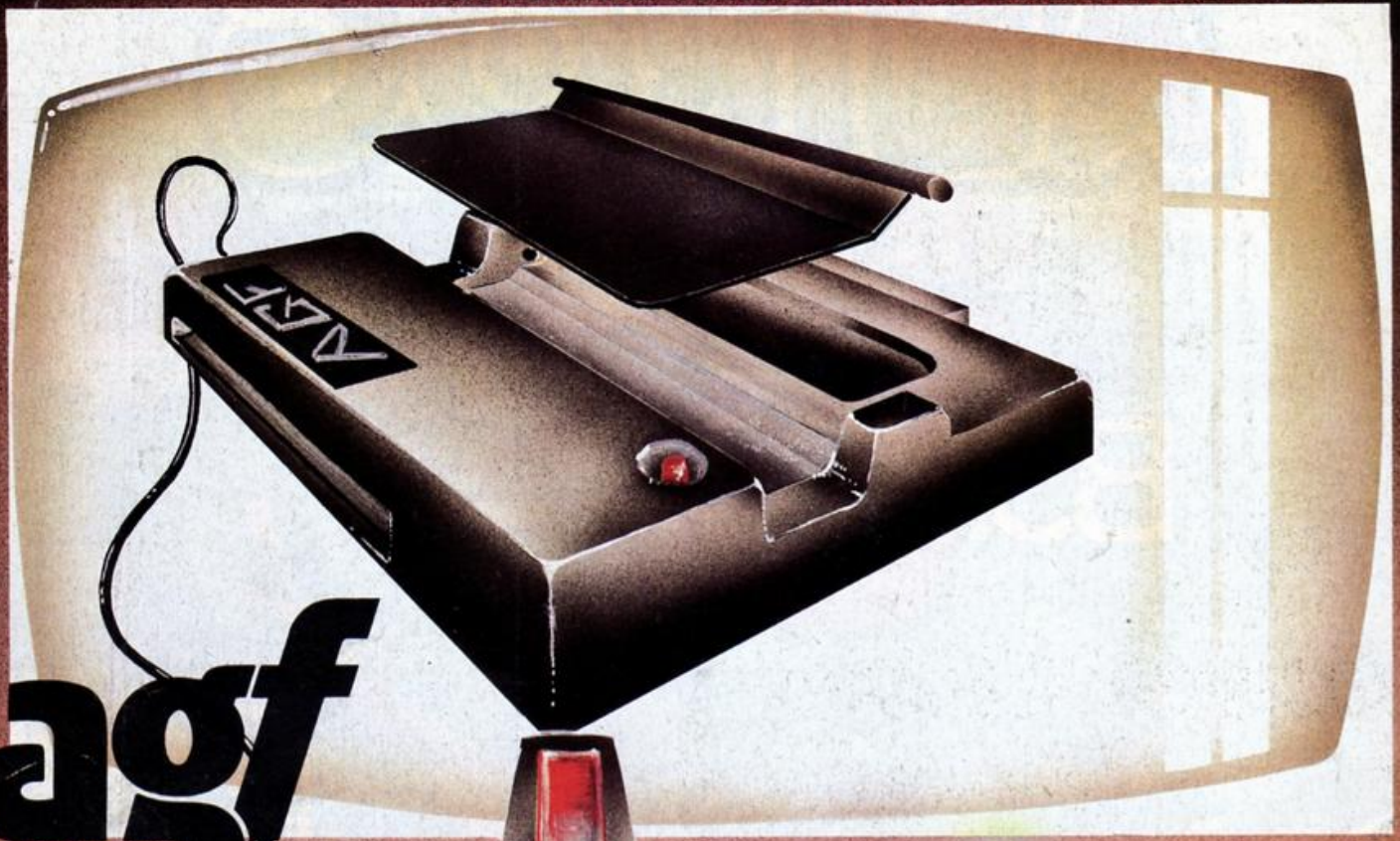
Also available on Disk at £9.95

TRADE ENQUIRIES: ANIROG SOFTWARE LTD. 29 WEST HILL DARTFORD KENT (0322) 92513/8

MAIL ORDER: 8 HIGH STREET HORLEY SURREY 24 HOUR CREDIT CARD SALES HORLEY (02934) 6083

PAYMENT BY CHEQUE P.O. ACCESS/VISA 50p POSTAGE & PACKAGING £2.00 OVERSEAS

PROTOCOL 4 GAME CONTROLLER CUSTOMISING INTERFACE for the ZX SPECTRUM



agf

FEATURES

* Fully Programmable
* Compatible with ALL Spectrum software.
* Hardware programmed by unique 'Custom Cards' that simply clip into place.
* Supplied with four preset cards and a blank for immediate use with AGF/ Protek, Kempston or Sinclair Interface 2 options.
* Blank cards are infinitely resettable for any key replication.
* Automatic eight direction control.
* Uses no memory or back up soft- ware and is not power dependent.
* Accepts any joystick, including Quickshot II with 'rapid fire' or trackball.
* Side entry joystick socket maintains the low profile of the system.
* Recessed Computer Reset button for clearing machine code games without pulling the power plug.
* Low power design – up to five Protocol 4's can be simultaneously connected for multiple control applications – only possible with the hardware programmed design approach.
* Fully guaranteed for 18 months.

DON'T SETTLE FOR LESS . . . CHOOSE AGF

AGF HARDWARE, DEPT. L, FREEPOST, BOGNOR REGIS, WEST SUSSEX PO22 9BR or Tel: (0243) 823337

Send to: AGF HARDWARE, DEPT.T, FREEPOST, BOGNOR REGIS, WEST SUSSEX PO22 9BR or Tel: (0243) 823337

QTY	ITEM	ITEM PRICE £	TOTAL £
	AGF PROTOCOL 4	30.95	
	EXTRA PACK(S) OF 5 CUSTOM CARDS	3.95	
	QUICKSHOT II JOYSTICK	12.95	
		FINAL TOTAL	

Please tick appropriate box:–

☐ I enclose a cheque/Postal Order payable to AGF HARDWARE for £ .....

☐ Please charge my Access/Barclaycard Account No. .....

Signature .....

From: MR/MRS/MISS .....

ADDRESS .....

☐ Please send me more information about AGF PROTOCOL 4.

Please allow up to 28 days from receipt of your order although we normally despatch from stock within 7 days. All AGF products are supplied on a 14 day money back undertaking. AGF Hardware, Bognor Regis, West Sussex. Telephone: (0243) 823337.