Home Computing WEEKLY

An Argus Specialist Publication

Every week: your best buy for software reviews and listings

No 75
Aug 14 – 20 1984

45p

WIN

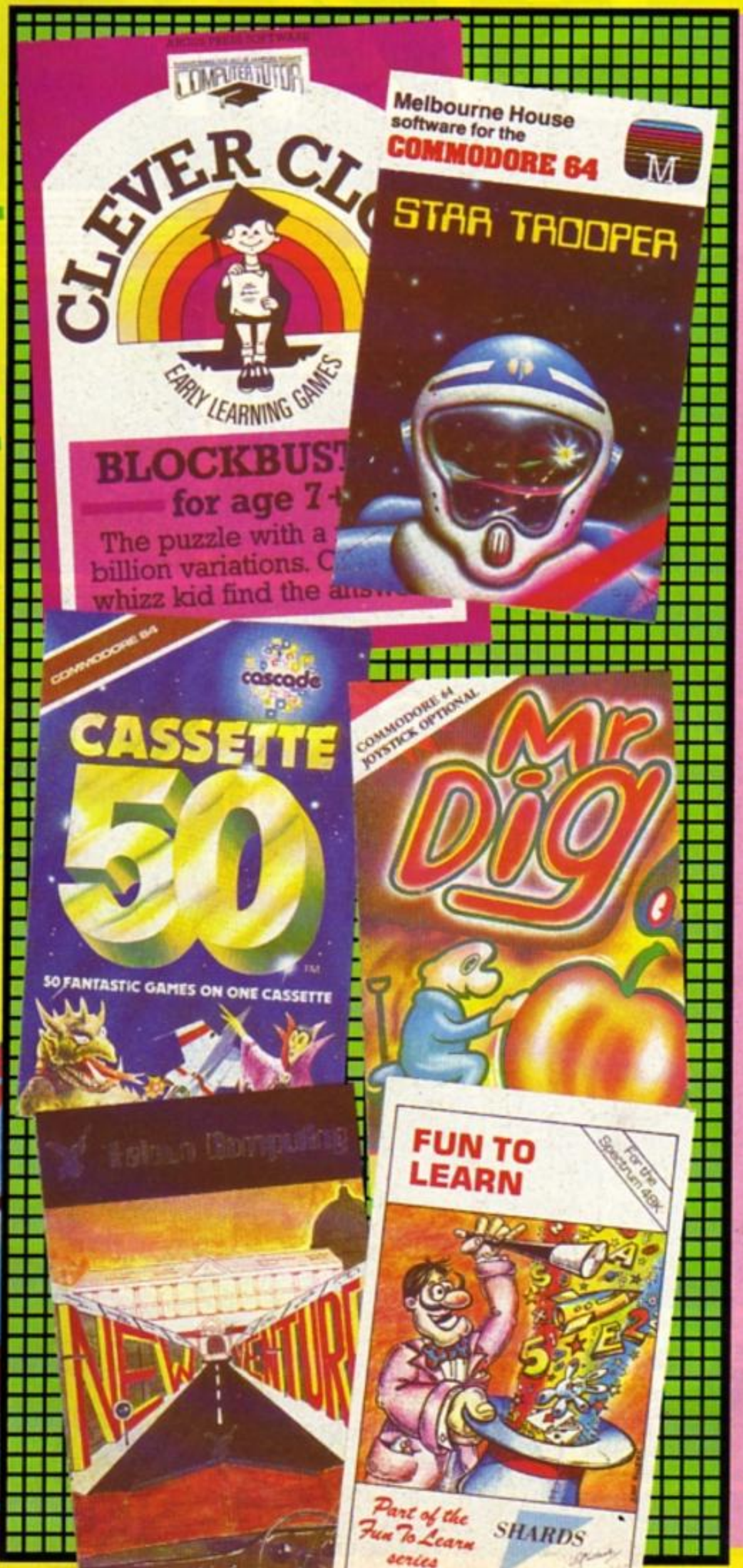
Dune Buggy, the new fast-action game from Mushroom Software

Software Reviews for: Spectrum, BBC, Electron, TI, Sord, CBM 64

Spectrum Special
Three great games to type in

BBC
Sharpen your gnashers with our Splurge Eater game!

PLUS your letters, software charts, news...



Judo star in micro show

Judo star Brian Jacks is to feature in a new BBC TV series about computers.

He will represent Mr Average as he and his wife Julie go through the process of buying a computer and learning how to use it, particularly to help their son Philip, aged five.

The new series, Micro Live, starts on October 5 at 6.30pm on BBC 2 with presenter Ian McNaught-Davis and director Patrick Titley.

Micro Live will be monthly, followed by a two-hour live show in the summer and then the series goes weekly.

Regular reports will come from a character in New York called Freff and ex-Blue Peter presenter Lesley Judd will report on UK events.

Among the items in the first show is a review of printers for home computers, a feature on the break-up of AT&T, the US phone company, on the eve of the liberalisation and

Continued on page 5

Card to foil pirates

A credit card can help stop software piracy, says Rising Edge Data (RED) which has developed a protection system.

Development has taken many months and started because Abacus programs, which owns RED, like many other software publishers, is losing money to the pirates.

RED is a simple system, claimed to be fool-proof, that can be adopted by any software company or programmer and, while it prevents mass copying, it still allows the computer enthusiast to make back-up copies.

The secret of RED is in the digitised security card which is the same size and shape as a credit card. The reader unit, which plugs into the computer, prevents the program from being run until the system is activated by the RED card.

Each card carries a magnetic coding, identical to a program code written into the software for the particular game. Only when the computer can match

Continued on page 5

HERE TO STAY

TEXAS INSTRUMENTS

HOME COMPUTER TI–99/4A £89.00

Console: 9900 Family, 16-bit microprocessor, plus 256-byte scratchpad RAM.
Memory: Total combined memory capacity: 110KBytes. Internal ROM memory supplied: 26KBytes. External ROM memory: (Solid State Software command modules) up to 36KBytes each. **RAM memory supplied**: 16KBytes (Expandable to 48KBytes). **Keyboard**: 48 key QWERTY with control and function keys (user definable), full upper and lower case capability, alpha lock, auto repeat.

"Parco Electrics is the largest retailer of Texas Instruments Home Computer products in the U.K. As its Managing Director, I offer my personal guarantee on all items we sell. Complete support from Texas Instruments now enables us to offer virtually unlimitless stocks of peripherals and software.
Parco Electrics will be pleased to help you in any way we can. Write today, enclosing a s.a.e. for our free price list and further information".

Francis Parrish

PERIPHERALS AVAILABLE:
32K expansion, RS232, Disc Drives, Control Cards, Speech Synthesiser, Joysticks, Cassette Leads .....

SOFTWARE FROM THE U.S.A.
Miner 20 49er, Buck Rogers, Startreck, Burger Time, Parsec, Pole Position, and 100s more.....
All in stock.

EXTENDED BASIC and MINI MEMORY **also in stock.**

PARCO Electrics

For a free price list and further information send a s.a.e. to:

4 DORSET PLACE, NEW STREET, HONITON, DEVON, EX14 8QS
TELEPHONE (0404) 44425

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

Home Computing WEEKLY

THE JOURNEY
THE ADVENTURE OUT SOON FROM Temptation

REGULARS

News 5

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

Mushroom Software competition 15
Spot the differences and you could win Dune Buggy, a great new game, and other software

Letters 27
The things you say to us. Don't forget, there's free software for the best letters

Classified ads start on 28

SOFTWARE REVIEWS

School's out 6
Use the summer break to reinforce what's been taught. It's fun to learn, so they say

Fun, and a bit more serious 11
Play the games... then try the utilities. But read what our reviewers say first

Games, games and more 28
A selection of games for the Commodore 64, Spectrum and TI-99/4A

HOME COMPUTING WEEKLY
BRITAIN'S BRIGHTEST

PROGRAMS

Spectrum special: Three of a kind 16
Good value for money for Spectrum-owning readers. Here's three fast-moving games to type in, all with good graphics and imagination

BBC 12
Sharpen your gnashers with this tasty game by a Home Computing Weekly regular (so it's bound to be good!)

Readers: Your programs and articles can earn cash (and the admiration of your friends!). Send them to us for evaluation by experts

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. 0442 48432. 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

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

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

LAWTON LIMITED

16 COATES CLOSE
BRIGHTON HILL
BASINGSTOKE RG22 4FE
TEL: 0256-51444

THE WAY FORWARD FOR THE TI 99/4A

Lantern..Games That Shine

SOFTWARE FOR THE TI 99 4A

NOW AVAILABLE... NEW FULL COLOUR PACKS

SEND S.A.E. FOR FULL LIST

HUNCHBACK HAVOC

Guide Egor through his masters castle. 24 different screens.

CRAZY CAVER

Superb graphics and animation you won't want to stop playing. 12 Screens.

TI-BASIC £5·95

NEW RELEASE

EXT-BASIC £6·95

WONKEY WARLOCK

A viscous dragon has stolen the Crown of Zol, 5 sheets of graphics action.

NEW RELEASES

BUILDER/MINEFIELD

Two fabulous games for the price of one!

TI-BASIC £5·95

BUILDER/ MINEFIELD

TI-BASIC £4·95

'Send cheque or postal order to' .....

LANTERN 4 HAFFENDEN ROAD TENTERDEN KENT TN30 6QD.

STERLING £ SOFTWARE

PROGRAMMERS

£1,000 REWARD!

We are offering a prize of £1,000 for the best arcade game program submitted to us by August 31, 1984 for either the 48K Spectrum, Commodore 64 or Amstrad. The program must be your own copyright which will be assigned to us on presentation of the award. The winner will also receive royalties based on our normal, escalating royalty package, for all copies of the program sold for any home computer. To enter, submit a copy of the program together with full operating instructions to:

R M Summers
STERLING SOFTWARE
Garfield House
86-88 Edgware Road
London W2 2YW

The decision of the publishers will be final and the name of the winner will be announced in the computer press.

Sterling Software is a division of Sterling Publications Limited.

It's easy to complain about advertisements. But which ones?

Every week millions of advertisements appear in print, on posters or in the cinema.

Most of them comply with the rules contained in the British Code of Advertising Practice.

But some of them break the rules and warrant your complaints.

If you're not sure about which ones they are, however, drop us a line and we'll send you an abridged copy of the Advertising Code.

Then, if an advertisement bothers you, you'll be justified in bothering us.

The Advertising Standards Authority.
If an advertisement is wrong, we're here to put it right.

ASA Ltd, Dept 2 Brook House, Torrington Place, London WC1E 7HN

This space is donated in the interests of high standards of advertising.

Judo

From front page

privatisation of British Telecom.

Mr Titley said the series would cover the whole world of information technology: "Everything that has a chip in it!"

Card

From front page

the code on the RED security card with the code on the tape, does it allow the game to commence.

This means that although tapes can be copied, the program will not run without a RED card — making it useless to pirates.

Managing director Cathie Shaw said: "The ideal situation would be where every person who has a home computer would also have a RED system — then we would have total software protection!"

Mrs Shaw explained that the cost for RED on a business system was somewhere in the region of £20 and said: "But the cost for a home computer will be proportionally less — and I expect it to be about £4!"

Cost of the software should not alter. According to Mrs Shaw: "The cards are very inexpensive, and should easily be absorbed within the profit margins of software companies!"

Rising Edge Data, 716 Llangyselach Road, Swansea

Sounds great!

Use your Spectrum to create new sounds. Just out from dk'tronics: Beep Amplifier, with volume control (£14.95) and Three-channel Sound Synthesizer (£29.95).

The synthesizer incorporates the beep amplifier to improve sound quality and output. This interface means you can program your own music over a complete eight-octave range as well as control three channels of tone and/or white noise.

dk'tronics, Unit 6, Shire Hill Ind Est, Saffron Walden, Essex CB11 3AQ

All clued up

Adventure games are gaining in popularity, and the big test for software houses is to find one that stands out from the crowd. Soft Concern thinks that The Code does just that — "it's an adventure game with a difference", is the claim. The added incentive to complete the game is a cash or computer equipment prize worth £2,500 for the first correct entry.

The Code runs on the 48K Spectrum and costs £9.95. When you play the game, you're thrown into a spy thriller scenario. Your time is limited and your mission is to piece together clues and move between the four levels to reach the code room. This is where the real puzzle begins. Hazards you encounter are enemy agents, time bombs and red herrings.

Soft Concern is doing its bit to thwart piracy by coding all copies of the cassette together with the buyer's name and address. If you order by mail, your cheque must have your banker's card number on the back.

Soft Concern, PO Box 65, Warwick CV34 4JY

Summer releases from Shards include Operation Safras for the Dragon. Promoted as the long awaited sequel to Pettigrew's Diary, Shards claims it has some of the best sound and graphics available for the Dragon, as well as over 90K of mystery and suspense and a free music tape offer. Price: £7.95.

Shards, Roycraft Hse, Linton Rd, Barking, Essex

Three new games from Kerian: Crystal Frog, Motorcycle Crazy! and Meltdown. They cost £5.95 each and run on the 48K Spectrum. Crystal Frog and Motorcycle Crazy! are adventures, while Meltdown is an arcade game.

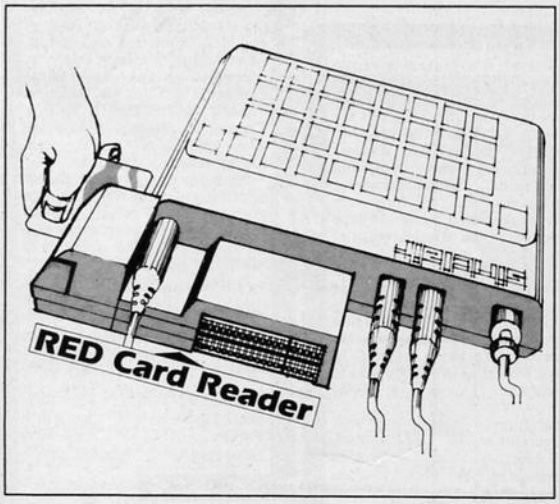
Kerian, 29 Gisburn Rd, Hessle, N Humberside HU13 9HZ

You may remember reading about Database's Micro Olympics. Well, now it's available for the Commodore 64 and Spectrum as well as the Russians. Perhaps this game will be one small step to promoting world harmony, even if the Olympics fail to do just that...

Database, Europa Hse, 68 Chester Rd, Hazel Grove, Stockport SK7 5NY

Argus Press Software has launched a series of programs called Mind Games. Three are now on general release, and nine more will be ready by September. They're games of strategy, and the first three are science fiction based. Orion Quest, Quest for Eternity and Star Force Seven have one thing in common: you are in a hostile universe and you have to think your way out of your problems. Initially available for Spectrum, BBC and CBM 64, they cost £7.99 for the Spectrum and £9.99 for BBC and Commodore versions.

Argus Press Software, No. 1 Golden Square, London WLR 3AB



RED's "credit card" system in action

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

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.

VIDEO SOFTWARE LIMITED

Fun to Learn 6-12
48K Spectrum
£6.95

An invitation to enter your name precedes Menu offering games, option to change screen writing speed, user's name and see total score.

Count has a number of letters which you must count. Correct answers play a short tune but wrong answers bring a deep tune and some comment, followed by replay option or return to Menu.

Mixer, a word recognition game, allows you or the computer to choose anagrams. One-letter can be requested, which lessens the score. It's a shame upper case is used.

Calculation is where numbers up to four figures entered by the player are calculated by the computer offering the four rules — unfortunately not in scholastic vertical format.

Starship is a form of Hangman, where an alien zaps a building with every mistake, or your spaceship when you fail, while the ship zaps an alien if you are correct.

Codebreaker allows decoding or coding of a word with one of three codes on screen (or your made-up one) or the computer codes or decodes it for you.

Large redefined character set is used throughout. **T.W.**

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

★ ★ ★ ★

Billy Ball Plays Catch
TI-99/4A £6

Stainless, 10 Alstone Rd, STockport, Cheshire

Another game featuring an amusing character by the name of Billy Ball. Last I saw of him he was at a hatchery, here he's busy playing catch.

Various items fall down the screen, one at a time, and Billy must catch them. If he misses three times, he will lose a life.

A fierce green monster tries to stop our little friend, so Billy may either evade him by climbing ladders and jumping from platforms, or take more positive action by punching him, should he come too close for comfort. The monster sometimes goes rather red in the face, however, and speeds up his chase for revenge.

If Billy successfully catches, a box at the bottom of the screen is filled in. When all have been filled he progresses to more difficult screens.

All have superb graphics, which compensate for the somewhat slow action during the game's initial stages, but things definitely "hot up" after the fourth screen. Needs Extended BASIC, joystick. **J.W.**

instructions	90%
playability	80%
graphics	90%
value for money	100%

★ ★ ★ ★ ★

School's out for summer

Use the summer break to reinforce your child's education with these programs. It's fun to learn, so they say

Maths Utilities Library
48K Spectrum
£8.95

Solway, 6 Curzon St, Maryport, Cumbria CA15 6LL

A combination of Solway's three utilities packs — with a saving of £1.55 — which can only be used on a 48K machine. If the programs halts at any time due to an error correction it can be restarted by entering RUN 5.

The contents offers graph plotter, linear regression, mean and standard deviation, zeroes of functions, rectangular and polar co-ordinates, circular geometry, triangle solution, regular polygon solution, numerical integration, change of bases, simultaneous equations and quadratic equations. It is not a teaching program — its use is in producing solutions quickly to problems.

Each section-ending allows return to Contents — shown by a green 'r' screen top right — or to repeat that section.

The instructions are carefully planned to take you through from start to solution, and each program is accessed by pressing the appropriate key shown on the contents list display.

My copy was pre-production, accompanied by 16 A4 sheets of explanation, so I would be interested in seeing how those explanations reduce on to a cassette insert — or will a printed booklet replace them? Fair use is made of the Spectrum's potential of music, colour and memory. **T.W.**

instructions	75%
ease of use	65%
display	50%
value for money	60%

★ ★ ★

Blockbuster
48K Spectrum
£7.95

APS, No. 1 Golden Square, London W1R 3AB

In this Computertutor program Clever Clogs comes on screen flashing "Hello", giving his name to the accompaniment of music and asking for your name. Music announces instructions, which take up six screens. A menu offers choice of Whacky Blockbluster — where the computer explains how to go about it; Blockbuster — where you play; and Blockbuster Quiz — where answering 12 questions correctly allows you to see one way to complete the puzzle.

Layout, colour, sound, graphics and movement are superb making this program a pleasure to play and addictive. The object is to make a rectangle out of 12 blocks. A box is provided to enable you to flip a piece over, and the five levels are sensibly labelled from easy, to almost impossible (other programmers take note) and relate to the rectangle's shape.

You can quit at any time — or save a completed puzzle on tape — and are then offered replay or end program facilities.

This program, for age 7+, stretches the brain and teaches shapes, relationships and co-ordinates. A useful facility is that the questions can easily be altered. A prize is offered to those who send in two answers to level four. **T.W.**

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

★ ★ ★ ★

Shipshapes 3 =
48K Spectrum
£7.95

APS, No. 1 Golden Square, London W1R 3AB

This colourful Computertutor program, for use by parent and child, contains five games with machine code animation and lively graphics to encourage shape recognition.

My queries would be the inclusion of names in Shapemaker. After inputting up to 10 sides the computer draws the shape on screen with its name — three-year-olds knowing nonagons! and Pattern Maker has shapes which can be moved by using cursor keys — why?

That aside, it's a pretty program which would entrance three-year-olds with its use of graphics, animation and sound. After using this they ought to recognise triangles, circles, diamonds, squares and oblongs. Superb horizontal scrolling "turns" the pages and the Index gives choice of games, each having simple instructions.

Shapesorter has small shapes appearing in a box which must be given a name — correct answers cause Clever Clogs to smile with a pleasant tune, but wrong ones make him grimace.

Shipshapes is a game where a helicopter flying over a ship can be made to drop various shapes, depending upon which keys are pressed, on to a ship before it sails. **T.W.**

instructions	65%
ease of use	70%
display	80%
value for money	60%

★ ★ ★

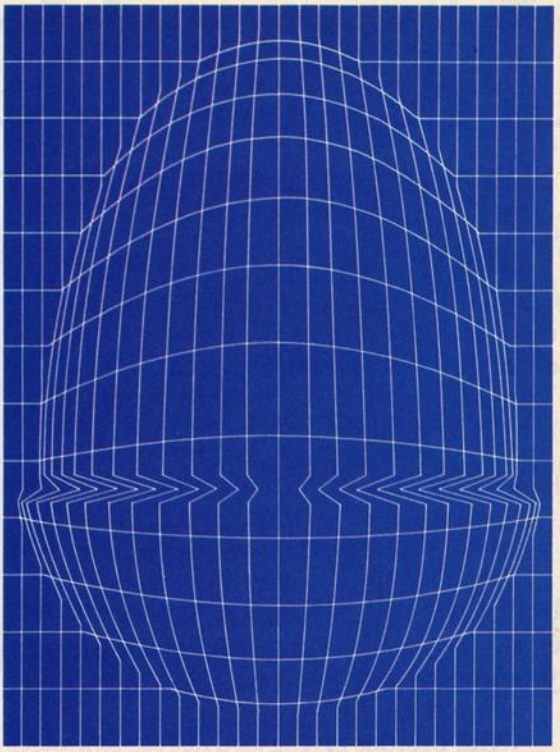
THIS IS THE BIG ONE!

The 2nd Official Acorn User Exhibition

OLYMPIA AUGUST 1984

Thursday 16th – 10am to 7pm
Friday 17th – 10am to 6pm
Saturday 18th – 10am to 6pm
Sunday 19th – 10am to 5pm

* Please note 10am to 2pm on Thursday 16th is Trade Morning – By invitation only.



BIG VALUE

The success story of Acorn Computers, the BBC Micro and Electron is mirrored by suppliers who have produced more and more hardware, software, supplies and services. And they'll all be at the exhibition – disk drives, plotters, printers, monitors, joysticks, robots, books and magazines, all kinds of software – everything for the Acorn owner.

And of course Acorn will be there in force with all their latest developments and software.

There'll be special offers, competitions, advice centres and special events as well.

And all this for only £3.00 at the door, under sixteens £2.00. (Use the coupon to beat the queues and save £1.00).

BIG VENUE

Olympia 2 is the brand new exhibition centre next to the old Olympia. It's got everything, wide gangways, lots of space to sit down and rest, plenty of catering areas.

Getting there is easy too, its got its own tube station, bus routes 9, 27, 28, 33, 49, 73 and 91 go right pass the door, and there's car parking too!

BIG SUPPORT

Remember this is the *Official* Acorn User Show, it's the most informative prestigious and influential user show in the country. Whether you're a businessman, serious user or games enthusiast there's something for you.

For details of exhibition stands and advance ticket sales contact the organisers.

Computer Marketplace (Exhibitions) Ltd. A Rushworth Dales Group Company, 20 Orange Street, London. WC2H 7ED Tel: 01-930 1612

BEAT THE QUEUES! SAVE MONEY! ORDER YOUR TICKET IN ADVANCE.

Buy your ticket now and save queing. There will be special entrances for advance ticket holders.

Please send me _____ (qty) tickets at £2.00 and _____ (qty) under sixteen tickets at £1.00. I enclose my cheque/PO to the value of £_____ or debit my Access card. No. _____

NAME _____ SIGNED _____

ADDRESS _____

_____

_____ POSTCODE _____

GROUPS – Order 15 or more tickets and you qualify for a further 20% discount.

To: Computer Marketplace (Exhibitions) Ltd. A Rushworth Dales Company, 20 Orange Street, London WC2H 7ED.

Now, the BBC

The BBC Micro has now taken a giant step into the world of business computing.

With the addition of its new Z80 second processor, it is the first computer at anywhere near its price to become fully compatible with CP/M software.

As most business computer users can verify, CP/M is the most widely used form of software in business today.

For £299, you're well and truly in business.

At £299, the Z80 adds 64K of usable RAM to the BBC Micro. And it allows you to use the CP/M 2.2 computer operating system.

It's extremely fast.

And besides giving you access to a vast new area of software, it enables you to use GSX graphics-based programs, the perfect complement to the BBC Micro's own superb graphics.

Free software and languages.

The Z80 second processor comes complete with five CP/M business programs.

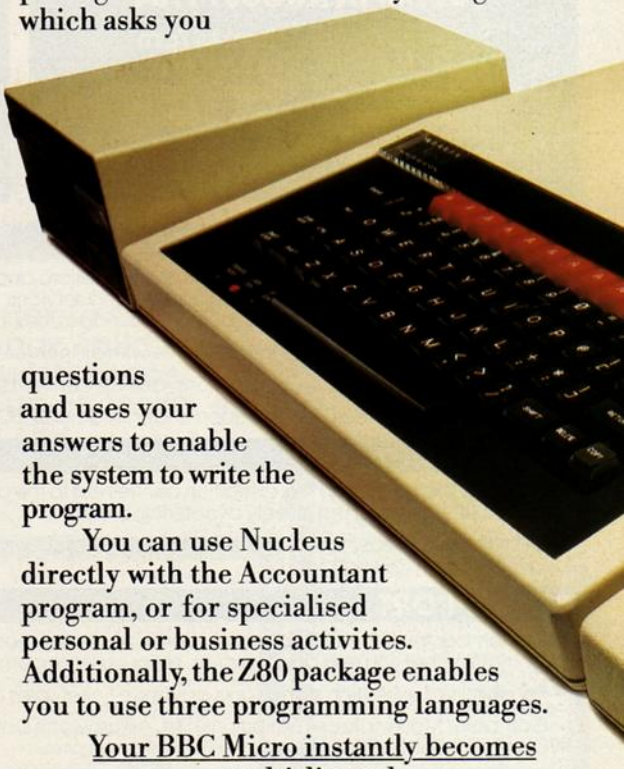
To handle your word processing, there's MemoPlan. It's a program with some highly sophisticated features, such as a safeguard against data loss through power cuts and the ability to show two documents simultaneously on the screen.

To form your CP/M personal database, there's FilePlan. It stores names, addresses, telephone numbers, stock listings and more. And if you use it with MemoPlan, you can generate personalised letters, labels and mail shots.

To produce forecasts and analyse groups of figures diagramatically, simply use the GraphPlan program. This is incredibly helpful in working out vital business calculations, converting them into graphs and charts.

Meanwhile, in the book-keeping department, there's the Accountant program. Use it to enter day-to-day transactions into the computer. Then, at any time, you can ask the computer to produce lists, summaries, reports, audit trails and trial balances. You can readily expand this package to a fully ledger based system, complete with payroll and more.

Finally, to help you to develop your own programs without having specialised experience, the Z80 comes with another software package called Nucleus. It's a system generator which asks you questions and uses your answers to enable the system to write the program.



You can use Nucleus directly with the Accountant program, or for specialised personal or business activities. Additionally, the Z80 package enables you to use three programming languages.

Your BBC Micro instantly becomes multi-lingual.

To simplify writing your own software with the Z80, there's BBC BASIC.

For running professionally written business programs, there's Professional BASIC.

And then there's CIS COBOL, the leading microcomputer version of COBOL, the language used in mainframe computer applications throughout commerce and industry.

With CIS COBOL, the Z80 also gives you two sophisticated programming aids.

CP/M is a registered trademark of Digital Research Inc.

Macro.

One is Animator, an award winning debugging tool which enables you to identify programming errors quickly and easily.

The other is FORMS 2, which helps you to write your own interactive programs in COBOL.

With all these sophisticated features, the Z80 package is exceptional value for money. Indeed, bought separately the programs and languages could cost as much as £3,000.

<u>See the Z80 at work.</u>

The Z80 second processor is designed to be used with the BBC Micro Model B incorporating a Series 1.2 Machine Operating System and linked to a dual 80-track disc drive, a printer and monitor.

Ask your BBC Micro dealer to show you just how far it can go in the world of serious business computing.

For your nearest dealer, ring 01-200 0200.

<u>Technical specification.</u>

The Z80 has a 64K Random Access Memory, running CP/M 2.2 which provides approximately 55K bytes of RAM for user programs.

It operates at a clock rate of 6MHz.

Power supply is integral. Height, 70mm. Width, 210mm. Depth, 350mm.

The BBC Microcomputer System.

Designed, produced and distributed by Acorn Computers Limited.

CHARTBUSTERS

BRITAIN'S SOFTWARE CHARTS

by the ASP Market Research Group

ARCADE

1	Match Point	Sinclair	Spectrum (2)
2	Sabre Wulf	Ultimate	Spectrum (3)
3	Fighter Pilot	Digital Int.	Spectrum (-)
4	Lords of Midnight	Beyond	Spectrum (-)
5	Trashman	Quicksilva	CBM 64 (4)
6	Beach Head	US Gold	CBM 64 (1)
7	Frak	Aardvark	BBC (9)
8	Jet Set Willy	Software Projects	Spectrum (5)
9	Son of Blagger	Alligata	CBM 64 (6)
10	Tornado Low Level	Vortex	Spectrum (-)

NON-ARCADE

1	Valhalla	Legend	CBM 64 (1)
2	Mugsy	M. House	Spectrum (2)
3	War of the Worlds	CRL	Spectrum (5)
4	The Hobbit	M. House	CBM 64 (-)
5	Fall of Rome	APS	Spectrum (3)
6	The Inferno	R. Shepherd	Spectrum (8)
7	Sphinx Adventure	Acornsoft	BBC (9)
8	Aviator	Acornsoft	BBC (-)
9	Mastermind	Commodore	CBM 64 (-)
10	Classic Adventure	M. House	CBM 64 (-)

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

SPECTRUM

1	Match Point	Sinclair (1)
2	Mugsy	M. House (-)
3	Fighter Pilot	Digital Int. (-)
4	Stop the Express	Sinclair (2)
5	Jet Set Willy	S. Projects (-)
6	Code Name Matt	Micromega (-)
7	Night Gunner	Digital Int. (-)
8	Pystron	Beyond (-)
9	Jack & the Beanstalk	Thor (-)
10	Bulls Eye	Mastertronics (-)

COMMODORE 64

1	Hektik	Mastertronic (1)
2	The Election Game	Mastertronic (4)
3	Squirm	Mastertronic (3)
4	Trashman	Quicksilva (5)
5	Sheep in Space	Llamasoft (6)
6	Encounter	Hi-Tech (7)
8	Son of Blagger	Alligata (-)
9	Loco	Alligata (-)
10	Incredible Hulk	Adventure Int. (8)

DRAGON 32

1	Chuckie Egg	A & F Software (-)
2	Hunchback	Ocean (1)
3	Ugh!	Softek (2)
4	Dungeon Raid	Microdeal (7)
5	Buzzard Bait	Microdeal (-)
6	Dragon Chess	Oasis Software (-)
7	Mr Dig	Microdeal (-)
8	Cuthbert goes Digging	Microdeal (-)
9	Cuthbert in the Jungle	Microdeal (9)
10	Devil Assault	Microdeal (10)

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

VIC-20

1	Flight Simulator	Ferranti Davenport (-)
2	Bewitched	Imagine (-)
2	3D Maze	Mastertronic (9)
3	Computer War	Creative Sparks (10)
=	Wizard & the Princess	Melbourne House (-)
5	Tank Commander	Creative Sparks (-)
6	Crazy Kong	Interceptor Micro (5)
7	Tower of Evil	Creative Sparks (-)
=	Games Designer	Galactic (-)
9	Sub Commander	Creative Sparks (-)
10	M.L.A.B.A.T.E.T	Llamasoft (-)

BBC

1	Football Manager	Addictive Games (1)
2	Aviator	Acorn (-)
3	Snooker	Visions (6)
4	Word Wise	Computer Concepts (-)
5	Spectipede	Mastertronic (2)
6	Rubble Trouble	Micropower (5)
7	Demolator	Visions (-)
8	Q Man	MRM (6)
9	Diamond Mine	MRM (-)
=	Spitfire Command	Superior Software (-)
=	Ghouls	Micropower (3)

ZX81

1	Alien Rain	CRL (4)
2	Krypton Ordeal	Novus (2)
3	Planet Raider	Novus (2)
4	Black Crystal	Carnell (-)
5	Walk the Plank	Novus (5)
6	ZXDB Disassembler Debug	Bug Byte (-)
7	Games 1K	Sinclair (-)
8	Mothership	Sinclair (9)
9	Espionage Island	DK'Tronics (-)
10	Meteor Storm	DK'Tronics (-)
=	Adventure	Bug Byte (7)

Spiders/ Simon/Granny Unexpanded Sord M5 £12.95

CGL, CGL Hse, Goldings Hill, Loughton, Essex IG10 2RR

In **Spiders**, you must move a little figure to the other side of the screen. The difficulty is that you are pursued by large, venomous spiders and you must avoid their webs. The idea is good and the characters are well defined. The only problem is that it's incredibly difficult to get a decent score, so you're left feeling frustrated and angry!

Simon is the M5 version of the electronic game. The object is to correctly repeat an increasing sequence of colours, numbers and sounds. This is a good implementation but I found the original electronic game boring and this version didn't interest me either. I suppose you could get hooked if you like the original though.

In **Granny**, you are in control of the green man whose task is to get the old ladies across the busy road. The storyline is good but the sound and graphics could have been infinitely better.

These games are fun for the first few goes but would probably pall after that. It's a shame machine code was not used.) **S.S.**

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

★ ★

Pengi TI-99/4A £5

Stainless, 10 Alstone Rd, Stockport, Cheshire SK4 5AH

Pengi is an original game in which a small character is being chased by yetis. (Judging by the scenery, the action takes place on a mountain range.)

On the first screen, you must kill two yetis, in the second, four, and in the third, six, and so on.

To kill a yeti, you must use the space bar to push a block of ice at him. This isn't as simple as it sounds, because each block of ice must travel over at least one space before hitting a yeti. If an ice block is pushed into another ice block before moving over any spaces, it will shatter.

Things get really tough when the screen becomes very yeti-infested. Every time a yeti moves into a block of ice, the ice vanishes, and the more yetis, the less ice.

Only a very small portion of the screen is used to display the action. This, as well as the lack of sound, is probably to speed the game up, but it does not make full use of the TI's facilities.

However, very good graphics are used in the top half of the screen to show beautiful, snow-caped mountains. **J.J.**

instructions	70%
playability	70%
graphics	85%
value for money	60%

★ ★ ★

Fun, and a bit more serious

Play the games... then try the utilities. But read what our reviewers have got to say first

Cassette File Handling TI-99/4A £3.50

B. Jackson, 21 Rowan Way, New Balderton, Newark, Notts NG24 3AU

An Extended BASIC cassette filing program for all those who have either been unable to master file processing or don't have the time or patience to produce their own routines. In some respects it is better than the Personal Record Keeping module, in others, worse.

For the price, I reckon it's very good value. Each file consists of up to 100 'cards', and each card can contain up to four items of information. The name of a file can be up to 14 characters, and the names of the items of information can be up to 24 characters. Each item of information can be up to 23 characters, allowing you to store a greater amount of data per item than the 15 offered by the PRK module.

However, only four items per page places some restriction on, for example, an address book file. Among the options are Insertion, Deletion, Addition of items, and alphanumeric sorting by item. Documentation is sparse, but then little is needed for a program which is largely self-explanatory. For large files, however, cassette storage is impractical and rather risky, due mainly to the problem of shedding oxide and consequent drop-out. **P.B.**

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

★ ★ ★ ★

Slot Expanded Sord M5 £5.95

CGL, CGL House, Goldings Hill, Loughton, Essex IG10 2RR

Slot is an implementation of the popular gambling game, One-armed Bandit. When it's loaded, the reels are drawn and you start with a fixed amount of credit. When you press 1, the reels change — absolutely no animation - and your credit is adjusted accordingly to the result of the reels.

You may be given the chance to Nudge or Hold as in the real version. I'm a terrible player and have sworn never to play this game, but in this version, I won money without even looking at the reels and in the end I was desperately trying to run out of money with no success! Games shouldn't be too difficult but this is ridiculous.

Technically, the program is just better than awful. What happened to sound effects and smooth animation?

I've always thought implementing gambling games on computers was a waste of time since the attraction of the real thing was the thought of making money and this program does nothing to change my view. Quite honestly, this program wouldn't even be worth publishing as a magazine listing. **S.S.**

instructions	50%
playability	0%
graphics	10%
value for money	0%

★

Music Maker/ TI Ludo/ Charset 1 TI-99/4A £5.95

PiKaDee, 35 Parker St, Preston, Lancs PR2 2AH

Three programs, the most outstanding of which is TI Ludo. It's worth the money for this alone. The game is for one to four players. The computer will participate if requested but, I warn you, it does have an uncanny knack of winning.

Music Maker is a brave attempt at a difficult program to produce, for creating tunes on the TI. Those you compose may be saved in files and loaded when you want to play them again. The example is a rendering of Lily the Pink.

The screen display shows two staves. Using the cursor keys, notes, from F below Middle C to F flat three octaves above this, may be entered. Complete options are included to change mistakes and edit notes in memory. Tunes may be played as two or three note chords, or with a very effective echo.

Unless you have a basic knowledge of music, you'll find this difficult to understand and use.

Charset 1 contains character sets re-defined and their hexadecimal codes stored in DATA statements to use in your own programs. **J.W.**

instructions	80%
playability	70%
graphics	50%
value for money	90%

★ ★ ★ ★

Shar gnas

Wrap your lips around some tasty morsels. This exciting game by Kevin Boyd is well worth the time and effort of typing in. It's a hit!

You're a gourmet Splurge Eater On this grid, living in walled dens, are Splurges, which are tasty and apetizing. A feast is in store for you.

Wherever you walk around the grid, you destroy the squares you walk on. You can only walk on grid squares, so you need to plan your route.

Full instructions are given in the text. Beware the hidden danger — the guardian of the Splurges. Your life is in danger from him. He doesn't appreciate the Splurges being eaten so he won't let you get off lightly.

The game runs on any BBC with an O.S. of 1 or greater. The program is only 4K, so there's enough room for expansion on a tape system. You could animate the Splurges, using explosion characters, so that they appear to die away. You could add speech if you have a speech chip. If you know machine code you could speed the game up, as after grid 7 the response speed of the Splurge Eater slows down slightly.

Type in the first program and save it with the name SP-INTR. Then type in the second listing and save it with the name SPLURGE.

PROCedures

MAN lines 90-360 This PROCedure moves the Splurge Eater around the screen in response to keys pressed. It also animates the movement of the Splurge Eater's mouth and calls up the procedure to MOVE LINE when the TAB key is pressed.

This procedure also detects if the Eater has eaten a Splurge and if so it calls up EAT SPLURB. If the Eater is trying to move on to a blank square instead of a grid square, the procedure will not allow it to move.

MISSILE lines 380-590 This PROCedure contains the logic for the missile to home in on you and the routine to make it move across the screen without destroying what is already there.

This routine does not work properly and will sometimes erase what is below it; this is no major problem but you may like to solve it. The homing routine from 400-500 works but could do with some improvement.

Set Up lines 610-850 This PROCedure draws up the grid and positions Splurges around the screen making sure two Splurges do not overlap.

The number of Splurges printed is calculated at line 740 using the difficulty number as the random number seed. This means each new game has different numbers of Splurges appearing on the same board and you don't get a steadily increasing amount of Splurges as you progress through the game.

FN READCH(X,Y) lines 870-910 This function calls up a machine code routine generated by PROC ASS. This routine is used a great deal so machine code was necessary. What it does is read the value of a character at the location provided by X and Y and return that value in C.

KILL lines 920-1000 This PROCedure generates the graphics and sound effects when the Splurge Eater is caught by the missile. One is deducted from the number of men you have left and then the board is set up again.

EAT SPLURB lines 1020-1060 This PROCedure is called when a Splurge is eaten. It generates a sound effect and adds 10 to the player's score.

New Board lines 1080-1210 This PROCedure is called when all Splurges have been eaten. It calculates the bonus, depending on the time taken to clear the board. The bonus is printed on the screen, the reward tune is played and the screen is animated together with the tune. As this happens every time a board is cleared the tune and display may get a bit tiring so if the space bar is pressed during the routine the music will stop. The speed of the MISSILE is increased, the bonus added to your score and a new board set up.

Score Board lines 1230-1250

AGAIN lines 1270-1390 This PROCedure is called at the end of the game. It prints your score and tells you if you have the high score. It then asks you if you wish to try again.

MOVE LINE lines 1410-1500 This PROCedure is called up when the TAB key is pressed. The routine moves the line the player is on one space to the left and deducts 5 points from the players score. The routine will not work if the player does not have enough points to pay for the move or if a Splurge is at the end of the line and would disappear if activated. If this happens a warning buzz will sound.

ASS lines 1520-1610 This PROCedure assembles the machine code used by FN REACH. The routine takes up 90 bytes and is stored in variable memory at line 1530.

DEATH TUNE lines 1620-1700 This PROCedure plays the death march at the end of the game before PROC AGAIN is called.

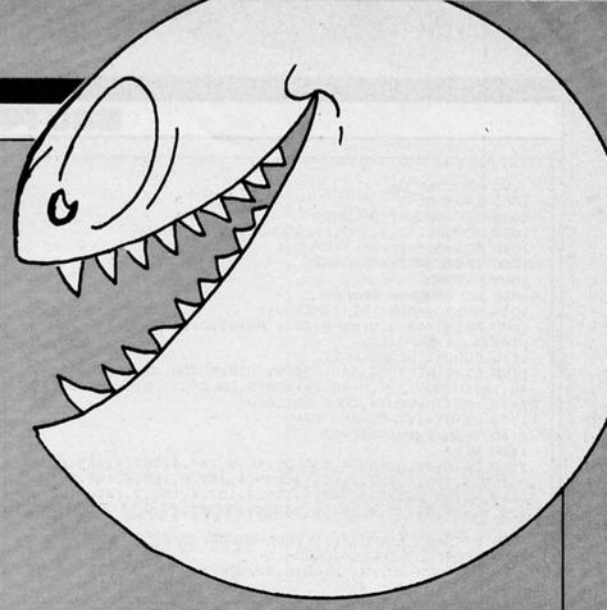
Variables

DEL% counter to determine speed of missile
SPEED determine speed of missile
LIVES% number of Splurge Eaters left
SC% score
HSC% high score
BRD% board number
MAN% character used for Splurge Eater, used for animation of Eater's mouth
NB% flag set when new board is required
PX%,PY% Splurge Eater's X and Y co-ordinates on screen
MX%,MY% missile's X and Y co-ordinates on screen
CR% contains value of character at location returned by FN READCH
OLDC% hold the value of character to which missile is about to move on, used to reprint character after missile has moved to another location
SPL% number of Splurges eaten
ANM amount of colours used in setting up and animating grid
COL%( ) array holding possible colours for animation
L$ used in MOVE-LINE procedure to hold contents of line being moved

Listing 1

```
    1 REM **********************
    2 REM **  S P L U R G E   **
    3 REM **  W R I T T E N   **
    4 REM **        B Y       **
    5 REM **   KEVIN  BOYD    **
    6 REM ** DEC 83 to JAN 84 **
    7 REM **********************
    8
   10 REM _DEFINE CHARACTERS & ENVELOPES
   20 VDU23,233,153,126,24,165,165,24,126,153,23,234,66
,126,24,102,102,24,126,66
   30 VDU23,235,66,102,24,90,90,24,102,66,23,236,66,36,
24,66,66,24,36,66
   40 VDU23,237,0,36,24,36,36,24,36,0,23,238,0,0,24,24,
24,24,0,0
   50 VDU23,224,&3C18;&66E7;&3CE7;&0018;
   60 VDU23,225,&DBFF;&FF99;&C381;&FFC3;
   70 VDU23,226,&FEFE;&FEFE;&FEFE;&00FE;
   80 VDU23,227,&DBFF;&FF99;&FF81;&FFFF;
   90 ENVELOPE1,8,1,-1,1,1,1,1,120,-4,0,-3,126,0
  100 ENVELOPE2,1,100,127,100,1,1,1,100,-3,-2,-1,80,0
  110 ENVELOPE3,133,8,4,8,3,1,1,126,0,0,-10,126,0
  120 ENVELOPE4,1,0,0,0,200,200,200,0,-1,0,-126,126,0
  130 ENVELOPE5,1,20,-2,1,10,5,10,30,-4,0,-5,126,80
  140 REM   ___INTRO___
  150 MODE7
  160 PROCTIT
  170 C$=CHR$131+CHR$157+CHR$132:PRINTC$'C$"Hi SPLURGE
eater ! Your job is to eat";:PRINTC$;"all the SPLURGES
on the grid !"
  180 PRINTC$"Unfortunatly as you move around the"'C$"g
rid you destroy the grid squares"'C$"you walk on and as
 you can only"'C$"move onto grid squares you will need"
'C$"to plan where you go very carefuly."
  190 PRINTC$C$"All splurges are surrounded by 3"'C$"si
ded walls. At times two walls will"'C$"overlap destroyi
ng any path into the"'C$"SPLURGE. So a path mover has b
```

pen your shers on these!



```
een"'C$"provided. When used it moves the line";
  200 PRINTC$"you are on one space to the left."'C$"Thi
s should be used carefully as"'C$"5 points are deducted
 each time it is";C$"used. A warning note will sound if
"'C$"if you do not have enough points to"'C$"pay for us
ing the facility"
  210 PRINTC$"or if a SPLURGE is at the end of the"'C$"
line and would disapear if used."
  220 PRINTCHR$135CHR$157CHR$133CHR$136" ]  PRESS SPACE
 BAR TO CONTINUE  ["
  230 A=GET:IF A<>32 GOTO230
  240 PROCTIT
  250 PRINTC$'C$"Also living on the grid is the"'C$"gua
rdian of the SPLURGES and he"'C$"dosn't like people eat
ing his"'C$"SPLURGES and will kill you if he gets";C$"a
 hold of you ! So beware !"
  260 PRINTC$'C$"CONTROLS:"'C$"     Z    _  LEFT     X
_  RIGHT"'C$'C$"     :    _  UP       /    _  DOWN"'C$'C$"
       TAB    _  MOVE LINE"
  270 PRINTC$'C$"SCORE:"'C$"       GRID SQUARE 1 Pt"'C$"
     SPLURGE     10 Pts"
  280 PRINTC$'C$CHR$136"BONUS GIVE OUT OF 300 AT END OF
 EACH";C$CHR$136"    BOARD DEPENDING ON TIME TAKEN."
  290 PRINTC$'CHR$135CHR$157CHR$133CHR$136" ]  PRESS SP
ACE BAR TO CONTINUE  ["
  300 A=GET:IF A<>32 GOTO300
  310 PROCTIT
  320 PRINT'''TAB(10)"LOADING MAIN PROGRAM"
  330 VDU28,10,22,30,20
  340 CHAIN"SPLURGE"
  350 END
  360 DEFPROCTIT
  370 CLS:VDU31,0,0,135,157,133,136,141,31,12,0:PRINT"*
 S P L U R G E *":VDU31,0,1,135,157,133,136,141,31,12,1
:PRINT"* S P L U R G E *"
  380 ENDPROC
>
```

Listing 2

```
L.01
>L.
   10 *TV255
   20 DIMCOL%(9):HSC%=50
   30 PROC_ASS
   40 MODE2:VDU23;8202;0;0;0;
   50 DEL%=0:SPEED=4:LIVES%=3:SC%=0
   60 BRD%=1:MAN%=225
   80 PROCSet_Up
   90 REPEAT
  100 PROC_MAN
  110 PROCScore_Board
  120 IFNB%=1NB%=0:PROCNew_Board
  130 DEL%=DEL%+1:IFDEL%>=SPEED DEL%=0:PROC_MISSILE
  140 UNTILLIVES%=0
  150 PROCDEATH_TUNE
  160 MODE7:PROC_AGAIN
  170 GOTO40
  190 DEFPROC_MAN
  200 IFINKEY(-98)ANDPX%>0X%=-1
  210 IFINKEY(-67)ANDPX%<19X%=1
  220 IFINKEY(-105)ANDPY%<30Y%=1
  230 IFINKEY(-73)ANDPY%>1Y%=-1
  240 IFINKEY(-97)PROCMOVE_LINE
  250 IFX%=0ANDY%=0THEN320
  260 CR%=FNREADCH(PX%+X%,PY%+Y%)
  270 IFCR%=32GOTO320
  280 IFCR%=130SC%=SC%+1:SOUND1,2,210,1
  290 IFCR%=137PROCEAT_SPLURB
  300 VDU31,PX%,PY%,32
  310 PX%=PX%+X%:PY%=PY%+Y%
  320 IFMAN%=225MAN%=227ELSEIFMAN%=227MAN%=225
  330 COLOUR2
  340 VDU31,PX%,PY%,MAN%
  350 X%=0:Y%=0
  360 ENDPROC
  380 DEFPROC_MISSILE
  390 *FX21,0
  400 IFPX%<MX%X%=-1
  410 IFPX%>MX%X%=1
  420 IFPY%<MY%Y%=-1
  430 IFPY%>MY%Y%=1
  440 CR%=FNREADCH(MX%+X%,MY%+Y%)
  450 IFCR%<>32THEN510
  460 IFFNREADCH(MX%-1,MY%)<>32X%=-1:Y%=0
  470 IFFNREADCH(MX%+1,MY%)<>32X%=1:Y%=0
  480 IFFNREADCH(MX%,MY%+1)<>32Y%=1:X%=0
  490 IFFNREADCH(MX%,MY%-1)<>32Y%=-1:X%=0
  500 IFFNREADCH(MX%+X%,MY%+Y%)=137CR%=137
  510 SOUND0,-8,2,1
  520 COLOUR6
  530 VDU31,MX%,MY%,OLDC%
  540 OLDC%=CR%
  550 MX%=MX%+X%:MY%=MY%+Y%
  560 COLOUR3
  570 VDU31,MX%,MY%,224
  580 IFCR%=129ORCR%=131PROC_KILL
  590 X%=0:Y%=0:ENDPROC
  610 DEFPROCSet_Up
  620 TIME=0
  630 LOCALI%,J%,FL
  640 PX%=0:PY%=1:MX%=19:MY%=1:X%=0:Y%=0
  650 OLDC%=130:SPL%=0:NB%=0:C%=0:ANM=RND(6)+3
  660 RESTORE680
  670 FORI%=0TO9:READDD%:VDU19,DD%,6;0;:COL%(I%)=DD%:NE
XT
  680 DATA 4,5,6,8,10,11,12,13,14,15
  690 PRINTTAB(0,0);SPC(20);:PROCScore_Board
  700 FORI%=0TO19
  710 FORK%=1TO30:COLOURCOL%(C%):VDU31,I%,K%,226
  720 C%=C%+1:IFC%=ANM C%=0
  730 NEXT,
  740 COLOUR9:DIF%=RND(DIF%):FORP%=0TODIF%
  750 I%=6+RND(12):J%=5+RND(20)
  760 FL=0:FORQ%=I%-3TOI%+1:FORW%=J%-1TOJ%+1:CR%=FNREAD
CH(Q%,W%)
  770 IFCR%<>130FL=1
  780 NEXT,
  790 IFFL=1FL=0:GOTO750
  800 SOUND1,5,40,2:SOUND2,5,50,3:VDU31,I%,J%,233
  810 FORU%=-3TO1:VDU31,I%+U%,J%-2,32,31,I%+U%,J%+2,32:
NEXT
  820 FORU%=-1TO1:VDU31,I%+1,J%+U%,32:NEXT
  830 NEXT
  840 VDU31,PX%,PY%,MAN%
  850 ENDPROC
  870 DEFFNREADCH(X,Y)
  880 ?&71=X:?&72=Y
  890 CALLREC
  900 C=?&75
  910 =C
  920 DEFPROC_KILL
  930 LOCALS%
  940 SOUND0,-15,7,15
  950 S%=233:FORI=250TO190STEP-8:SOUND1,-15,I,1:VDU31,P
X%,PY%,S%:S%=S%+1:FORD=0TO100:NEXT,
  960 SOUND0,1,4,20
  970 FORD=0TO1000:NEXT
  980 LIVES%=LIVES%-1:IFLIVES%=0ENDPROC
```

BBC PROGRAM

```
  990 PROCSet_Up
 1000 ENDPROC
 1020 DEFPROCEAT_SPLURB
 1030 SOUND&102,3,100,10:SOUND&103,3,100,10
 1040 SC%=SC%+10:SPL%=SPL%+1
 1050 IFSPL%=DIF%+1NB%=1
 1060 ENDPROC
 1080 DEFPROCNew_Board
 1090 BN=300-ABS(INT(TIME/50))
 1100 PRINTTAB(3,9);SPC(13);TAB(3,10);" BONUS = ";BN;"
";TAB(3,11);SPC(13)
 1110 FORD=1TO1500:NEXT
 1120 CX=0:RESTORE1160:FORF=1TO33:READH,G%:SOUND&11,4,H
-48,16:SOUND&12,4,H-48,16:VDU19,COL%(CX),0;0;:FORG=1TO(
G%*70):NEXTG:VDU19,COL%(CX),6;0;
 1130 CX=CX+1:IFC%=ANM CX=0
 1140 IFINKEY(0)=32F=33
 1150 NEXT
 1160 DATA149,6,149,4,137,2,141,2,149,4,169,4,165,4,149
,4,149,4,149,4,137,2,141,2,149,4,169,4,165,4,149,4,149,
4,169,4,185,2,177,2,169,4,149,4,157,4,157,2,149,2,157,4
,129,4,129,4,137,4,141,4,149,4,137,4,121,8

 1170 DIF%=DIF%+RND(3)+1:BRD%=BRD%+1
 1180 IFSPEED>OSPEED=SPEED-.5
 1190 SC%=SC%+BN:PRINTTAB(0,0);SC%
 1200 PROCSet_Up
 1210 ENDPROC
 1230 DEFPROCScore_Board
 1240 COLOUR7:PRINTTAB(0,0);SC%;" ";TAB(10,0);BRD%;TAB(
15,0);LIVES%
 1250 ENDPROC
 1270 DEFPROC_AGAIN
 1280 PRINTTAB(10,10)"YOU SCORED ";SC%;" POINTS"
 1290 IFSC%<HSC%GOTO1330
 1300 PRINT''TAB(8)"AND YOU HAVE THE HIGH SCORE"
 1310 HSC%=SC%
 1320 FORI=0TO255STEP22:FORK=1TO255STEP22:SOUND1,5,K,1:
NEXT,
 1330 PRINTTAB(12,5)CHR$136"HIGH SCORE ";HSC%
 1340 PRINTTAB(11,20);"TRY AGAIN ? (Y/N) ";
 1350 A$=GET$:IFA$="Y"ORA$="y"ENDPROC
 1360 IFA$="N"ORA$="n"GOTO1380
```

```
 1370 GOTO1340
 1380 CLS:PRINT'':*HELP
 1390 PRINT''"Look at all the nice chips you have in  y
our computer why not use one today!":END
 1410 DEFPROCMOVE_LINE
 1420 L$="":VDU31,PX%,PY%,130,31,MX%,MY%,130:SOUND2,2,1
00,10
 1430 FORL%=0TO19:CR%=FNREADCH(L%,PY%):L$=L$+CHR$(CR%):
NEXT
 1440 IFLEFT$(L$,1)=CHR$137ORSC%<5SOUND3,-15,10,5:SOUND
3,-15,0,10:ENDPROC
 1450 L$=MID$(L$,2,19)+CHR$130
 1460 CR%=FNREADCH(PX%+1,PY%):IFCR%=137PROCEAT_SPLURB
 1470 COLOUR6
 1480 PRINTTAB(0,PY%);L$;
 1490 SC%=SC%-5
 1500 ENDPROC
 1520 DEFPROC_ASS
 1530 DIMSPACE 90:P%=SPACE:OS=&FFEE
 1540 FORI%=0TO2STEP2
 1550 [OPTI%
 1560 .REC
 1570 LDA#31:JSR OS:LDA&71:JSR OS:LDA&72:JSR OS
 1580 LDA#135:JSR&FFF4:STX&75:AND&75:LDA&75:STA&75DIV&1
00
 1590 LDA#31:JSR OS:LDA#POS:JSR OS:LDA#VPOS:JSR OS
 1600 RTS:]:NEXT
 1610 ENDPROC
 1620 DEFPROCDEATH_TUNE
 1630 RESTORE1670:FORI=1TO29:READCH,EN,PC,DU
 1640 SOUNDCH,EN,PC,DU
 1650 NEXT:FORI=1TO4000:NEXT
 1660 ENDPROC
 1670 DATA &0201,-10,81,16,&0202,-10,65,35,&0203,-10,53
,35,1,0,0,1,1,-10,81,12,1,0,0,1,1,-10,81,4,1,0,0,1
 1680 DATA &0201,-10,81,16,&0202,-10,61,35,&0203,-10,45
,35,1,0,0,1,1,-10,93,12,1,0,0,1,1,-10,89,4,1,0,0,1
 1690 DATA &0201,-10,89,8,&0202,-10,81,36,&0203,-10,65,
36,1,0,0,1,1,-10,81,8,1,0,0,1,1,-10,81,12,1,0,0,1,1,-10
,77,4,1,0,0,1
 1700 DATA &0201,-10,81,32,&0202,-10,61,32,&0203,-10,45
,32
>
```


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. FOUR STAR REVIEW VOL 68 OF HCW.

BENEATH THE STARS. (BASIC) £5.95
FULL ARCADE ACTION. 9 CONTROL KEYS. FIVE SKILL LEVELS. HALL OF FAME. SUPER ANIMATION. A FAST ACTION SPACE GAME.

AVAILABLE END JULY

ATLANTIC (BASIC) £6.95
SUPER ANIMATED UNDERSEA ADVENTURE 80 LOCATIONS

SAE + 25p FOR OUR CATALOGUE

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

Games to remember from
INTRIGUE SOFTWARE
Telephone 05806 4726

ATLANTIS

TEXAS TI-99/4A BASIC

THE BIGGEST ARCADE ADVENTURE
OVER 80 DIFFERENT SCENES

WIN £50

THE PRIZE WILL BE AWARDED TO THE FIRST PERSON THAT SOLVES ATLANTIS
Competion ends 7th September 1984

Games to remember from
INTRIGUE SOFTWARE
Cranbrook Road, Tenterden, Kent TN30 6UJ
Telephone 05806 4726

£6.95
MAIL ORDER BY RETURN FIRST CLASS POST-FREE!
Catalogue 50p plus S.A.E.

Win three great programs from Mushroom

Here is your chance to win more than £30-worth of software for your Commodore 64, including new titles Dune Buggy and Super Scramble

Prizes to a value of over £1,000 are offered by Mushroom Software in this week's competition.

20 first prizes of: Extended BASIC for the Commodore 64, together with Dune Buggy and Super Scramble, two new games.

With Dune Buggy, you have just spent a holiday in the African desert and you are returning through the Customs barrier. Unfortunately, you are carrying a fair amount of smuggled goods — and as you reach the barrier tension becomes so intense that you 'flip' and burst through the barrier.

Customs officials do not take kindly to your attempted escape, and launch an attack on you with helicopters and fireballs. You have the choice of either firing at the offensive objects, or jumping over them.

Graphics on this game are particularly good, with the screen split seven times to give a realistic effect.

In Super Scramble, you are the pilot of a rocket ship, and your mission is to destroy both the rockets launching by shooting at them, and the fuel dumps on the ground by bombing. This mission will take you through seven screens (if you're good enough), with the final part being to bomb a giant mushroom.

Once again, special care has been taken with the graphics — a feature that Mushroom Software intends to keep with all the games it produces.

Add to these two games the Extended BASIC, and this makes each one of the 20 winners' packages worth a total of £32.50.

There are also 27 runners-up prizes of each of the two games.

You could be one of the prize-winners by just finding as many differences as possible in the two cartoons.

How to enter

Study the two cartoons — there are a number of differences between them. Circle the differences on carton 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 Mushroom Software Competition, Home Computing Weekly, No. 1, Golden Square, London W1R 3AB. Entries close at first post on Friday August 31, 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 envelopes with no numbers 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 rules

Entries will not be accepted from employees of Argus Specialist Publications, Mushroom Software and Alabaster Passmore & Sons. This restriction also applies to employees' families and agents of the companies.

The How to Enter section forms part of the rules.

Mushroom Software Competition

Entry Coupon

Name _____

Address _____

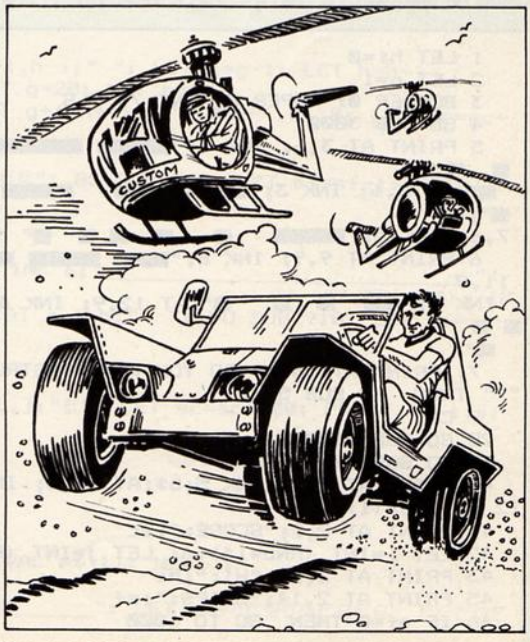
_____

_____

_____ **post code** _____

Number of differences found _____

Complete clearly and fully — if you are a prizewinner this will act as a label. Post to Mushroom Software Competition, Home Computing Weekly, No.1 Golden Square, London W1R 3AB. Closing date: first post, Friday August 31, 1984. Don't forget to follow closely the advice in the How to Enter section, including writing the number of differences on the back of your envelope.



Three o

You get good value for money here — three great games for the price of one. They're alien-zapping specials, with good graphics and imagination

Starfox by Paul Clarke

Are you a manic marksman? Do you spend hours glued to your TV screen intent on eliminating aliens?

If so, this game is for you. It's a variation on the old arcade classic, Defender. This time you're also faced with the terrifying onslaught of an alien which fires at you unremittingly. This hostile aggressor gives you no rest, so use all your skill and experience to fight yourself out of this one.

Instructions are printed on screen and each alien counts for different points. Be warned: don't get too close to the UFO!

Starfox
How it works

4-6 title page
40-170 main loop
910-940 tune subroutine
1000-1020 variables
3000-4010 UDGs
5000-5030 instructions
6000-6040 end of game

Starfox
Variables

a,b your ship's co-ordinates
x,y,c,d,e,f,g,h aliens' co-ordinates
a$ land
b$ land
c$ fire
sf lives
sc score
hi hi-score

Hunch
How it works

1-1000 variables
1000-1200 set up screen
1500-6999 main loop
7000-7999 fifth level
8000 titles
9000 UDGs

Hunch
Variables

sc score
hs hi-score
fd,fa fireball's co-ordinates
ad,aa arrow's co-ordinates
posd, posa, your position
dir rope's position (level 5)
a control variables — is there an arrow?
f control variables — is there a fireball?
lev level
li lives

Hunch by Stephen Forde

Take pity on the poor old hunchback of Notre Dame. Help him ring the bell and escape Esmerelda, while avoiding flying missiles from the ground.

He deserves to be given a helping hand — no-one else will help him. Do your good deed for the day and feel better for it.

This is a multi-level version for 16 and 48K Spectrums, so your skills will be rewarded by new screens to conquer.

This game has great graphics and we're sure you'll find it's entertaining and fun to play.

Cells by Stephen Forde

Mutant cells will destroy the world unless you can stop them. An accident at a chemical factory has unleased on the unsuspecting world a horde of cells which is placing our lives in peril.

Shoot down the cells — and save us all from destruction!

Cells
Variables

a1a, a1d, a2a, a2d, a3a, a3d aliens' co-ordinates
posa, posd, your ships' co-ordinates
s score
hs hi-score
f control variable to check if you are firing
x,y co-ordinates of stars

Cells
How it works

Cells is very straightforward and ideal for beginners to learn from.
1-1000 variables, instructions
1000 main loop
9000 UDGs

Hints on conversion

Spectrum BASIC is fairly standard, with some unique commands

INK set the writing colour
BORDER set the border colour
PAPER set the background colour
INKEY$ check which key is pressed. Some micros use GET for this purpose
BEEP sound. Other micros may be able to enhance this game with load explosions.
DATA set graphics.

Listing for Starfox

```
  1 LET hi=0
  2 LET p=1
  3 BORDER 0: PAPER 0: INK 7: CLS
  4 GO SUB 3000
  5 PRINT AT 3,6; INK 1;"[redacted]";AT 4,6; INK 2;"[redacted]
[redacted]";AT 5,6; INK 3;"[redacted]";AT 6,6; INK 4;"[redacted]
[redacted]";AT
7,6; INK 5;"[redacted]"
  6 PRINT AT 9,9; INK 6;"[redacted]";AT 10,9; INK 1;"[redacted]";AT
11,9
; INK 2;"[redacted]";AT 12,9; INK 4;"[redacted]";AT 13,9; INK 5;"[redacted]
[redacted]"
  7: PRINT AT 16,1;"DO YOU WANT INSTRUCTIONS (y/n)": INPUT a$: IF a$="y" OR a$=
"Y" THEN  GO SUB 5000
  9 CLS
 20 GO SUB 2000
 30 GO SUB 1000
 40 PRINT AT 5,0; INK 5;b$;AT 20,0; INK 4;a$: LET a$=a$(2 TO )+a$(1): LET b$=b$
(2 TO )+b$(1)
 41 PRINT AT 2,2;"SCORE:";sc
 42 LET i=INT (RND*14)+6: LET j=INT (RND*27)+2
 43 PRINT AT 2,24;"HI:";hi
 45 PRINT AT 2,14;"SHIPS:";sf
 46 IF sf=0 THEN  GO TO 6000
```

f a kind

• Remember that in Spectrum programs, capital letters in PRINT statements should be added in GRAPHICS mode, unless they form words.

```
  50 PRINT AT a,b;"AB";AT a+1,b;"  ";AT a-1,b;"  "
  60 LET a=a+(INKEY$="6")-(INKEY$="7")
  70 IF INKEY$="0" THEN  BEEP .01,45: PRINT AT a,b+2; INK 5;c$;AT a,b+2;"
          ": IF a=x THEN  PRINT AT x,y;"E": BEEP .3,45: LET sc=sc+10
:
 PRINT AT x,y;" ": GO SUB 1010
  75 IF a=c AND INKEY$="0" THEN  PRINT AT c-1,d+1;"E": BEEP .01,40: PRINT AT c-
1
,d+1;" ": LET sc=sc+20: LET c=5: LET d=19: LET c$="                                "
  77 IF a=c AND b=d THEN  PRINT AT a,b;"EE";AT a+1,b;"  ";AT a-1,b;"  ": GO SUB

910: PRINT AT a,b;"  ": LET sf=sf-1: LET a=11: GO TO 50
  80 IF a=20 THEN  PRINT AT a-1,b;"EE": GO SUB 910: PRINT AT a-1,b;"  ": LET sf
=
sf-1: LET a=11: GO TO 50
  85 IF a=5 THEN  PRINT AT a+1,b;"EE": GO SUB 910: PRINT AT a+1,b;"  ": LET sf=
s
f-1: LET a=11: GO TO 50
  90 PRINT AT x,y; INK 5;"C";AT x,y+1;" ": LET y=y-1
  95 IF y<=1 THEN  PRINT AT x,y;"  ": LET y=28: GO TO 90
 100 IF x=a AND y=b THEN  PRINT AT a,b;"EE";AT a+1,b;"  ";AT a-1,b;"  ": GO SUB

910: PRINT AT a,b;"  ": LET sf=sf-1: LET a=11: LET b=2: PRINT AT a,b;"AB";
 110 PRINT AT c,d; INK 4;" I ";AT c-1,d;"  ";AT c+1,d: LET c=c+1: IF c=19 THEN

LET c=c-1: LET d=d-1: IF d<=1 THEN  PRINT AT c,d;"    ": LET d=28
 120 PRINT AT e,f; INK 6;" J ";AT e+1,f-2;"  ";AT e-1,f+2;"  ": LET e=e+1: LET
f
=f-2: IF e>=20 THEN  PRINT AT 19,3;"  ": LET e=6: LET f=28
 130 IF a=e-2 AND INKEY$="0" THEN  PRINT AT e-1,f+3;"E": BEEP .01,10: LET sc=sc
+
30: PRINT AT e-1,f+3;" "
 133 IF a=e-1 AND b=f THEN  PRINT AT a,b;"EE": GO SUB 910: PRINT AT a,b;"  ": L
E
T sf=sf-1: GO TO 50
 135 PRINT AT g,h;"H";AT g+1,h+1;" ";AT g-1,h-1;" ": LET g=g-1: LET h=h-1
 140 IF g<=6 THEN  PRINT AT g+1,h;"  ": LET g=20: LET h=15
 145 IF a=g+1 AND INKEY$="0" THEN  PRINT AT g+1,h+1;"E": BEEP .01,0: LET sc=sc+
1
5: PRINT AT g,h;"  ": GO TO 50
 147 IF a=g+1 AND b=h THEN  PRINT AT a,b;"EE": GO SUB 910: LET sf=sf-1: PRINT A
T
 a,b;"  ": GO TO 50
 148 PRINT AT i,j; INK 3;"D": BEEP .01,0
 150 IF RND<sf AND j>5 THEN  PRINT AT i,4; INK 6;"                                "(
TO j-4): BEEP .001,0: PRINT AT i,4;"                                "( TO j-4): IF
 i=a THEN  PRINT T a,b;"EE";AT a+1,b;"  ";AT a-1,b;"  ": GO SUB 910: LET sf=sf-
1
: PRINT AT a,b;"  ": LET a=11: GO TO 50
 155 PRINT AT i,j;"  "
 160 IF a=i AND INKEY$="0" THEN  PRINT AT i,j;"E": LET sc=sc+100: PRINT AT i,j;
"
 "
 170 IF sc>hi THEN  LET hi=sc
 900 PAUSE p: GO TO 40
 910 LET d$="22122111114"
 920 LET e$="22225442212"
 930 FOR l=1 TO LEN d$: BEEP (VAL d$(l))/6,VAL e$(l): NEXT l
 940 RETURN
1000 LET a$="FG___FGFGFG____FG_____FGFG_____": LET b$="FGFGFGFG__FGFGF
GFGFGFGFG
```

```
EGEGEGEG"
1001 LET a=11: LET b=2
1002 LET c$="                              "
1003 LET sc=0: LET sf=3
1004 LET c=5: LET d=15: LET e=6: LET f=28: LET g=20: LET h=16
1010 LET x=INT (RND*13)+7: LET y=25
1020 RETURN
2000 PLOT 0,146: DRAW 255,0: DRAW 0,25: DRAW -255,0: DRAW 0,-25
2020 RETURN
3000 RESTORE : FOR x=USR "a" TO USR "j"+7: READ z: POKE x,z: NEXT x: RETURN
3010 DATA 128,192,224,255,255,255,62,0
3020 DATA 0,0,0,248,252,252,0,0
3030 DATA 24,36,66,153,153,66,36,24
3040 DATA 34,54,62,42,62,62,28,8
3050 DATA 17,68,17,149,34,0,72,1
3060 DATA 1,2,4,8,16,32,64,128
3070 DATA 128,64,32,16,8,4,2,1
3090 DATA 16,56,124,124,124,124,108,68
4000 DATA 28,62,107,62,73,34,73,34
4010 DATA 0,24,36,66,129,255,255,36
5000 CLS : PRINT TAB 10;"D STAR FOX D"
5010 PRINT ''"YOU are the last defender ship."'"Your job is to destoy the aliens
"'"   SCORING"'"      C=10 Points"'"      H=15"'"      I=20"'"      J=30"'"

  D=100!"
5020 PRINT ''"DON'T get too close to the UFO"'"AND watch out for the STAR FOX!!"
: PRINT TAB 10;"GOOD LUCK!"
5030 PRINT #1;"Press a Key"
5040 IF INKEY$="" THEN  GO TO 5040
5045 CLS
5050 PRINT AT 7,9;"CONTROLS:-";AT 9,12;"6=DOWN";AT 10,12;"7=UP";AT 11,12;"0=FIRE
"
5060 FOR n=1 TO 20: BEEP .1,INT (RND*45): NEXT n
5070 CLS : RETURN
6000 PAPER 7: CLS : PRINT AT 10,10; BRIGHT 1; FLASH 1; INK 0;" GAME OVER "
6010 PRINT AT 11,8; INK 0;"YOU SCORED:";sc;AT 12,16; INK 0;"Hi=";hi
6020 PRINT #1;"Press any Key"
6030 PAUSE 0
6040 PAPER 0: INK 7: CLS : GO TO 7
```

Listing for Hunch

```
   1 LET sc=0: LET hs=0: INK 7: PAPER 0: BORDER 0: CLS : GO TO 8000
   2 CLS : LET lev=0: LET li=3 : LET acc=0
   3 CLS : LET fa=24
   5 LET ba=10
   7 LET a=0
   8 LET f=0
   9 LET dir=0
  20 LET fd=12: LET fa=27
  30 LET ad=12: LET aa=24
  40 LET posd=12: LET posa=1
 100 RESTORE : GO SUB 9500
 110 LET a=0: LET f=0
1000 IF li<=0 THEN  GO TO 8000
1001 LET lev=lev+1
1004 IF lev=5 THEN  GO TO 7000
1005 IF acc=3 THEN  PRINT AT 1,8;"G G G": FOR d=-30 TO 30: BEEP .005,d: NEXT d:

LET sc=sc+500: LET acc=0
1007 PRINT AT 7,0; INK 2;"                                                    "
1008 PRINT AT 8,30; INK 2;"I"
1009 PRINT AT 6,0;"           CORRIDOR ";lev
1010 IF li<=0 THEN  PRINT AT 9,11;"GAME OVER": FOR j=1 TO 200: NEXT j: GO TO 800
0
```

```
1011 PRINT AT 13,0; INK 2;"EEEE
```

```
7007 IF li=0 THEN  GO TO 8500
7008 PRINT AT 11,29;"▗";AT 12,29;"▖"
7010 IF posa<=28 AND INKEY$="w" AND posa<=28 THEN  BEEP .005,0: LET posa=posa+1
7011 IF dir<>1 AND posa=9 AND INKEY$="m" THEN  PRINT AT posd,posa;"  ";AT posd-1
,posa;"  ": LET li=li-1: FOR r=posd TO 20: PRINT AT r,posa+3; INK 3;"▐";AT r-1,
p
osa+3; INK 3;"▀";AT r-2,posa+3;" ";AT r-1,posa+3;" ": NEXT r: BEEP 1,-5: BEEP 1
,
-10: GO TO 7000
7012 IF posa=9 AND INKEY$="m" THEN  PRINT AT posd,posa;"  ";AT posd-1,posa;"   "
: PRINT AT posd-2,posa+2; INK 3;"▐": BEEP .005,10: PRINT AT posd-3,posa+2; INK
3
;"▀": BEEP .005,14: PRINT AT posd,posa:"    ";AT posd-1,posa;"   ": PRINT AT po
s
d-2,posa+1;"    ": PRINT AT posd-3,posa+1;"      ": LET posa=21
7013 IF posa>25 THEN  CLS : INK 7: PRINT AT 10,7;"CONGRATULATIONS!";AT 12,1;"YOU
 HAVE RESCUED ESMARELDA!": PRINT '" NOW GET HER OUT OF THIS ONE..!": FOR j=1 TO
300: NEXT j: LET sc=sc+1000: GO TO 3
7015 IF posa>=1 AND INKEY$="q" AND posa>=1 THEN  BEEP .005,0: LET posa=posa-1
7016 IF posa<8 AND INKEY$="m" THEN  PRINT AT posd,posa;"  ";AT posd-1,posa;"   "
: PRINT AT posd-2,posa+2; INK 3;"▐": BEEP .005,10: PRINT AT posd-3,posa+2; INK
3
;"▀": BEEP .005,14: PRINT AT posd,posa;"    ";AT posd-1,posa;"   ": PRINT AT po
s
d-2,posa+1;"    ": PRINT AT posd-3,posa+1;"      ": LET posa=posa+2
7017 IF posa>10 AND posa<18 THEN  LET li=li-1: FOR g=posd TO 20: PRINT AT g,posa
;"▐";AT g-1,posa;"▀";AT g-1,posa;" ";AT g-2,posa;" ": NEXT g: BEEP 1,-5: BEEP 1
,
-10: GO TO 7000
7020 IF dir=3 THEN  LET dir=0
7021 LET dir=dir+1
7022 PRINT AT posd,posa; INK 3;" ▐ ";AT posd-1,posa; INK 3;" ▀ "
7025 IF dir=1 THEN  FOR f=1 TO 10: INK 7: NEXT f: PLOT 132,155: DRAW -49,-75: IN
K 0: PLOT 132,155: DRAW -49,-75: GO TO 7010
7030 IF dir=2 THEN  FOR f=1 TO 10: INK 7: NEXT f: PLOT 132,155: DRAW -0,-76: INK
 0: PLOT 132,155: DRAW -0,-76: GO TO 7010
7035 IF dir=3 THEN  FOR f=1 TO 10: INK 7: NEXT f: PLOT 132,155: DRAW 49,-75: INK
 0: PLOT 132,155: DRAW 49,-75: GO TO 7010
7050 IF dir=3 THEN  LET dir=2
7999 GO TO 7010
8000 CLS : REM DEAD!
8001 IF sc>hs THEN  LET hs=sc: LET sc=0
8009 PRINT AT 0,4;"CURRENT HI-SCORE IS ";hs
8010 PRINT AT 2,2; INK INT (RND*7+1);"    ▀ ▀ ▀ ▀ ▀▀▀ ▀▀▀ ▀ ▀  ▀▀▀
 ▀ ▀
 ▀ ▀ ▀  ▀▀▀  ▀ ▀ ▀▀▀ ▀ ▀ ▀▀▀ ▀ ▀"
8011 PRINT AT 6,2;"This is the Spectrum version    of the classic arcade game.
   Fight your way over the        battlements to rescue your      beloved Esmer
elda"
8012 PRINT AT 13,4;"Use the following keys:": PRINT AT 15,7;"     q=left";AT 16,
7;"     w=right";AT 17,7;"     m=jump"
8013 PRINT AT 20,6;"PRESS S TO CONTINUE"
8014 IF INKEY$="s" THEN  GO TO 2
8499 GO TO 8010
8500 IF lev>1 AND posa=3 OR posa=6 OR posa=14 OR posa=22 OR posa=25 AND lev>1 TH
EN  LET li=li-1: PRINT AT posd,0;"                                    ": BEEP 1,-5:
BEEP 1,-10: PRINT AT posd-1,posa;"   ": PRINT AT posd,posa;"    ": LET acc=0: LE
T posa=2: GO TO 1010
8510 IF f<>0 AND posa=aa OR posa=aa-1 AND f<>0 THEN  PRINT AT ad,aa;"    ": PRIN
T AT posd,0;"                                    ": LET li=li-1: BEEP 1,-5: BEEP 1,-
10: PRINT AT posd-1,posa;"   ";AT posd,posa;"   ": LET acc=0: LET posa=2: GO TO
1010
8520 IF a<>0 AND posa=fa OR posa=fa-1 AND a<>0 THEN  LET li=li-1: PRINT AT posd,
0;"                                    ": BEEP 1,-5: PRINT AT fd,fa;"    ": BEEP 1,-
10: PRINT AT posd-1,posa;"   ";AT posd,posa;"   ": LET acc=0: LET posa=2: GO TO
1010
8998 GO TO 1500
```

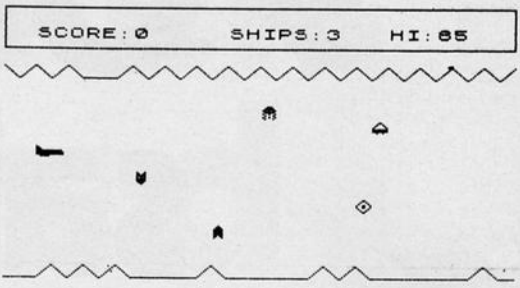
```
9499 STOP
9500 FOR f=USR "a" TO USR "k"+7: READ a: POKE f,a: NEXT f
9510 DATA 0,BIN 00110000,BIN 00111000,BIN 00111000,BIN 01111111,BIN 11111100,BIN
 11111010,BIN 11111001,BIN 01111000,BIN 00111000,BIN 00111000,BIN 00111100,BIN 0
1100110,BIN 11000110,BIN 10000111,128
9520 DATA 0,BIN 01110010,BIN 01111010,BIN 11111101,BIN 10111010,BIN 01011101,BIN
 00110010,0
9530 DATA BIN 10000001,BIN 11000001,BIN 11100001,BIN 11100011,BIN 11100011,BIN 1
1110011,255,255
9540 DATA 16,32,64,255,255,64,32,16
9550 DATA 0,126,126,126,126,126,126,0
9560 DATA BIN 00011000,BIN 00111100,BIN 01111110,255,0,255,8,8
9570 DATA 8,8,8,8,8,8,8,8,8,8,8,8,8,8,8,8
9580 DATA 0,0,BIN 00011000,BIN 00111000,BIN 00011000,BIN 01011010,BIN 10011001,B
IN 00011000,BIN 00011000,BIN 00100100,BIN 01000100,BIN 01000100,BIN 01000100,BIN
 01000100,BIN 11001100,0
9999 RETURN
```

Listing for Cells

```
   2 BORDER 0: PAPER 0: INK 7: CLS : PRINT AT 10,9; PAPER 1; PAPER 4; INK 0; FLA
SH 1;"Please wait": GO SUB 9000
   3 CLS : INK 7: BORDER 0: PAPER 0
   4 PRINT '"          AAACELLSAAA": PRINT '"    By S.Forde & D.LAURIE"
   5 PRINT '"Would you like instructions(y/n)": INPUT i$
   7 IF i$="y" OR i$="Y" THEN  GO SUB 8000
   8 FOR e=0 TO 30: BEEP .005,RND*20: PRINT AT 9,e; INK 4;" A ": BEEP .005,RND*
2
0: PRINT AT 11,e; INK 2; INK 2;" B ": NEXT e: PRINT AT 9,e;"   ": PRINT AT 11,e
;
"   "
   9 FOR q=0 TO 30: BEEP .005,RND*20: PRINT AT 9,q; INK 4;" A ": BEEP .005,RND*
2
0: PRINT AT 11,q; INK 2; INK 2;" B ": NEXT q: PAUSE 20
  10 REM ***VARIABLES***
  13 LET a4a=1
  15 LET hs=0
  17 LET s=0: LET hits=0
  20 LET posa=10: LET posd=20
  30 LET a1a=INT (RND*30)+1
  40 LET a1d=5
  50 LET a2a=INT (RND*30)+1
  60 LET a2d=5
  70 LET a3d=5: LET a3a=INT (RND*29)+1
 100 LET f=0
 200 REM ***SET UP SCREEN***
 210 BORDER 0: PAPER 0: INK 7: CLS
 220 FOR f=1 TO 50
 230 LET x=RND*240
 240 LET y=RND*175
 250 PLOT x,y
 260 NEXT f
 265 PRINT #0; PAPER 2; INK 0;"                CELLS               "
 300 REM ***MOVE!***
 301 IF INKEY$="x" OR INKEY$="X" THEN  PAUSE 0
 302 PRINT AT 1,12;"HITS ";hits: IF hits=15 THEN  PRINT AT 10,10;"Game over": FO
R q=1 TO 15: NEXT q: GO TO 1000
 303 PRINT AT 1,20;"HI-SCORE ";hs
 305 PRINT AT 1,2;"SCORE ";s
 307 PRINT AT 5,0;"          "
 310 IF posa>3 AND INKEY$="1" THEN  LET posa=posa-2
 320 IF posa<27 AND INKEY$="2" THEN  LET posa=posa+2
 330 IF INKEY$="0" THEN  LET f=1
 400 BEEP .005,1: PRINT AT posd,posa; INK 5;"  EF  "
 410 PRINT AT a1d,a1a;"      "
 420 LET a1d=a1d+1
```

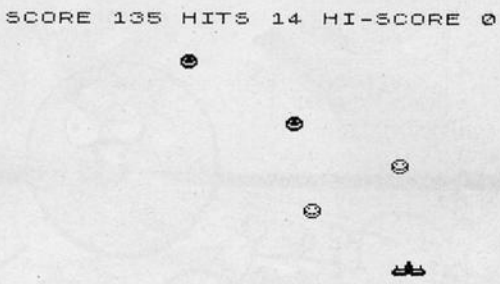
```
 430 LET a1a=a1a+1
 440 PRINT AT a1d,a1a; INK 2;" B "
 450 IF a1a>25 THEN  PRINT AT a1d,a1a;"     ": LET a1a=1: GO TO 300
 460 PRINT AT a2d,a2a;"      "
 470 LET a2d=a2d+1
 480 BEEP .005,2: LET a2a=a2a-1
 490 PRINT AT a2d,a2a; INK 4;" B "
 491 PRINT AT a3d,a3a;"      "
 493 LET a3d=a3d+1: PRINT AT a3d,a3a; INK 6;"B"
 496 LET a4a=a4a+1: PRINT AT 4,a4a; INK RND*6;"  B "
 500 IF a2a<3 THEN  PRINT AT a2d,a2a;"     ": LET a2a=24: GO TO 300
 510 IF a1d>19 THEN  PRINT AT a1d,a1a;"    ": LET hits=hits+1: LET a1d=5: GO TO 3
00
 520 IF a2d>19 THEN  PRINT AT a2d,a2a;"     ": LET hits=hits+1: LET a2d=5: GO TO
300
 530 IF a3d>18 THEN  LET hits=hits+1: PRINT AT a3d,a3a;"    ": LET a3d=5: LET a3a
=INT (RND*29)+1: GO TO 300
 540 IF a4a>28 THEN  LET a4a=1: GO TO 300
 550 IF f=1 AND posa=a4a THEN  PRINT AT 4,a4a;"  C": LET a4a=1: LET s=s+20: PRI
N
T AT 4,a4a;" D": BEEP .03,-10: PRINT AT 4,a4a;"      ": GO TO 300
 590 IF f=1 THEN  GO TO 600
 599 GO TO 300
 600 LET old=posa+2
 610 LET oldd=posd
 620 LET oldd=oldd-2
 630 PRINT T oldd,old; BRIGHT 1;"GH": PAUSE 5: PRINT AT oldd,old;"  "
 632 LET oldd=oldd-2
 650 BEEP .002,oldd: PRINT AT oldd,old; BRIGHT 1;"GH": PRINT AT oldd,old;"  "
 651 LET oldd=oldd-4
 653 LET oldd=oldd-4
 654 BEEP .002,oldd+2: PRINT AT oldd,old; BRIGHT 1;"GH": PRINT AT oldd,old;"  "
 655 LET oldd=oldd-4
 660 BEEP .002,oldd+10: PRINT AT oldd,old; BRIGHT 1;"GH": PRINT AT oldd,old;"
"
 665 LET oldd=oldd-2: PRINT AT oldd,old; BRIGHT 1;"GH": PRINT AT oldd,old;"  "
 670 IF old-1=a1a AND oldd<=a1d THEN  LET s=s+15: BEEP .1,10: PRINT AT a1d,a1a;"
   ": LET a1d=5: LET a1a=INT (RND*29)+1: GO TO 300
 680 IF old-1=a2a AND oldd<=a2d THEN  LET s=s+10: BEEP .1,7: PRINT AT a2d,a2a;"
  ";AT a2d,a2a;"   ": LET a2d=5: LET a2a=INT (RND*29)+1: GO TO 300
 681 IF old=a3a OR old+1=a3a OR old-1=a3a AND oldd<=a3d THEN  LET s=s+10: BEEP .
1,13: PRINT AT a3d,a3a;"   ";AT a3d,a3a;"     ": LET a3d=5: LET a3a=INT (RND*29)+
1: GO TO 300
 700 LET f=0
 710 GO TO 300
1000 IF s>hs THEN  LET hs=s: FOR g=0 TO 7: BORDER g: BEEP .01,g-1: BEEP .005,g+1
: NEXT g: BORDER 0: FOR f=-50 TO 50: BEEP .005,f: NEXT f: CLS : PRINT "That's a
new high score!": PAUSE 100
1010 CLS : BEEP .4,2: BEEP .4,-3: PRINT "Another game(y/n)?": INPUT a$
1020 IF a$="n" OR a$="N" THEN  STOP
1030 GO TO 17
8000 CLS : PRINT "              CELLS"
8005 PRINT '"(original version for the       TI99/4A by Paul Clarke)": PRINT "By
 S.Forde"
8010 PRINT ''"After an accident at a chemical factory,a group of cells have   es
caped,and will destroy the    world..."
8020 PRINT '"UNLESS..."
8030 PRINT '"You can stop them with your     INTERGALACTIC MEGABLASTER (gun, to
you)"
8040 PRINT ''"1-left                    2-right"
8050 PRINT "           0-fire"
8500 PAUSE 0: GO TO 10: RETURN
9000 FOR f=USR "a" TO USR "j"+7: READ o: POKE f,o: NEXT f
9004 DATA 60,126,219,255,189,195,126,60
9006 DATA 60,66,165,129,195,189,66,60
9008 DATA 66,32,130,0,32,136,0,148
9010 DATA 32,0,0,32,0,144,0,129
```

```
9019 DATA 1,1,35,35,127,195,255,126
9020 DATA 128,128,196,196,254,195,
     255,126
9030 DATA 0,0,1,1,3,127,7,6
9040 DATA 0,0,128,128,192,254,224,96
9050 DATA 60,126,153,255,129,
     231,126,60
9060 DATA 126,153,255,219,231,189,
     129,126
9100 RETURN
```



Screen dump for Starfox

Screen dump for Hunch



Screen dump for Cells

Cheetah Marketing

Cheetah Marketing Ltd.
24 Ray Street,
London EC1R 3DJ.
Tel:01 833 4909.
Telex:8954958.

PROGRESS

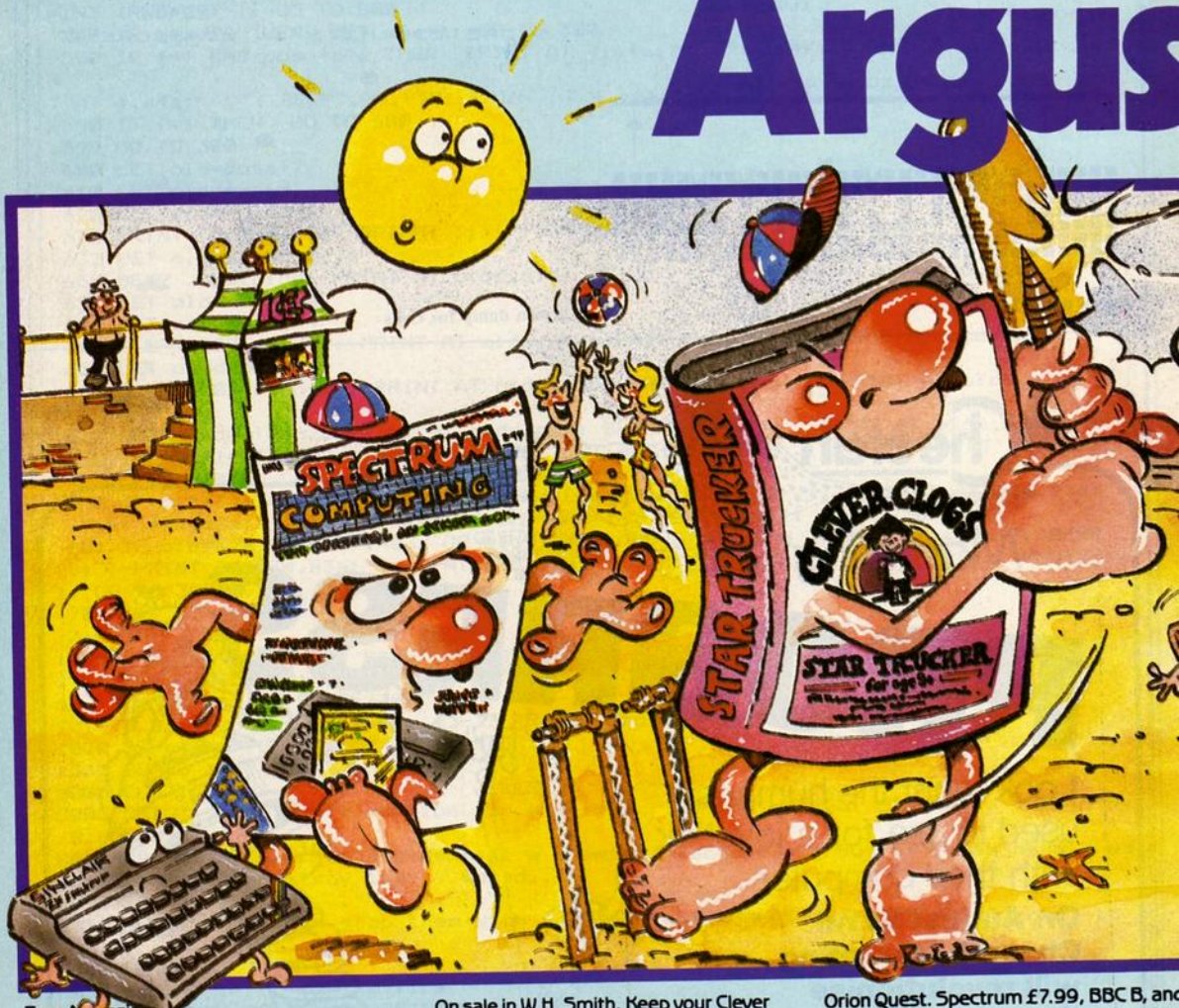
Look what the humans used to use for a joystick with their computer.

On August 22nd Cheetah Marketing will revolutionise the concept of joysticks.

CAN YOU WAIT!

The age of the R.A.T. is dawning.

9 Out of 10 said they Argus



Tape Magazine
Great games, great utilities all for only £3.99. Available for Spectrum, Atari, Vic 20, BBC B, and CBM 64 through W.H. Smith, Menzies and computer stores.

Really use your computer this summer.

Clever Clogs
8 great fun games for whizzkids. Change the difficulty with data packs on Science, The Arts & General Knowledge.

On sale in W.H. Smith. Keep your Clever Clogs busy all summer long! Available for Spectrum at £6.95.

Mind Games:
Recently launched, the new name in quality strategy and adventure games. Top writers and programmers open the door to the world of imagination and fantasy.

Have an adventure this summer with Star Force Seven, Quest for Eternity, and Orion Quest. Spectrum £7.99, BBC B, and CBM 64 £9.99.

Fall of Rome
Five million barbarians, an army or two of Persians, several thousand upset Armenians, fifty legions of itinerant Italians . . . . . and you!

Have a holiday at home and save civilisation. Available for Atari, BBC B, Spectrum & Commodore 64.

No.1 Golden Square, London W1R 3AB

Computers* preferred Software

Argus Press Software Group

The House for Heroes!

The Game Lords join the Argus Press team. Consistently in the top ten with great games like Ant Attack, Boogaboo, Fred, Mined Out and Snowman. Prices from £4.95 to £7.95. Available from W.H. Smith, Boots and Menzies and leading Computer Stores worldwide.

*When asked to express a preference

Games, games and more games

Here's a selection of games for Commodore, Spectrum and TI-99/4A. Read what our reviewers think before you buy

Mr Dig CBM 64 £8

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

This is a version of Mr Do for the Commodore 64.

The aim is to kill four Meanies who move around the tunnels which you dig. Do this by throwing a ball or dropping an apple on them. Killing all the Meanies will send you on to the next screen.

After a while the Meanies mutate and turn into Miners who dig their own tunnels. If you eat the treat at the centre of the screen then the Meanies/Miners will become un-frozen. Killing five Letter Monsters will give you a free life.

In principle it sounds complicated although after some practice it becomes entertaining and very addictive.

Sound and graphics are both very good. There is clearly a close resemblance between this and the arcade version.

Loading is very fast — it only takes about three minutes. Microdeal has incorporated its own fast loading system and I find it's more reliable than that used by most other companies. So far I've not had any loading problems. **K.I.**

instructions	70%
playability	90%
graphics	85%
value for money	90%

★★★★★

Cassette 50 CBM 64 £9.95

Cascade Games, Suite 4, 1-3 Haywra Cresc, Harrogate HG1 5B4

This is one of those amazing tapes which offer you 50 games on one cassette, all are written in BASIC. They're fairly short and simple. A wide variety of subjects are included to suit all tastes.

The quality isn't very good. I found the games slow and boring and not very user-friendly. On one program the instructions gave me the wrong keys to use and I had to list the program to find out what to press. Another game was unplayable on a black and white TV because the colours used were very similar shades of grey. The full list of faults is too long to mention here. Joysticks aren't utilized very often; the keyboard is used most of the time.

Brief instructions are supplied with the cassette. All directions are given on a menu screen with each game.

Graphics and sounds would be very impressive if they were produced by a standard 1K ZX80 but as for the CBM 64... need I say more?

No loading problems were encountered — at least they've got something right. **K.I.**

instructions	10%
playability	10%
graphics	10%
value for money	5%

★

Star Trooper CBM 64 £5.95

Melbourne House, Church Yd, Tring, Herts HP23 5LU

Star Trooper is yet another version of the ever popular Space Invaders/Galaxian theme. The object of the game is to shoot the enemy invaders which move from side to side and down the screen.

You control a small man with a jet-pack on his back. Movement is very simple — your joystick will move your man while held in a direction. It would have been nice if inertia had been included. To shoot the enemy you press the fire button which releases a missile in the direction you are facing.

The graphics incorporate some good scrolling effects in the background and include quite good detail on your playing man. Other than this they are fairly standard.

There is quite an interesting rhythm playing when the program is waiting for you to start the game. However, the sounds used during play are nothing special.

Enclosed with the cassette is a card which you may fill in and send away so that Melbourne House can keep you informed of any new software. **K.I.**

instructions	30%
playability	50%
graphics	50%
value for money	40%

★★

The Wall TI-99/4A £6

Stainless, 10 Alstone Road, Stockport, Cheshire

A wicked wizard has set you the task of climbing castle walls. For every wall successfully scaled points are awarded, but on each there are forces of spritely adversaries poised to attack, archers, dragons, witches on broomsticks and multicoloured cannonballs, just to mention a few.

Before attempting to bid for freedom you need to study their moves carefully. On each screen the attackers, and the way in which they travel, are different.

A collision loses a life, but for every 500 points there's a bonus life. The game ends when all lives are lost and the score displayed. If you're lucky this may be high enough to qualify your name to be entered in the Hall of Fame.

Control is from keyboard or joystick. You are unable to start until the alpha lock is up, a useful feature if you intend using the joystick option.

I can't say exactly how many different screens there are to survive. Ten was the most I could manage and there are more. There's certainly enough variety to keep you hooked on trying. Needs Extended BASIC. **J.W.**

instructions	90%
playability	85%
graphics	80%
value for money	90%

★★★★★

New Venture 48K Spectrum £5.95

Falcon Computing, 65 Earnsdale Rd, Darwen, Lancs

"If I were a rich man" announces the loading of a program that will test whether you can survive in business. New Venture starts with full, simple instructions. You have £25,000 and the aim is to be able to afford the ultimate in luxuries — the priceless Falconmobile.

There are six retail businesses, four sites and seven options — commence trading, adverts, visit bank manager, check bank statement, check or update stock, make insurance inquiries or quit. Your ZX printer can copy the list. The program contains a yearly inflationary figure — so that a £15,000 shop (where?) costs £30,000 in 2001.

As the game proceeds you are offered various luxuries, the acquisition of which gains points. Sudden burglaries, fires or accidents reduce your profits, unless insurance has been obtained. Your staff put in for a pay rise. At the end of each round, when a month's trading finishes, pages of trading levels of each saleable item are shown in graph and percentage form, then trade figures and a bank statement.

An interesting idea, with a PG rating — suitable for intelligent people above the age of 14. **T.W.**

instructions	90%
playability	80%
graphics	40%
value for money	75%

★★★★

Practise makes perfect

With reference to L. Treece's letter about Jet Set Willy (HCW 70), he claims that unless you remove an orange brick in the sheet, named 'The Banyan Tree', it is impossible to reach 'The Conservatory Roof'.

I have had my Spectrum 48K for about a year, and I bought Jet Set Willy about one month ago.

I play this game regularly, as it is my favourite game at the moment.

I have managed to find 67 rooms, and one of them is 'The Conservatory Roof'.

To get there is fairly easy, except for 'The Banyan Tree' which takes a lot of practice.

Once you get on the first pile of orange bricks, you have to wait until the razor goes past you on its way down, then jump left twice until you are in a safe place on the third pile of orange bricks.

I should point out that all of these movements should be done without a pause or you will be killed.

When all is clear, you can jump left again onto the staircase and go down. Then you can go left to enter the next screen called 'The Swimming Pool'.

All you have to do here is exit left, bringing you to a sheet called 'The West Wing'.

This screen is simple — just go up the ladder. If you keep going up (following the ladders going 'up right'), you should pass 'The West Wing Roof' and 'The Orangery'.

Still follow the ladder 'up right' and you will find 'The Conservatory Roof'.

I hope this information helps L. Treece, and other Jet Set fans too!

K. Waters, Gravesend, Kent

Get the picture

Whenever a new computer game is released onto the market, it usually has a fantastic looking cover on the package — which seems to cause ranting and raving about how good the game will be.

That is, until somebody plays the game.

Instead of hi-resolution graphical portrayals of the characters and objects, there are blobs seemingly portraying the would-be characters, with slow response to the joystick or keyboard.

Therefore, may I suggest a change in the law so that all games retailed must have an original picture of the game on the package.

Alternatively, an independent group of elected members, to write the reviews for the game that is printed on the package — so there will be no biased reviews for the software.

Nick Baldwin, Sydney, Australia

Proud ZX81 owner

I have put pen to paper because I am fed up with people who think the ZX81 is old and unpopular.

I have owned a ZX81 since last Christmas, and I am more than happy with the machine.

A few days ago I went to a computer shop in my area, and I'm sure that the salesman didn't even know what a ZX81 was.

Steven Howlett, Swansea

Cheat for Revenge

Thanks to M. Livingstone (HCW 73) for the code for Manic Miner.

Here is the cheat mode for Revenge.

Load the game, and type if (goat) at the start of the game, or anytime after.

This enables you to leave any screen by pressing any key, and you can go through to the last screen this way.

Mrs. J. Dugdale, Liverpool

Pricey pens?

I feel that I must write and warn any potential buyers of the Commodore 1520 printer/plotter of the hidden expense involved when using this otherwise excellent machine.

The printer uses four small ball-point pens of different colours, and, these soon run dry.

The cost of renewing one set of these is a staggering £5.00.

At this rate, I'll have to save-up to be able to use the machine in the future.

Another point is that these pens are not sold individually, although one colour is used much more frequently than the other three.

I estimate that I have used about £1-worth of material in writing this letter alone.

I would be interested to hear any comments Commodore wishes to make.

J. Holmes, Glasgow

Character count

I would like to inform all TI-99/4A owners, that the TI does not just have one character set — it has five or six.

The first starts at CHR$ (286), the cursor, and ends at CHR$ (CHR$ (382), the Filde.

The next starts at CHR$ (542).

Vertical purple lines can be found at CHR$ (416-423) and (161-167).

Could anyone tell me why this character set exists?

Mark Wallhead, Lincoln

Good looking

I am the owner of a 48K Spectrum, and I have just worked out how to put a professional touch to all of my programs.

Before you type in your program, save these two routines:

```
10 BORDER 0: PAPER 0: CLS
20   PRINT AT 10,10; PAPER 1; INK 6; FLASH 1; "Please wait"
30 INK 0
40   LOAD "" CODE: PRINT AT 0,0;: LOAD ""
```

SAVE "program name" LINE 10

In the next routine you design your own title screen. You can do this by using the normal PRINT and DRAW commands, or by using User Defined Graphics.

Make sure you include your own personal company name (if applicable), the author's name and the name of the program itself.

Also, leave the top line blank, as this is where the 'program: 2' comes up.

Once you have done this, RUN your program and SAVE it by entering SAVE "1" CODE 16384,6912.

Now write your program and SAVE it using SAVE "2" LINE 1.

If your program does not start at line 1, then change LINE 1 to whatever line you started at.

Now you are ready to try out your program. Rewind the cassette and enter LOAD "", and watch your own professional program load itself, and automatically run.

I would also like to know if anyone can help me. I have been trying for ages to try and animate my graphics properly as in games like Jet Set Willy.

If anyone knows how to do this, could they let me know.

Tommie McCall, Cramlington, Northumberland

Screen extended

After spending a long time trying to achieve a screen of 25 x 30 (I could not understand the complications of other versions), I have compiled this program for the VIC-20 for all beginners with a 16K RAM pack.

When run, a load of 'garbage' will appear on the screen and will be wiped off soon after.

Unfortunately, you can't 'print' on the expanded screen, you have to 'poke' the characters on the screen.

Poke starts at 4096, and finishes where required.

Before writing in the main program, you have to move Basic to allow for the extended screen memory.

```
POKE 45,3: POKE 46,20: POKE 20*256,0: POKE 43,1: POKE 44,20: NEW
```

Now write in the main program

```
10 POKE 36866,25
20 POKE 36864,9
30 POKE 36867,60
40 POKE 36865,24
50 for A=4096 to
60 POKE A, 32
70 POKE A + 33792,0
80 NEXT A
```

This is how the program works: 10 increases screen horizontally; 20 centre screen horizontally; 30 increases screen vertically; 40 centre screen vertically; 50 to 80 wipe off garbage on screen.

When the program has finished, by moving the cursor down it will also go back slightly so this program would be best mingled in with a game.

Andy Hopkins, Poole, Dorset

Working it out

I saw a very useful program by Lincoln Woolsey (HCW 70) — a program that looked as if it had been NEWed, and you could get in by pressing a secret key.

I tried it, but it didn't work for me. The first part is right, that is add it to the beginning of your personal files etc., and saved with an auto run it will then load and appear to NEW itself.

This program should read:

```
10 POKE 23613,87
20 CLS
30 PAPER 0: CLS: FOR q=1 to 300: NEXT q: PAPER 7: CLS
40 PRINT at 21, 0; "(c) 1982 Sinclair Research Ltd!"
50 if INKEY$ = "" THEN GOTO 50
60 CLS
70   PRINT at 21, 0; FLASH 1; "K"
80   if INKEY$ = "@" THEN GOTO 100
90 GOTO 80
100   PRINT at 21, 0; FLASH 1; "Entry Given"
```

One of the things he did was to put a "," instead of a ";" in lines 70 and 100.

On another point, could anyone tell me how to get past the first sheet of Jack and the Beanstalk.

I've tried many a time but for some reason I either fall of or a bird gets me.

Finally, I must congratulate Ultimate for that great game Sabre Wulf. I got it two days ago and already I've scored 36,870 which isn't bad for my standards.

I get your magazine every week and I think it's great.

Philip Rawlins, Belhaven, East Lothian

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.

HOME COMPUTING WEEKLY CLASSIFIED

Lineage:
35p per word

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

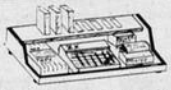
All advertisements in this section must be prepaid.
Advertisements are accepted subject to the terms and conditions printed on the advertisement rate card (available on request).

01-437 0699
EXT 341.

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

ACCESSORIES

UNIT ONLY



ALL SINCLAIR USERS
LOOK THIS WAY
PUT AWAY ALL
THOSE UNTIDY WIRES

With this amazing new unit designed by a Spectrum user. Put on a chair, floor, on your lap. Move it all in one go. OUR LATEST NEW UNIVERSAL UNIT ACCEPTS MOST MACHINES. Send for details to:

E. R. Cameron & Son Ltd. Est. 1870
H/O 9 The Vineries, Enfield, Middx. EN1 9DQ

AUCTIONS

MICRO COMPUTER AUCTIONS

REGULAR MONTHLY AUCTIONS FOR ALL MICRO HARD & SOFTWARE.

SEND FOR ENTRY FORM OR NEXT CATALOGUE TO:—

MICRO COMPUTER AUCTIONS (HCW)
NORTHINGTON HOUSE
59 GRAYS INN RD, LONDON WC1 8TL
TEL: 01-242-0012 (24 HOURS)

By Order of the liquidator, J. Atkinson Esq. F.C.A.
In Re: STATACOM LTD.
...and others
Wednesday 22nd August 1984
View Day Prior 9am to 5pm

COMPUTERS & EQUIPMENT COMPR. ACORN — BBC — JUPITER — DRAGON-32 *DISC DRIVES INCL.* CAMARA — LVL — GSL. *PRINTERS INCL.* STAR MICRO DOT IMAGE — SILVER REED DAISY WHEEL — SEIKOSHA GRAPHIC. *MONITORS INCL.* MICROVITEC & FIDELITY MTV 100. 36 PORTABLE CASSETTE RECORDERS. *HARDWARE & SOFTWARE COMPR.* DRAGON — BBC — ELECTRON — ETC. *ACC. COMPR.* JOY-STICKS, CABLES, ROMS, MACHINE CODE ASSEMBLERS, BLANK FLOPPY DISKS & CASSETTES, GAMES, BUSINESS & EDUCATIONAL FLOPPY DISK & CASSETTE PROGRAMMES. ELECTRONIC BINGO & CHESS GAMES ETC. COMPUTER, OFFICE & PERSONAL STATIONERY. *OFFICE FURNITURE ETC,* INCL. 2 BROTHER CE-60 ELEC TYPEWRITERS. DOC. COPIERS INCL. XEROX 1020 — 3M — SIRIUS PC32 AND MANY OTHER IMPORTANT LOTS.
CATS 50P BY POST FROM:
HENRY LEWIS & CO., Incorporated Auctioneers & Valuers,
258 Belsize Road, London, NW6 4BT Tel: 01-624 0151

CLASSIFIED – RING 01-437 0699

BOOKS & PUBLICATIONS

Popping, Break Dancing. Teach yourself. SAE for details. Dance Publications, 136 Monkhill Lane, Pontefract WF8 1RT

COURSES

LEARN TO PROGRAM YOUR SPECTRUM OR BBC
— Now Booking!
£46 for 5 mornings
Holiday courses for children & adult courses as usual.
Ring: Computer Workshop on 01-778 9080
32 Sydenham Rd, London SE26

CLUBS

Software exchange. Swap your used software. £1 per swap. Spectrum/Dragon. SAE please. UK SEC, 15 Tunwell Greave, Sheffield, S5 9GB

EXHIBITIONS

Scottish Home Computer Show. November. Free stands. Computer Clubs Low cost stands software firms. PHONE ROBERTA DOYLE 041 204 0280. 9,000 VISITORS LAST YEAR!!

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

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

COMMODORE 64 — VIC 20
HARDWARE UTILITY
FEATURES RECORDING SOCKET, DIN SOCKET AND RESET BUTTON. ENABLES YOU TO RECORD TO EXTRA TAPE RECORDER *AT SAME TIME* AS LOADING FROM DATA-CASSETTE PLUS SYSTEM RESET FACILITY. £7 INC P&P.
A. DENBY, 6 ROPEWALK, ALCESTER, WARKS B49 5DD

LIBRARIES

LOOK! Any program for any micro at 20% discount. Also the only tape exchange club specialising in today's TOP 20. (Spectrum, Commodore). Membership free. Write, stating micro, to Ham Software Library (HCW), Ham Lane, Elstead, Surrey GU8 6HQ. We've got the lot.

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

Spectrum Software library. NO HIRE CHARGES. 200 titles. NO COPIES. Annual Membership £6. First 50 people, get LIFE Membership: 86 Lewisham Road, Smethwick Warley, West Midlands B66 2DD

BBC/Dragon software library — Membership £5.00. — Tapes 1 (+30p P&P). Stamp for details. E. Tucker, (H) 8 Springwood Estate, Grimston Road, South Wootton, King's Lynn, Norfolk.

VIC-20 &
VECTREX LIBRARY
S.A.E. for details
DUKERIES SOFTWARE(VL)
39 HIGH STREET,
WARSOP
NR. MANSFIELD, NOTTS

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

NEW RELEASES

BIG MOUTH
the Amazing new program for the CBM

- Unlimited vocabulary
- can be incorporated into your own programs using "speak" as a basic command.

only £7.95. Now You're Talking!

EVESHAM MICRO CENTRE
Bridge St, Evesham, Worcestershire
Tel: 0386 49641

THE MICRO CENTRE
1756 Pershore Road, Cotteridge, Birmingham
Tel: 021-458 4564
TRADE AND OVERSEAS ORDERS WELCOME

SERVICES

DATA DUPLICATION
M.G. COPIES
Burntwood, Walsall, Staffs, WS7 0ES
Data duplication, quality cassettes, printing, distribution to customers with competitive prices and fast turn around.
Prices and samples on request.
0543-480887 or 05436-75375 (24 Hrs).

FOR SALE

MG METRO TURBO. Low mileage Silver/Black. Radio. 1983. Cost: £4,590. Phone Stuart Shield 01-437 0626

SOFTWARE EDUCATIONAL

Atari 400/800 owners learn French or German and save money! £10 off Atari language course. Send only £14.95 plus 2.95 p&p. All credit cards accepted. Callers welcome. Open 7 days a week. Warehouse 10, Dept HCW, 210 Tower Bridge Road, London SE1 or phone 01-407 8793

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

DISCOUNT MAIL ORDER SOFTWARE

Zaxon	£4.95	Manic Miner	£5.35
Trashman	£5.35	The Boss	£8.05
Jet Set Willy	£5.35	Cosmic Cruisr	£4.95
Football Mngr	£6.25	Snooker	£8.05

& more. State title & machine. SAE for lists, cheque/PO to
Dept (HCW) Universal Publishing, 65 Thurlow Park Rd, London SE21 8JP

BE A WINNER

Tired of 'blasting' games? Bored with pointless adventure games? Then use Treasure Hunt Tool Kit to win Thousands of £££'s. HCW 4 star rating! £4.95 for 16K or 48K Spectrum (state which).

G.W. COMPONENTS
50 Oaktree Lane, Mansfield, Notts.

TI-99/4A Progpack 1. 10 great programs for only £5.00. 5 star review in HCW Issue 71 "Excellent games at a giveaway price" T. Wilmott, 3 Somerset Place, Somerset Bridge, Bridgwater, Somerset.

TI-99/4A SOFTWARE

Any three fantastic games for only £5. 39 titles to choose from.
For full list S.A.E. to:

BINBROOK SOFTWARE, 88 Cotterdale, Sutton Park, Hull HU7 4AE

TI-99/4A. Ascot — an exciting, addictive, horse-race game. £3.95 including postage from — Astral Software, 7 Parsons Close, Castle Park, Whitby YO21 3LP

AUGUST SPECIAL

FOR ONE MONTH ONLY WE ARE MAKING A UNIQUE OFFER. SIMPLY SEND A STAMPED SELF ADDRESSED ENVELOPE STATING THE MODEL OF COMPUTER YOU OWN AND THE TITLE, SOFTWARE HOUSE AND FORMAT OF ANY PROGRAM YOU ARE WANTING TO BUY AND WE WILL QUOTE THE LOWEST EVER U.K. PRICE.
MAIL ORDER SOFTWARE, 9 KNOWLE LANE, WYKE, BRADFORD BD12 9BE

SPECTRUM / BBC GAMES

We only sell the best. Order Today, Deliver Tomorrow.

Spectrum		BBC	
Automania	**£6.45**	**Frak**	**£8.25**
Factory Breakout	**£5.50**	**Zalaga**	**£8.25**
Stop the Express	**£6.95**	**Micro Olympics**	**£5.25**
Jack/Beanstalk	**£5.00**	**Mr Wimpy**	**£6.25**
Micro Olympics	**£5.25**	**Blagger**	**£7.25**
Lords of Midnight	**£8.75**	**Gisburne's Castle**	**£7.25**
Sabre Wulf	**£8.75**	**Pyramid of Doom**	**£7.25**

Cygnus Two Computer Games, 62 Woodland Road, Chingford, London E4 7EU. Tel: 01-529 1891

WD Software
CURRENT SPECTRUM PROGRAMS

Tradewind (£5 Cassette, £9.50 Microdrive)
Buy a ship, provisions and cargoes to trade between the harbours of the Coral Islands. Make a fortune if the weather and pirates let you live long enough to master seamanship and economics. A strategy/adventure game with graphics for 48K.

Jersey Quest (£5 Cassette, £9.50 Microdrive)
Following an accident, you are stranded in the labyrinth of time and must find your own way back to the Present with the aid of persons and objects from Jersey Folklore. A text-only adventure for 48K in machine code (Quill).

Morse Tutor (£4 Cassette, £8.50 Microdrive)
4-19 words/minute, variable spacing, variable number of groups of random letters, numbers or mixed, random sentences, own message, single characters (including punctuation), variable pitch, FEEDBACK via screen, printer or SPEECH (phonetic alphabet via Currah u-Speech on 48K version. 16K and 48K versions on one cassette, 48K only on Microdrive cartridge.

Prices exclude VAT, but include postage. Buyers in countries where VAT or similar taxes apply are responsible for paying the tax.

WD Software (H), Hilltop, St Mary, Jersey, C.I. Tel (0534) 81392

QL UTILITIES

4 programs on microdrive for Sinclair Ql to prevent DIRectory overflowing the screen, provide single key LOADing or DELETion of files, repeat FORMATing of cartridges and back-up COPYing of whole or part of the cartridge. £10. From:
WD Software, Hill Top, St Mary, Jersey, C.I. Tel (0534) 81392

FAST TAPE UTILITY

commodore

COMMODORE 64 owners, at last the long wait is over - **FASTBACK** converts your software to **TURBO LOAD** - creates fast loading copies of most programs (single and multi-part) that run independently of the utility. For example 'The Hobbit' loads in 150 seconds with **FASTBACK**.
Supplied on tape with full instructions
ONLY **£9.95**

TAPE TO DISK TRANSFER UTILITIES
Transfer games etc. to disk. Supplied on tape with full instructions for: —

BBC £9.95
ATARI (All models) £9.95
COMMODORE 64
NEW IMPROVED VERSION
No user knowledge required. We guarantee this is the best available.
Still only £9.95

All prices include VAT, Post & Packing. Cheques, PO or Phone your Card Number to:

EVESHAM MICRO CENTRE
Bridge St, Evesham, Worcestershire
Tel: 0386 49641

THE MICRO CENTRE
1756 Pershore Road, Cotteridge, Birmingham
Tel: 021-458 4564
TRADE AND OVERSEAS ORDERS WELCOME

JAYSPEED

For the **Commodore 64** 1541 disc drive a *high speed* disc utility that will back-up an entire disc in under 5 minutes. Supplied on disc with full written instructions for **£7.95** inc. For fast despatch, send cheque/P.O., or S.A.E. for details of this and other utilities, to:

HORIZON SOFTWARE, 15, Banburg Close, Corby, Northants NN18 9PA

TRIUS
for the 48K Spectrum

SUPER TOOL-KIT — The most simple to use tool-kit on the market today, incl: trace, single stepping, Block re-number, auto line numbering etc.

TRIUS-OUT — incredible m/c screen clearing routines & special m/c effects to give your basic programs that professional touch. S.A.E. for more details or £4.60 for each prog. to: Trius Software, 89 Hereward Way, Deeping St. James, Peterborough PE6 8QB

If an advertisement is wrong we're here to put it right.

If you see an advertisement in the press, in print, on posters or in the cinema which you find unacceptable, write to us at the address below.

The Advertising Standards Authority. ✓

ASA Ltd, Dept 3 Brook House, Torrington Place, London WC1E 7HN

SOFTWARE from £1.99

VIC-20, Spectrum, s.a.e. for details to

DUKERIES SOFTWARE 39 HIGH STREET, WARSOP NR. MANSFIELD, NOTTS

UTILITIES

TI-99/4A
"UNIFILE" (Cassette) Basic useful filing program £2.95 + 50p p&p.
"TRAINER PLANE" (Cassette) Ext. Basic flight simulation game super sprite 3D graphics + sound £2.95 + 50p p&p
A.C. Software. P.O. Box 3 Burntwood, Walsall WS7 9EE

WANTED

We are looking for interesting and original 'Spectrum' programmes. Not just games, but educational and other new ideas. We pay high royalties guaranteed by contract. Send your programmes, or write for further details, to: SD Data Services, Chestnut House, Bitteswell, Leics.

HCW YOUR SOFTWARE SUPERMARKET.

REPAIRS n' SPARES REGISTER

Computer spares. Large range of spares for Commodore and Spectrum Computers. S.A.E. for list. Aldridge Audio, 54 Bucks Road, Douglas, Isle of Man

MICRO-SERV
The home computer repair specialist in Scotland
BBC, SPECTRUM, VIC-20 AND ALL PERIPHERALS. 3 MONTH WARRANTY ON ALL REPAIRS
UNIT 4, Denny Workspace, Denny, Scotland, FK6 6DW.
Tel: Denny (0324) 823468

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

HEMEL COMPUTER CENTRE LTD.
For fast reliable repair service of your SPECTRUM, BBC, DRAGON, ATARI and COMMODORE computers. e.g. Send your 16/48K Spectrum to us and we will repair and return it for £16 + p&p.
Hemel Computer Centre Ltd., 52 High St., Hemel Hempstead, Herts HP1 3AF. Tel: 0442 212436

We offer repairs and spares for **Sinclair, Commodore, Atari** and all other makes. Part exchange and second hand computer services available.
STATION ELECTRICAL, Coastal Rd, Hestbank, Lancaster LA2 6HN TEL: 0524 824519

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.

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.

DO YOU OFFER A REPAIR SERVICE? WHY NOT ADVERTISE IN OUR REPAIRS 'N' SPARES REGISTER. PHONE 01 437 0699 FOR DETAILS.

NATIONWIDE SHOPS & DEALERS

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

BEDFORDSHIRE

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

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

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

LONDON

RAMPART COMPUTERS
Unit 16, 102a Wood St., Walthamstow.
Spectrum, VIC-20, 64 machines for demo.
Special opening offer

ARMCHAIR ACTION COMPUTERS
TEL: 567 1944
41, Drayton Green Road, Ealing, London W13
SPECIAL OFFER: SAVE £50
VIC-20 Starter packs (incl. Computer, intro to Basic, cassette recorder and games) **only** £99.95 (p&p extra)
While stocks last

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

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

STAFFS

COMPUTER CABIN
24 The Parade, Silverdale, Newcastle
Tel: 0782 636911
Official Acorn computer dealer and BBC service and information centre
Huge stocks available backed up by sophisticated service dept for all popular computers. Direct orders through Micronet page no. 60043726

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

CLASSIFIED – RING 01-437 0699

Little Brothers should be seen but not heard.

NOW ONLY £159.95 inc.VAT.

REGULAR, CONDENSED, OR EXTENDED FACES.

CUT SHEET A4 OR ROLL PAPER.

BATTERY OR MAINS OPERATED.

A maxim which eloquently describes the Brother HR-5.

Less than a foot across, it's nonetheless loaded with features.

The little printer that's low on decibels.

There's one thing the HR-5 won't give you. Earache.

For the annoying 'clickety clack' many printers produce is mercifully absent from the HR-5.

Quietly efficient, it delivers high definition dot matrix text over 80 columns at 30 characters per second (maximum).

Text or graphics with ease.

The HR-5 also has something of an artistic bent.

Being capable of producing uni-directional graphics and chart images together with bi-directional text. What's more it will hone down characters into a condensed face, or extend them for added emphasis.

At home with home computers.

Incorporating either a Centronics parallel or RS-232C interface, the HR-5 is compatible with BBC, Spectrum, Oric, Dragon, Atari and most other home computers and popular software.

Perfectly portable, the battery or mains operated HR-5 weighs less than 4 lbs, and has a starting price of only £159.95 (inc. VAT).

Which is really something to shout about.

PLEASE SEND ME MORE DETAILS OF THE REMARKABLE BROTHER HR-5 PRINTER.

NAME_____

ADDRESS_____

_____

_____

HCW 14 8 TEL NO._____

AVAILABLE FROM: BOOTS, RYMANS, WILDINGS, SELFRIDGES AND ALL GOOD COMPUTER EQUIPMENT STOCKISTS.

brother

DEPT P, BROTHER OFFICE EQUIPMENT DIVISION, JONES + BROTHER, SHEPLEY STREET, GUIDE BRIDGE, AUDENSHAW, MANCHESTER M34 5JD
TEL:061 330 6531 (10 LINES) 061 330 0111 (6 LINES) 061 330 3036 (4 LINES). TELEX: 669092. BROTHER INDUSTRIES LTD., NAGOYA, JAPAN.

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 within 7 days. All AGF products are supplied on a 14 day money back undertaking. AGF Hardware, Bognor Regis, West Sussex. Telephone (0243) 823337.