

Home

An Argus Specialist Publication

Every week: your
best buy for
software reviews
and listings

Computing WEEKLY

45p

No. 61
May 8-14, 1984

**Special
Offer**

£1 off
tapes from

K-tel

FREE

competition
Choose your
own prize from

ROMIK

**Text planner for
your BBC micro**

**Software
reviews for:**

BBC, Dragon,
Spectrum,
Commodore 64,
Sord M5, Texas,
Oric/Atmos

**Three games (and
more) for your
Spectrum**

**Commodore 64:
two listings**

AND

**games to enter
for the BBC and
Oric/Atmos**



And now for the good news...

Prices of software will drop, says a new report. While hardware sales will gradually slow down, software sales will boom.

Blair Mascall, senior consultant with EIU Informatics, said: "This is the best forecast available. We have taken into consideration all factors, such as price changes, availability of new computers and hardware penetration of the market. We built a computer model to help us with our predictions."

Twenty-one categories of software were studied in the
Continued on page 6

Get to grips with BASIC

If you want to do more with your micro than play games, tune in to ITV on Sunday mornings from June 10 and learn the basics of BASIC.

Me & My Micro is a new half-hour series from Yorkshire TV in which Fred Harris, presenter of Playschool, gives an introduction to programming, illustrating the subject with well-known games.

Fred's first task is to move a star across the screen. After introducing fundamental commands like LIST, CLS and RUN, he explains the idea of loops with cartoons. He then puts theory into practice and uses loops to get the stars moving.

In the second show, he converts the moving star into a Monsterzap game, introducing subroutines and structured programming, and showing how to generate simple graphics with keyboard characters.

An easy maze race provides the starting point for the use of RND and conditional instructions, and strings are brought in to handle a shuffle routine to make anagrams. Finally the tools of the BASIC programmer's kit are brought together to make a large structured program which plays the card memory game, pelmanism.

Each of the five shows
Continued on page 6

**ZX Microfair:
first full report**

From CDS, the ultimate challenge **'COLOSSUS CHESS 2-0'**

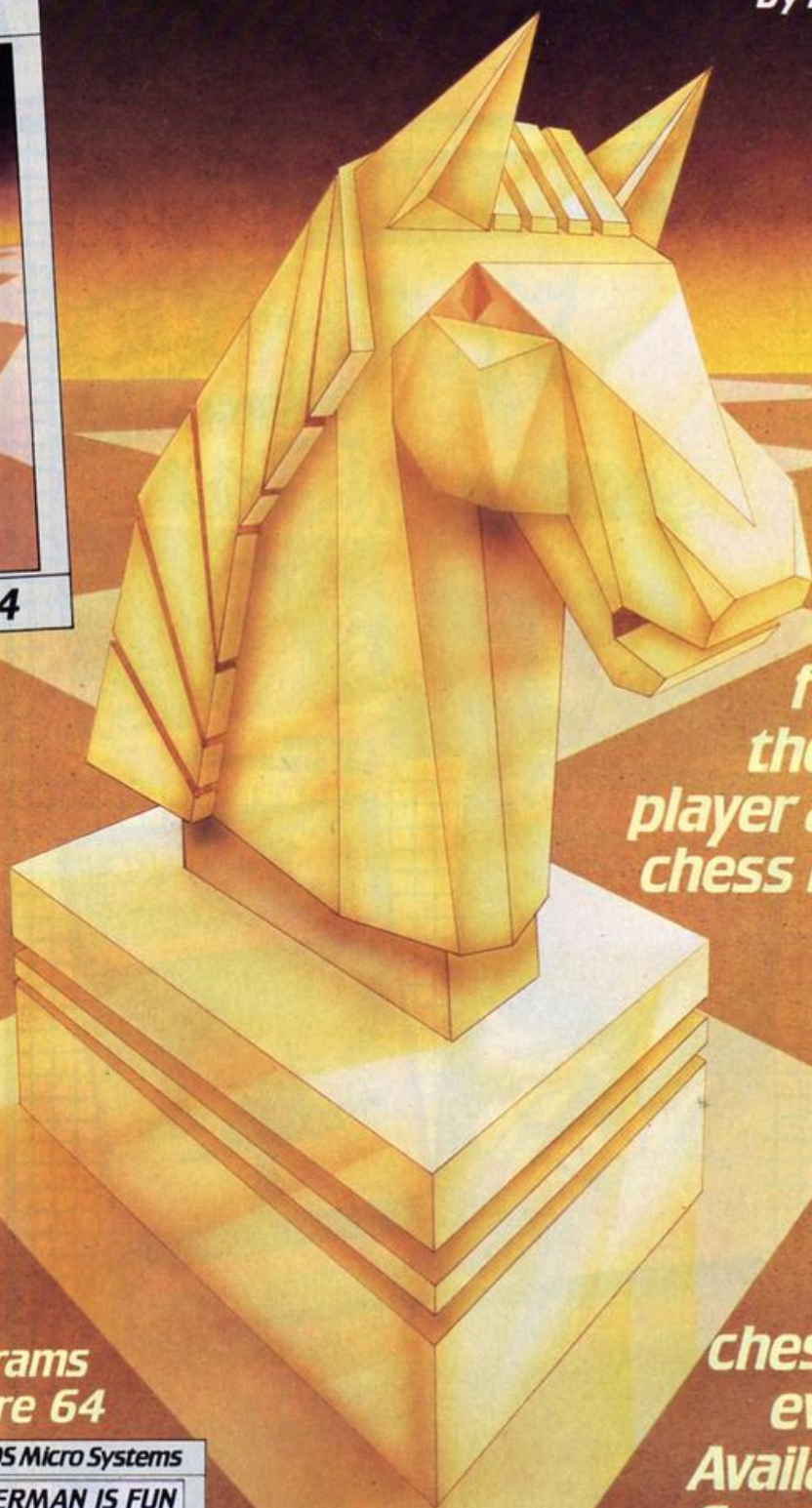
by Martin Bryant

CDS Micro Systems

**COLOSSUS
CHESS 2-0**



COMMODORE 64



*for both
the chess
player and the
chess master*

*Available soon....
educational programs
for the Commodore 64*

CDS Micro Systems

FRENCH IS FUN



Commodore 64

CDS Micro Systems

GERMAN IS FUN



Commodore 64



*the finest
chess program
ever written.*
**Available for the
Commodore 64
£9.95**

CDS Micro Systems

Available from leading Computer Stores, or...
Send Cheque or P.O. To CDS 10, Westfield Close, Tickhill,
Doncaster DN11 9LA. Tel: (0302) 744129.

(Trade enquiries welcome)

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

Home Computing WEEKLY

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

REGULARS

News	6
£1,000 Romik Software competition	25
Find the words... and choose your own prize	
Software charts	40
Our exclusive guide to best-selling arcade and non-arcade games, plus Top 10s for six home computers	
Classified ads start on	43

SOFTWARE REVIEWS

Use your brain, have some fun!	15
Games and utilities for BBC, Dragon, TI-99/4A, Sord M5 and Commodore 64	
Reports on the teachers	37
Stars out of five for educational software for Spectrum, Electron/BBC, Commodore 64 and TI-99/4A	
Will you believe you're there?	38
Simulations and adventures for the Spectrum, Sord M5 and TI-99/4A	
Time for some more fun	42
Games for the Spectrum, Oric/Atmos, Sord M5 and TI-99/4A	

SPECIALS

Special report: ZX Microfair	5
Find out what you missed	
£1 off K-tel software	7
Special offer on twin-game tapes	
BBC text planner	31
A free chart to make screen designing easier	

HOME COMPUTING WEEKLY
BRITAIN'S BRIGHTEST



PROGRAMS

Spectrum	8
A bumper bundle for Spectrum owners — have fun with our three games and try some interesting and useful routines	
Commodore 64	16
Two games, making good use of graphics, by an HCW regular	
Oric/Atmos	28
Instead of zapping aliens, try helping this one back to his spaceship	
BBC	32
Find the numbers and beat your computer — a two-player game to type in	

Readers: we welcome your programs, articles and tips — see the
panel in this issue for details
Software houses: send your software for review to the editor.
Contact him for competitions and other promotions, as well

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 Stuppel
Chief Executive:
Jim Connell

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

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

NEW!

48K SPECTRUM FRED

Author: **Indescomp** ☐

Action beneath the
Pyramids! £6.95

Fearless Fred the
Intrepid Archaeologist
searches the creepy
catacombs below
the torrid tomb of
'Tootiecarmoon' for the
terrible treasures amidst
monstrous mummies,
ghastly ghosts, bats
and rats!

COMMODORE 64 BOOGABOO (THE FLEA)

Author: **Indescomp** ☐

Itchy action! £7.95

Jump your way out of the
caves with Bugaboo the flea
but beware of the fearsome
Dragon as you jump around
the exotic vegetation.

48K SPECTRUM RAYMOND BRIGGS' ☐ THE SNOWMAN

Author: **David Shea** £6.95

An enchanting game based
around episodes of Raymond
Briggs' amazingly successful
book.



All games marketed exclusively by Quicksilva Limited.
Please send me the games I have ticked.

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

Name _____
Address _____

HCW61

QUICKSILVA

WARNING: These programs are sold according to
QUICKSILVA Ltd's terms of trade and conditions of sale.
Copies of which are available on request.



Stell Software

for top quality programs

Collect your FREE
Competition Entry form
from your local branch of **Boots**

Identikit

An educational game for 2-8 years

A Captains Badge is yours
Free with each Identikit
Program.

An Admirals Badge is yours
Free with each Maths
Invaders Program.

Start as a Captain with
Identikit - then earn your
Admirals Badge by
answering the maths
questions and shooting
the Invaders.

Spectrum programs only £6.95
BBC, Electron & Commodore 64 only £7.95
Atari only £8.95

Maths Invaders

An educational game for 4-12 years

FREE



Make 15,000 different faces



FREE



IDENTIKIT Spectrum 48K, BBC B/Electron, Commodore 64.

Identikit is an ideal introduction to the computer for young children.
All you have to do is use just two keys to select all the features you want
to build up a face. When you have made the face, you can also animate it -
wriggle the nose, blink the eyes, smile, frown etc..

MATHS INVADERS Spectrum 16/48K, BBC B/Electron, Commodore 64, Atari.
Provides excellent motivation to learn simple arithmetic. Subjects covered are
addition, subtraction, multiplication and division. The invaders are coming
down the screen towards you. Load your gun with the right answer to their
question and fire it at them before they land on you. Superb graphics and
sound plus a range of difficulty levels to suit any age, make this a favourite
with every child.

Most titles available from **Boots**

or direct from Stell Software Ltd.,

36, Limefield Ave., Whalley, Lancs.. BB6 9RJ. Tel: 025482 3432.

Please send by return of post.

Identikit £..... Maths Invaders £..... Total £.....

ZX Spectrum ☐ Commodore 64 ☐ BBC B/Electron ☐ Atari ☐

To: Name

Address

HCW61

New Spectrum keyboards, and a wealth of new software, made their first public appearance at the ZX Microfair.

Attendance at the one-day show — held at north London's Alexandra Palace — was about 7,500, down probably because of the fine weather.

The new keyboards, shown by CCI and AMS, are both priced at £49.95 and involve screwing the Spectrum's PCB inside.

The CCI model, made by Ricoll, is stove enamelled in brown and cream with more colours to come. CCI is also bringing out a programmable interface, with the standard Atari-type nine-pin DIN socket, plus a joystick at an all-in price of about £24.50.

CCI's Arthur Tufnell said: "That's about £10 cheaper than everyone else".

The AMS keyboard is slimline, 4cms high at the back sloping to 2cms, and has 53 keys, including numeric keypad and space bar. Made of plastic, it is black with etched white keys.

As well as free Easter eggs, OCP had a new Pool program, (£9.95, 48K Spectrum). And due out in about two months: Roulette and Pontoon on the same tape, also £9.95.

For more serious micro users, OCP will bring out soon Stock Manager Plus 80, VAT Manager Plus 80, Word Manager Plus 80 and Word Manager standard version. The first three will cost £19.95 and the last £9.95. Plus 80 means suitable for most Centronics-type 80-column printers and interfaces.



● Penny Brownlie, director of CCI, with stove enamelled Spectrum keyboard

Crystal's oddly-named new Spectrum game, It's the Woolruf (£6.50), gives you the role of a sheepdog and you have to guide sheep across a river, avoiding the wolf. Coming soon: a space arcade game called Tubeway Army (about £8.95) and Zeus 64 (£9.95), an assembler for the Commodore 64.

What's new at the Microfair

Find out what you missed.
Paul Liptrot reports on the new products he discovered



● The slimline Lo-Profile keyboard from AMS — the Spectrum PCB fits inside

Steve Briers, of Odyssey, launched five £2.50 maths programs for the ZX81 and Spectrum.

Vortex had a fighter pilot simulation called TLL (48K Spectrum, £5.95) and Mikrogen is due to launch the first of a new series of £6.95 games featuring a character called Wally.

In the first, Automania (Manic Mechanic), Wally, who has a flat cap and a beer belly, has to build 10 cars, ranging from a 2CV to a Rolls-Royce, and things keep going wrong. Initially for the 48K Spectrum, the range will also appear for the Commodore 64. Mikrogen's ATC (48K Spectrum, £9.95) is also out soon. Written by an air traffic controller, it includes a keyboard overlay and six levels, ranging from 16 to 60 aircraft per hour.

Chris Lloyd, of Cambridge Computing, promised a new Spectrum add-on for £20-£30 but declined to say what it is.

Procom's new proprietor, Albert Owen, showed Dynamic Graphics, a two-tape graphics package at £14.95, and announced Dynamic Programming, coming soon, which includes an additional 181 commands and seven pre-defined sounds for games. Also for the Spectrum is Procom's new arcade game, Bonkers.

Digital Integration, which produces Fighter Pilot (48K Spectrum), has another simulation in June and RD Laboratories is soon to offer enhanced software with its £55.50 Digital Tracer to add features like copy, move and a status line. And Campbell now has a program to add items such as automatic numeric editing and printing to any width up to 255 to its Masterfile (Spectrum, £19.95). The new MF Print costs £6.95.

Teleplus showed a range of computer desks costing £17.50 to £49.95 and East London Robotics plans to soon make available its electro-cardiogram for the Spectrum, a prototype of which was at the last Microfair.



● Chris Johnson, of Comprosys, with ASZMIC board

Chris Johnson, who designs operating systems for mainframes in Sweden, demonstrated his Master Virus BASIC adding 22 new commands to the ZX81, plus features like high resolution plotting. Marketed by Comprosys, the SP ROM costs £19.95. The company also has a new ZX81 Prestel adaptor (£30) and markets the ASZMIC card (£17.95 or £20.25) and E07 ROM, which includes editor, assembler, toolkit, key repeat and graphics for £29.95.

Dream showed a graphic adventure maker, Dungeon Builder (£9.95, 48K Spectrum) and has a new game for the Commodore 64 called Pub Quest (£5.95) which challenges you to buy a drink... while drunk.

Roy Backhouse, managing director of Fuller, said the Soundstick (£19.95) he has designed for the Spectrum plugs a gap in the market. It is a Kempston-type joystick interface and sound amplifier in one unit

which is styled to lay against the back of a Spectrum, forming a neat unit.



● Fuller's new Soundstick, held by designer and managing director Roy Backhouse

dk'Tronics has a new model of its £45 Spectrum keyboard, with a space bar and, to come, a new interface model costing £19.95, including a light pen.

Automata, the PImania company, has launched a magazine called The Piland Bugle and Kempston is planning new peripherals for the Spectrum and the Electron.

Trashman (48K Spectrum, £5.95) is new from New Generation and involves collecting and emptying dustbins on the streets of Bath. Compusound brought out its first software, Blockbusters (48K Spectrum, £5.95), an educational question-and-answer game.

Sinclair Research showed the QL, and other products, including four new games from Hudsonsoft, a Japanese company.

● The next ZX Microfair is due to be held on September 8, again at Alexandra Palace

Where to find them

In order of appearance
CCI, Units 2-4, Shire Hill Industrial Estate, Saffron Walden, Essex
AMS, Green La, Appleton, Warrington WA4 5NG
OCP, 4A High St, Chalfont St Peter, Bucks SL9 9OB
Crystal, 125 Smedley Rd, Cheetham Hill, Manchester M8 7RS
Odyssey, 28 Bingham Rd, Sherwood, Nottingham NG5 2EP
Vortex, 280 Brooklands Rd, Brooklands, Manchester M23 9HD
Mikrogen, 44 The Broadway, Bracknell, Berks
Cambridge Computing, 1 Ditton Walk, Cambridge CB5 8QZ
Procom, 309 High Rd, Loughton, Essex
Digital Integration, Watchmoor Trade Centre, Watchmoor Rd, Camberley, Surrey
RD Laboratories, 20 Court Rd E, Cwbran, Gwent NP44 3AS
Campbell Systems, 15 Rous Rd, Buckhurst Hill, Essex IG9 6BL
Teleplus, PO Box 407, Maldon, Essex CM9 8UR
East London Robotics, 11 Gate, Royal Albert Dock, London E16
Comprosys, 29 Campden Rd, S Croydon, Surrey CR2 7ER
Dream, PO Box 64, Basingstoke, Hants RG21 2LB
Fuller, 71 Dale St, Liverpool 2
dk'Tronics, Unit 6, Shire Hill Industrial Estate, Saffron Walden, Essex
Automata, 27 Highland Rd, Portsmouth, Hants PO4 9DA
New Generation, The Brooklands, Sunningbank, Lymington, Bath BA2 4NA
Sinclair Research, Stanhope Rd, Camberley, Surrey GU15 3BR

Good news

From front page

UK. Study the table below:

	1982	1983	1984	1988
Arcade games	£6m	£19m	£29m	£46m
Adventure games	£2m	£7m	£16m	£43m
Children's educational programs	£1m	£10m	£23m	£62m

"The sale of arcade games will reach its peak in 1987," said Mr Mascall.

"After this, growth will taper off. Adventure games will become almost as popular as arcade games by 1988, and children's educational games will see a massive boom in popularity, overtaking arcade games by 1988."

"As for hardware, the Spectrum still dominates the market, with predicted sales in 1984 of £333m, compared with £336m in 1983. Although this seems like a drop in sales, we must take into account the fact that the unit price has been lowered. More computers sold will yield less income. In 1983 Spectrum's share of the market was 35 per cent with the VIC-20 and Commodore 64 in second place."

"The Americans are still heading the field with home computer software packages," he continued. "With the exception of Psion for the Sinclair, best-selling software is mostly imported. In particular, nearly all Commodore programs are imported."

The future for the software trade will rely heavily on branding, according to Blair Mascall. A particular brand name, once well known, will attract customers to buy regardless of the program. Increasing awareness of product names will become more and more important. This is where the big companies will be able to cash in, as their promotional budgets will be greater.

"The general trend in software prices will be downwards," says Mr Mascall. "Lower priced software sells more packages than more expensive software. This is where the mail order firms lose out, since they are slow to react and less sensitive to price changes. Mail order sales will become less frequent. At the moment Boots and W. H. Smith sell 20 per cent of all software in the UK."

EIU Informatics is the information technology wing of the Economist Group, which publishes the Economist magazine. EIE Informatics is a consultancy service which specialises in research and analysis. Reports on the

software market in West Germany and France are still to be published.

The in-depth report, Markets for Microcomputer Software in Europe, was completed at the end of 1983 and comprises a five-volume series; the UK volume costs £1,100.

EIU Informatics, Spencer House, 27 St James's Place, London SW1A 1NT

BASIC

From front page

features a guest appearance by an unusual micro-user. One week it is a Midlands vicar who uses his Spectrum to help teach his confirmation candidates, another week it is a Yorkshire granny who uses hers to generate knitting patterns.

Adam Hart-Davis, producer, said: "These programs will provide the building blocks from which even the complete beginner could develop programs. We hope the series will interest 12-year-olds with access to a micro, as well as the more seasoned programmers."

Fred Harris, maths graduate and former teacher, now works full-time on television and radio. He is a keen computer buff and has been experimenting with different ways of teaching computing to children for some years.

Back-up support for the series is provided by a book, also called Me & My Micro, by Paul Shreeve, published by the National Extension College. Price £2.95 (also on cassette).

Further back-up material includes listing of all programs used in the series, souped-up versions of the games, comments and suggestions. Send a s.a.e. to Me & My Micro, Admail 1, Leeds LS3 1YS
Yorkshire TV, TV Centre, Leeds LS3 1JS

Briefly

Just out from Intrigue — Lionel and the Ladders, for the Extended BASIC TI-99/4A. This animated sprite graphic adventure sells at £7.95.

Intrigue, Cranbrook Rd, Tenterden, Kent TN30 6UJ

Debut for new games

New games were given their first public airing at the PCG Easter show.

From Romik, resplendent in new packaging, were Turtle Jump at £6.99 and Multisound Synthesizer at £14.99, both for the Commodore 64. Multisound Synthesizer was originally on the VIC-20 but has been re-written for the Commodore 64 to make use of its enhanced sound.

Taskset, the arcade game company that moved to computers, released Gyropod for the Commodore 64. It features impressive 3D graphics and fast action with the player trying to destroy different planets protected by fanatical aliens.

Creative Sparks, the new name for Thorn EMI's software arm, is releasing Black Hawk for the Commodore 64. This game is a good reproduction of Xervious and plays Wagner's Ride of the Valkyries. It also has two new releases for the Spectrum: Orc Attack and Tower of Evil. Re-released are all of Thorn EMI's older titles on cassette instead of more expensive cartridges.

Visions had a barrage balloon flying above the show and had the strangely named Revenge of the Killer Tomatoes for the Spectrum and Pengi for the BBC.

The Nowotnik Puzzle, a cube game previously on the Spectrum, has now been released for the Oric/Atmos by Tansoft along with a revised version of its Chess program that is also suitable for the new Atmos. Chess costs £9.99 and Nowotnik Puzzle is £7.95.

Audiogenic has imported a new range of American software on disc for the Commodore 64. Alice in Computerland is an adventure linked with a series of games all on the subject of Alice in Wonderland and Through the Looking Glass. Pegasus puts you in charge of a winged horse fighting the forces of evil, suitably equipped with similar steeds. Both cost £12.95 and are available on cassette as well at £8.95.

Mastertronic, the new company that caused a stir by selling games at £1.99 and £2.99, was displaying its range of about 20 games. Its whole range is now £1.99. Director Martin Alper explained: "When we bought the games in some were better than others and cost more. We thought we could recoup our costs by selling them at the higher price,

but we decided that the £2.99 price took the software out of the pocket money price range." Mr Alper said the marketing strategy was successful because "we have already sold over 130,000 games to dealers."

Jeff Minter, of Llamasoft, was showing (and field testing) a pre-production version of his latest masterpiece, Sheep in Space. You play a sheep, firing what are provisionally known as bonios, trying to save your planet from camels and llamas.

Mike Roberts

Space school

Kosmos has followed its French Mistress program with Answer Back, an educational program for the BBC/Electron. This package, costing £10.95, combines a series of quizzes on general knowledge for the over 11s with a space-age game, in an effort to teach and amuse.

Fifteen quizzes, each covering a different topic, are supplied, with a total of 750 questions and 3000 answer options. Science, history, geography, astronomy, music and sport are among the categories of questions. Multiple choice, true or false and complete the answer are the options available. The questions are fired at you by a robot from a lunar scene, and if you answer correctly you may shoot at a space ship.

New quizzes may be created and questions may be repeated if wrongly answered. Kosmos plans to release a Spectrum version shortly, as well as a similar quiz for under-11s.

Kosmos, 1 Pilgrims Close, Harlington, Dunstable, Beds LU5 6LX

Slinky's star turn

Slinky is the first of Audiogenic's new Commodore 64 disc games. Selling at £12.95, Audiogenic claims that Slinky sets new standards in graphics and sound, combining the visual capabilities of the arcade with the interaction of adventure games.

When Slinky hops on a coloured block it changes colour. The Wicked Wizard and his minions are after Slinky, and Slinky's adventures continue through 99 different levels. Dusty the Dust Cloud and Marge the Magnet are two of the characters who star in this game.

Audiogenic, PO Box 88, Reading, Berks

Here's a great offer from K-tel and Home Computing Weekly — £1 off K-tel's range of twin-game cassettes. And the postage and packing is absolutely free. K-tel, well-known for its greatest hits albums, sprang onto the software scene just a few months ago. And one of its innovations was a Double-Siders range, offering twice the value for the price of a single cassette.

And now we're offering even greater value to owners of the Spectrum and the VIC-20.

All you have to do to claim your bargain tapes is to cut out the voucher on this page

Save one pound off the price of K-tel's range of six double-siders

shops is £6.95 each. So all you'll pay is £5.95 and the postage and packing is free. Your tapes will arrive from K-tel within 28 days. This offer closes at first post on Friday June 29, 1984.

Please remember you'll need next week's coupon as well as the voucher on this page.

Alien Swarm/Arena for either Spectrum. Alien Swarm: The most lethal invasion ever to threaten our world... They drop like deadly rain. You alone can kill them, but each alien that survives grows stronger. They have some very nasty surprises in store. **Arena:** You are the captive of an ancient war-like alien race. Like the Romans, they play games with their captives, games with a very final outcome. As you battle to deflect deadly comets you notice something strange... the spiked walls seem to be getting nearer... Compatible with Kempston-type joysticks.



Arena



Plague

Plague/Alien Demon for the VIC-20. Note: Alien Demon requires 8K RAM expansion. **Plague:** They're everywhere... a marching infection, a creeping horror. Can you wipe them out before you're infected? Watch out for the Plague Pests and their egg bombs and the Robo Crabs. **Alien Demon:** It knows you're there and it wants you. Can you get it before it gets you? You're in command of the deep space explorer ship Kilos. You've just completed a mission to a distant planet. Unknown to you, the Alien Demon and his deadly droids boarded Kilos and killed your crew. Now you face them alone.

Castle Colditz/Battle of the Toothpaste Tubes for the 48K Spectrum. Castle Colditz: You are a prisoner of the Third Reich. Can you escape its iron grip? To escape you must avoid the dogs and survive such horrors as the corridor of rats, the tunnel of poisonous spiders and the vault of bones. **Battle of the Toothpaste Tubes:** Can you destroy the evil Brush Brigade? Or will you succumb to the dreaded Mini Tubes and Chattering Teeth? You fire from your toothpaste tube and protect yourself with a fluoride shield.



Battle of the Toothpaste Tubes



Tomb of Dracula

It's Only Rock 'n' Roll/Tomb of Dracula for the 48K Spectrum. It's Only Rock 'n' Roll: Can you become a superstar, or are you just another has-been? You've got a lot of energy, a bit of money and a great future. But can you stay the course, stand heartbreaking disappointments, arrest, fraud, scandal and more? Can you capture the hearts and wallets of the public? **Tomb of Dracula:** Darkness is falling. The vampires are hungry. You can't go back. Your only chance of survival lays ahead. With each step, past cold and clammy walls, you think of the horrors you'll face: ghoulies, zombies and pits of choking slime. You have just seven silver stakes with which to defend yourself. Dare you face the ultimate evil... and win?

Supavaders/Bomber Run for the unexpanded VIC-20. Supavaders: You are a Pathfinder and your mission is to flatten the enemy city

and land your force. It's dark, the crew is edgy. Below you stretches the inhospitable city. But this is no sitting target — anti-aircraft batteries are putting up a barrage of flak and enemy fighters are on the prowl. **Supavaders:** We are under attack by a powerful alien force and you are in command of earth's defences. Our future depends on your skill and courage. You must shoot them down with your powerful multi-directional missiles. If one slips through you must bomb the forces.

Defusion/Worms for the 48K Spectrum. Defusion: Time is running out... you are only seconds from an explosive experience. A live bomb ticks menacingly as you try to get near enough to defuse it. Unfortunately, your path is littered with booby traps, to say nothing of a very determined hit man. **Worms:** What's slimy and nasty and ties itself, and you, in knots? You control the worm as it grows, relentlessly filling the screen. Take care to keep clear of your own tail... and the bluebottles.

These are the six tapes offered

one pound
K-tel
voucher

Games... all more for you Spectrum

Millipede by Gary Haynes

This program puts you in the position of a millipede having to make your way through a field of mushrooms.

As the Spectrum has no scroll command in BASIC, I POKEd the character onto the screen. This makes Millipede a fast and fairly exciting game.

As a bonus, there are also pieces of fruit which are displayed at random. Eating a fruit gives you 10 extra points and every scroll gives you one extra point.

There is a high score facility and the graphics are good.

You have three lives and you lose one every time you run into a mushroom.

At 150 points the game increases speed and gets faster for every further 100 points you score. To move left press 5 and to move right press 8.

Reversal by Alec Wakley

This game was inspired by the BBC game, Invert, which appeared in issue 43 of HCW. As with Invert, the object is to make a grid of 16 squares all one colour.

Initially each square is set

Variables

DIM a(4,4) colour values of each square

x,y current position

ox,oy previous square

nx,ny new square

moves number of moves

low lowest score

on, tw values of both colours in play

col used to pick all three colours, finally for BORDER + PAPER

k\$ Hold INKEY\$ value

i, n, j, m FOR... NEXT loops

Listing for Millipede

```

1 LET hs=0: GO SUB 9000                                : REM *** mil
lipede attack*** : REM *** by G. Haynes.....

2 LET sc=0: LET lives=3
3 POKE 23692,255: LET score=0
5 PRINT AT 21,0: LET x=16400: LET a=16
6 IF ATTR (0,a)=59 THEN GO TO 100
7 IF ATTR (0,a)=189 THEN BEEP .01,20: LET score=score+10
8 POKE x,126: POKE x+8*32,126: POKE x+2*(8*32),36
9 POKE x+3*(8*32),189: POKE x+4*(8*32),189: POKE x+5*(8*32),36: POKE x+6*(8*32),36
25 POKE 23692,255
27 LET k=RND*(a+10): IF k>=26 THEN LET k=26
30 PRINT TAB k: INK 3:"AAAA"
40 IF INKEY$="8" AND a<30 THEN LET x=x+1: LET a=a+1
50 IF INKEY$="5" AND a>1 THEN LET x=x-1: LET a=a-1
60 BEEP 0.01,10
65 IF k<10 THEN PRINT AT 21,k+10: FLASH 1: INK 5:"B"
70 LET score=score+1: IF score>=150 THEN PRINT
75 IF sc=250 THEN PRINT TAB RND*24: INK 3:"AAAA"
90 GO TO 6
100 REM ***you're dead***
110 CLS : FOR f=69 TO -40 STEP -2
120 BEEP 0.01,f: NEXT f
125 PRINT AT 0,0:"Hi score=": FLASH 1:hs
127 LET sc=score
130 PRINT AT 8,5: FLASH 1:"YOU HAVE LOST A LIFE!!!"
135 PRINT : PRINT : PRINT "...you scored,this life,";score: PRINT : PRINT "...your score so far is ";sc
145 IF sc>hs THEN LET hs=sc
147 LET lives=lives-1: IF lives<0 THEN CLS : GO TO 400
150 PAUSE 0
155 PAUSE 0
160 IF INKEY$<>" " THEN CLS : GO TO 3
400 REM *you're really dead!*
410 PRINT AT 8,5:"You have no lives left!!!"
420 FOR f=1 TO 2: BEEP 1,-20: NEXT f
430 BEEP .2,-20: BEEP 1,-20
440 BEEP 1,-17
450 BEEP 1,-20: BEEP 1,-20: BEEP 1,-25: BEEP .5,-20: BEEP 1,-20
455 PRINT : PRINT TAB 10:"OVERALL SCORE...";sc
460 PRINT AT 15,0:"Press any key for another go or 'e' to end..."
470 PAUSE 0: PAUSE 0
480 IF INKEY$<>"e" THEN CLS : GO TO 2
490 CLS : PRINT "BYE-BYE!!!"
9000 FOR f=0 TO 7
9010 READ a: POKE USR "a"+f,a
9015 READ b: POKE USR "b"+f,b
9020 NEXT f
9024 PRINT TAB 5: FLASH 1:"MILLIPEDE ATTACK!": PRINT : PRINT : PRINT
9025 PRINT "Avoid the mushrooms and eat as much fruit as you can...if you dare!!!"
9026 PRINT : PRINT "But watch out as the game gets faster...you only have 3 lives!!": PRINT : PRINT "Press any key..."
9027 PAUSE 0: CLS
9030 RETURN
9040 DATA 16,32,56,32,124,16,254,124,254,254,214,254,16,254,56,56

```


and a lot our

randomly to one of two colours. When a player moves to a square it changes to the other colour. But you cannot go back to the square you have just left, and this is marked with an X.

How it works

210-320 initialise
390-550 select colours
600-680 random selection of two colours for 16 squares
690 random starting position (x,y)
695 print instructions
700 print squares
800-1150 check if cursor keys pressed and if legal move
1205 BEEP on move
1210 keep score
1220 update score
1230-1250 change new square colour value and print
1260 update position
1270-1350 check if all squares are the same colour
1410-1420 check and print lowest score
1430-1590 play music, scroll away and GOTO new game
3000-3070 choose colours
3100-3290 print starting squares
3420-3550 change colour of new square and flashing centre, print inverse X in last square and blank out previous X
3610-3800 print instructions
4000-4050 music

Space Invaders by James Hill

You have three ships with which to ward off the alien invaders from the planet Spectra. They drop bombs to try to destroy you.

After one fleet of attackers

How it works

25-90 set up screen
100-210 main game loop
220-270 subroutines to print space invader strings
300-375 fire missile routine
400-410 blow up space invader
420-438 reset strings
1000-1010 clear sheet
2000-2030 lose one life
2050-2090 game over routine
8000-8050 instructions
9000-9100 user-defined graphics
9200-9300 save game routine
9400-9430 print information routine

you will receive an extra ship. But they get lower and lower and defence becomes harder and harder. Use your skill to survive, but remember — your chances are very slim.

Variables

hs high score
sc current score
k control variable for lowering invaders
x,y position of your ship
a,b position of invaders (top row)
dir direction in which invaders are travelling
o,p position of bomb
a\$, b\$, c\$, d\$, e\$, f\$, g\$, h\$ space invader strings
IS score (life) graphic string
is no space invaders left string

Animate and Sound Patterns by Ian McDonald

Animate, a machine code routine for either model of the Spectrum, copies the left hand side of the screen to the right more or less instantly and then clears the left side.

The idea of the routine is to DRAW a picture in the left half of the screen. Using BASIC, this can be quite slow, especially if the picture is at all complex.

The trick is to DRAW the picture on the left in INK that is the same colour as the background PAPER. The left side will appear blank although a picture is actually being DRAWn there.

The listing is in fact two programs — a demo starts at line 300.

Once lines 60-240 have been entered and RUN, the routine is easily tested by:

LIST (ENTER)
Randomise USR 65000
(ENTER)

If you have a 16K Spectrum type RANDOMISE USR 32500 instead.

The listing should move to the right and the left side go blank. You can then try the demo program. The effect is (or should be) of a circle moving smoothly up the screen.

When you're happy that it all works correctly, eliminate all the unnecessary BASIC by entering NEW. The CLEAR instruction in line 60 will

Listing for Reversal

```
200 REM ****REVERSAL
      INITILISE****
210 INK 0: PAPER 7: BORDER 7:
FLASH 0: BRIGHT 0: OVER 0: INVE
RSE 0
220 LET low=200
230 DIM a(4,4)
300 CLS
310 LET ox=0: LET oy=0: LET mo
ves=0
390 PRINT AT 3,22;"REVERSAL"
400 PRINT AT 5,22;"CHOOSE";AT
6,22;"FIRST";AT 7,22;"COLOUR"
410 GO SUB 3010
420 LET on=col
450 PRINT AT 6,22;"SECOND"
460 GO SUB 3010
470 LET tw=col
480 IF tw=on THEN GO TO 450
500 PRINT AT 6,22;"BACKGROUND"
510 GO SUB 3010
520 IF col=on OR col=tw THEN
GO TO 500
530 INK 7
540 IF col>3 THEN INK 0
550 BORDER col: PAPER col
560 CLS
570 IF low=200 THEN GO TO 590
580 PRINT AT 18,23;"LOWEST ";l
ow
600 FOR i=1 TO 4
620 FOR n=1 TO 4
630 LET a(i,n)=on
640 IF RND>.5 THEN LET a(i,n)
=tw
670 NEXT n
680 NEXT i
690 LET x=1+INT (RND*4): LET y
=1+INT (RND*4)
695 GO SUB 3600
700 GO SUB 3100
800 REM INKEY$ MOVING
810 LET k$=INKEY$
820 IF k$="" THEN GO TO 810
830 IF k$<>"5" THEN GO TO 900
840 IF y=1 THEN GO TO 810
850 LET ny=y-1: LET nx=x
860 IF ny=oy AND x=ox THEN GO
TO 810
870 GO TO 1200
```

Here's a bumper bundle for
Spectrum owners — three
games and a batch of
interesting and useful
routines to try

SPECTRUM PROGRAMS

```

900 IF k$<>"6" THEN GO TO 100
0
910 IF x=4 THEN GO TO 810
920 LET nx=x+1: LET ny=y
950 IF nx=ox AND y=oy THEN GO
TO 810
980 GO TO 1200
1000 IF k$<>"7" THEN GO TO 110
0
1020 IF x=1 THEN GO TO 810
1030 LET nx=x-1: LET ny=y
1050 GO TO 950
1100 IF k$<>"8" THEN GO TO 810
1120 IF y=4 THEN GO TO 810
1130 LET ny=y+1: LET nx=x
1150 GO TO 860
1200 REM CHECK
1205 BEEP .1,2*VAL k$
1210 LET moves=moves+1
1220 PRINT AT 17,23;"MOVES ";mo
ves
1230 IF a(nx,ny)=on THEN LET a
(nx,ny)=tw: GO TO 1250
1240 IF a(nx,ny)=tw THEN LET a
(nx,ny)=on
1250 GO SUB 3400
1260 LET ox=x: LET x=nx: LET oy
=y: LET y=ny
1270 FOR i=1 TO 4
1280 FOR n=1 TO 4
1290 IF a(i,n)<>a(1,1) THEN LE
T n=5: LET i=5
1300 IF n=4 AND i=4 THEN GO TO
1400
1310 NEXT n
1320 NEXT i
1350 GO TO 810
1400 REM FINISH
1410 IF moves<low THEN LET low
=moves
1420 PRINT AT 18,23;"LOWEST ";1
ow
1430 GO SUB 4000
1460 PRINT AT 20,5;"PRESS ANY K
EY FOR NEW GAME"
1470 IF INKEY$="" THEN GO TO 1
470
1540 FOR j=1 TO 22
1550 PRINT ;" ": POKE 23692,255
1560 NEXT j
1590 GO TO 310
2999 STOP
3000 REM GO SUB AREA
3010 LET k$=INKEY$
3020 IF k$<>"0" AND k$<>"1" AND
k$<>"2" AND k$<>"3" AND k$<>"4
" AND k$<>"5" AND k$<>"6" AND k
$<>"7" THEN GO TO 3010
3030 LET col=VAL k$

```

```

3040 IF INKEY$<>" " THEN GO TO
3040
3070 RETURN
3100 REM GO SUB PRINT
3130 FOR i=1 TO 4
3140 FOR n=1 TO 4
3170 FOR j=-1 TO 1
3180 FOR m=-1 TO 1
3190 PRINT INK a(i,n);AT 4*i+j
,4*n+m;"■"
3200 NEXT m
3210 NEXT j
3220 NEXT n
3230 NEXT i
3250 PRINT INK a(x,y); FLASH 1
;AT x*4,y*4;"■"
3290 RETURN
3420 IF ox=0 THEN GO TO 3440
3430 PRINT INK a(ox,oy);AT ox*
4,oy*4;"■"
3440 PRINT INK a(x,y); INVERSE
1;AT x*4,y*4;"X"
3450 FOR j=-1 TO 1
3460 FOR m=-1 TO 1
3470 PRINT INK a(nx,ny);AT 4*n
x+j,4*ny+m;"■"
3480 NEXT m
3490 NEXT j
3500 PRINT INK a(nx,ny); FLASH
1;AT 4*nx,4*ny;"■"
3550 RETURN
3610 PRINT AT 2,22;"REVERSAL"
3620 PRINT
3630 PRINT TAB 19;"Make all";TA
B 19;"squares the";TAB 19;"same
colour";TAB 19;"as few moves";
TAB 19;"as possible"
3640 PRINT
3650 PRINT TAB 19;"You are here
"; FLASH 1;"■"
3660 PRINT
3670 PRINT TAB 19;"You can not"
;TAB 19;"move back to";TAB 19;"
last square X"
3800 RETURN
4000 REM Music
4010 BEEP .25,0: BEEP .25,3: BE
EP .25,5: BEEP 1.25,7
4020 BEEP .25,0: BEEP .25,3: BE
EP .25,5: BEEP 1.25,7
4030 BEEP .25,0: BEEP .25,3: BE
EP .25,5: BEEP .5,7
4040 BEEP .5,3: BEEP .5,0: BEEP
.5,3: BEEP 1.25,2
4050 RETURN
8999 STOP
9000 SAVE "Reversal"
9010 PRINT "RE-WIND TO VERIFY"
9020 VERIFY "Reversal"

```


SPECTRUM PROGRAMS

preserve the machine code.

All the DRAWing should be kept within the left of the screen and should be done with temporary colour commands. It pays to have the INK contrast with the PAPER until you're satisfied that your drawing program works. Then change the INK to the same colour as the PAPER.

At the end of the picture drawing sequence place RANDOMISE USR 65000.

The routine and any associated BASIC can be SAVED with:

SAVE "name": SAVE "name", CODE 65000, 50

Once SAVED, it can be LOADED with:

LOAD "": LOAD " " CODE 65000, 50

How it works

60-250 POKES

60,90 For a 16K Spectrum the value 64999 should be changed to 32499

70 t is a variable that checks to see the DATA is correct

90-130 do the necessary READING and POKING

140-230 values to be POKED. There are 10 lines, each with five items, except for 230 which has four items

300-320 set up permanent colour values, in this case black INK on white PAPER

330-350 variables

370 draws a yellow circle on the left. Changing the INK to white will produce a white circle on white PAPER, i.e. an invisible circle

390 copies circle to right, clearing left

400 moves centre of circle up by two pixels

410 loops back to 370

500-780 are the mnemonics for the machine code listing. Don't type them in — they don't do anything. They're there for those who are interested in working out how the program works.

Sound Patterns, as the name suggests, shows what sound looks like by reproducing it as waves on the screen, a little like those heartbeat monitors in hospitals.

Here's how to use it: LOAD and RUN. When the screen says 9 STOP statement, 290:1 press CONT (ENTER). Then continue to play sound into the computer via the cassette leads.

It is also possible to use your recorder's inbuilt microphone — if yours has one — to see the sound of your own voice as you speak.

Polar Plotter by Peter Scott

Most computer users are used to plotting graphs using x- and y-axes. Less familiar, but equally important, are graphs in polar coordinates, in which

Listing for Space Invaders

```

10 BORDER 0: PAPER 0: BRIGHT 1: CLS : GO SUB 30000
15 GO SUB 90000
16 LET m1=21: LET M$=" Do you need INSTRUCTIONS ? ": GO SUB 94000
17 IF INKEY$="n" OR INKEY$="N" THEN GO TO 25
18 IF INKEY$="y" OR INKEY$="Y" THEN GO TO 20
19 GO TO 17
20 GO SUB 80000
25 LET hs=0
30 BORDER 0: PAPER 0: INK 7: BRIGHT 1: OVER 0: FLASH 0: CLS
40 REM
55 LET k=0: LET sc=0: LET lvs=3
60 LET a$=" AB AB AB AB AB AB ": LET b$=" CD CD CD CD CD CD CD ": LET c$="
IJ IJ IJ IJ IJ IJ IJ ": LET d$=" KL KL KL KL KL KL KL "
65 LET l$=" EF EF EF "
70 LET i$=" "
75 LET e$=a$: LET f$=b$: LET g$=c$: LET h$=d$
80 LET x=20: LET y=16: LET b=0: LET dir=0: LET a=2+k: LET o=a
85 FOR m=0 TO 31: PRINT AT 20,m;"_": NEXT m
90 LET p=INT (RND*32)
100 OVER 0: PRINT AT x,y;"_EF_"
102 PRINT AT o,p: INK 2;"H"
105 GO SUB 220
110 IF dir=0 THEN LET b=b+1
120 IF dir=1 THEN LET b=b-1
130 IF b>10 THEN GO SUB 260: LET a=a+1: LET dir=1
135 PRINT AT 0,1:"SCORE = ";sc;AT 0,20;"HIGH = ";hs
140 IF b=0 THEN LET dir=0
145 GO SUB 240
150 IF a+6=18 AND (d$<>i$) THEN IF (c$<>i$) THEN LET k=0: GO TO 2000
155 IF a=13 THEN GO TO 2000
160 IF INKEY$=" " THEN FOR m=19 TO a+8 STEP -1: PRINT AT m,y+2;"!";AT m-1,y+2;
"!";AT m,y+2;" ": NEXT m: PRINT AT a+7,y+2;" ": GO SUB 300
165 PRINT AT o,p;" "
170 LET o=o+1
175 IF o=x AND (p=y+2 OR p=y+3) THEN GO SUB 2000
180 IF o>x THEN PRINT AT o-1,p;"_": LET o=a: GO TO 90
185 PRINT #0;AT 0,0;"LIVES = ";l$( TO lvs*3);" "
190 IF a$=i$ AND b$=i$ AND c$=i$ AND d$=i$ THEN GO TO 1000
200 LET y=y-2*(IN 65278=253 AND y>0)+2*(IN 65278=251 AND y<25)
210 GO TO 100
220 PRINT AT a,b: INK 3;a$:AT a+2,b: INK 4;b$:AT a+4,b: INK 5;(c$ AND c$<>i$);A
T a+6,b: INK 6;(d$ AND d$<>i$)
230 RETURN
240 PRINT AT a,b: INK 3;f$:AT a+2,b: INK 4;e$:AT a+4,b: INK 5;(h$ AND h$<>i$);A
T a+6,b: INK 6;(g$ AND g$<>i$)
245 BEEP .007,-10: BEEP .01,-15
250 RETURN
260 PRINT AT a,b;i$:AT a+2,b;i$:AT a+4,b;i$:AT a+6,b;(i$ AND c$<>i$);AT a+8,b;(
i$ AND d$<>i$)
265 BEEP .02,-15
270 RETURN
300 REM CHECK TO SEE IF MISSILE HITS SPACE-INVADER
305 IF y+2<=b+1 THEN RETURN
306 IF (y+2)>b+21 THEN RETURN
308 LET y1=y-b
310 IF d$(y+3-b)<>" " OR g$(y+3-b)<>" " THEN LET v=3: GO TO 400
315 LET v=3: GO SUB 375
320 IF c$(y+3-b)<>" " AND h$(y+3-b)<>" " THEN LET v=2: GO TO 400
325 LET v=2: GO SUB 375
330 IF b$(y+3-b)<>" " OR e$(y+3-b)<>" " THEN LET v=1: GO TO 400
335 LET v=1: GO SUB 375
340 IF a$(y+3-b)<>" " OR f$(y+3-b)<>" " THEN LET v=0: GO TO 400
345 LET v=-1: GO SUB 375
370 RETURN
375 PRINT AT a+v*2+1,y+2;"!";AT a+v*2+1,y+2;" ": RETURN
400 REM SPACE INVADER BLOWS-UP
410 PRINT AT a+v*2,y+1;"GGG": BEEP .01,20: BEEP .01,0: PRINT AT a+v*2,y+1;" "
420 REM RESET STRING
425 DEF FN j$(k$)=k$( TO y1+1)+ " "+k$(y1+5 TO )
430 GO SUB 430+2*v+2: LET sc=sc+50-v*10: RETURN
432 LET k$=a$: LET a$=FN j$(k$): LET k$=f$: LET f$=FN j$(k$): RETURN
434 LET k$=b$: LET b$=FN j$(k$): LET k$=e$: LET e$=FN j$(k$): RETURN
436 LET k$=c$: LET c$=FN j$(k$): LET k$=h$: LET h$=FN j$(k$): RETURN
438 LET k$=d$: LET d$=FN j$(k$): LET k$=g$: LET g$=FN j$(k$): RETURN
1000 LET sc=sc+20: IF sc=1000 THEN LET lvs=lvs+1: FOR n=0 TO 6: BEEP .5,n: NEXT
n: FOR m=27 TO 18 STEP -1: PRINT #0;AT 0,m;"EF ": BEEP .005,10: NEXT m
1010 LET k=k+2: GO TO 60
2000 REM LOOSE 1 LIFE
2010 LET a=2+k: PRINT AT x,y+2: FLASH 1: INK 6: PAPER 2;"GG": FOR n=0 TO -10 STE
P -1
2020 BEEP .005,n: BEEP .003,0: NEXT n
2030 FOR m=0 TO 200: NEXT m: LET lvs=lvs-1: IF lvs=0 THEN PRINT #0;AT 0,8;"
": GO TO 2050
2040 LET o=a: CLS : GO TO 80
2050 PRINT AT 10,13: FLASH 1: PAPER 2: INK 6;"GAME OVER"
2060 IF sc>hs THEN LET hs=sc: NEXT n: CLS
2065 FOR n=0 TO 500: NEXT n
2070 LET m1=12: LET M$="ANOTHER GO ??": GO SUB 94000: LET m1=15: LET M$="YOUR SCO
RE WAS ": GO SUB 94000: PRINT AT 15,24;sc
2075 IF sc=hs THEN PRINT AT 1,9: FLASH 1;" A NEW HIGH-SCORE ": FLASH 0
2080 IF INKEY$="Y" OR INKEY$="y" THEN CLS : GO TO 55

```


each point is described by its distance from the origin (r) and the angle between the line joining it to the origin and the horizontal (t).

Polar Plotter is designed to help people to feel more at home with polar coordinate graphs. It will plot the graph corresponding to any equation; the version shown here plots $r = \sin \frac{1}{2}t$, but this can be altered by changing c in line 20. Values of r up to 1 can be fitted on the screen, but if larger values are encountered, then the program automatically rescales the graph.

Many common curves have simple equations such as:

$r = 1$	(circle)
$r = \sin (\frac{1}{2}t)$	(cardioid)
$r = t$	(Archimedian screw)

$$r = 0.5 + \sin t$$

After that, ingenuity is the only limit to the shapes that can be produced. The graph plotted covers values of t from 0 to 2. This can be altered in line 50; for example, LET $t = \text{PI}^*z/15$ plots a graph for t from 0 to 4.

Variables

s is a scale factor; if $s = 80$, then the distance between $r = 0$ and $r = 1$ is 80 pixels.

es stores the function being plotted

z is a running variable

t is the angle of the point being plotted

r is the distance of the point from the origin

x and y are the x and y coordinates of the point

How it works

10-30 define the graph plotted,
and print the heading and
axis

40-110 plot the graph at 60 equally spaced angles, every 6 degrees

50-60 calculate the value of r and t for each point

70-80 convert r and t into x and y coordinates

90 checks whether the graph is going off-screen; if so, it changes the scale s , and starts again

100 plots the point

Hints on conversion

The program is written in Spectrum BASIC, but would convert readily to other machines. BORDER 6 and INK 2 in lines 10 and 100 simply define colours, and could be omitted. The origin of the graph is at pixel 121, 83; (line 100). This pixel corresponds to the left edge of the minus sign at 11, 15 (line 30). Other machines might have different values here. The scaling s gives the number of pixels corresponding to one unit of r ; this value appears in line 10, and also line 90. The program can be translated into ZX81 BASIC; if line 90 is omitted, then it can be run on a 1K machine.

[illegible]

Listing for Animate

```

60 CLEAR 64999
70 LET t=0
90 FOR b=65000 TO 65048
100 READ a
110 LET t=t+a
120 POKE b,a
130 NEXT b
140 DATA 33,0,64,6,192
150 DATA 197,84,93,6,16
160 DATA 19,16,253,1,16
170 DATA 0,237,176,6,16
180 DATA 35,16,253,193,16
190 DATA 235,33,0,64,6
200 DATA 192,197,62,0,6
210 DATA 16,119,35,16,252
220 DATA 6,16,35,16,253
230 DATA 193,16,239,201
240 IF t<>4152 THEN PRINT
FLASH 1;AT 10,5;"ERROR IN
DATA!": STOP
250 STOP
299 REM << DEMO >>
300 PAPER 7
310 INK 0
320 CLS
330 LET x=64
340 LET y=10
350 LET r=10
370 CIRCLE INK 6;x,y,r
390 RANDOMIZE USR 65000
400 LET y=y+2
410 GO TO 370

```


SPECTRUM PROGRAMS

```

499 REM          << MNEMONICS >>
500 REM 1d HL,16384
510 REM 1d B,192
520 REM push BC
530 REM 1d D,H
540 REM 1d E,1
550 REM 1d B,16
560 REM inc DE
570 REM djnz,-1
580 REM 1d BC,16
590 REM ldir
600 REM 1d B,16
610 REM inc HL
620 REM djnz,-1
630 REM pop BC
640 REM djnz,-19
650 REM 1d HL,16384
660 REM 1d B,192
670 REM push BC
680 REM 1d A,0
690 REM 1d B,16
700 REM 1d(HL),A
710 REM inc HL
720 REM djnz,-2
730 REM 1d B,16
740 REM inc HL
750 REM djnz,-1
760 REM pop BC
780 REM djnz,-15
    
```

Listing for Sound Patterns

```

10 FOR b=30000 TO 30110
20 READ a
30 POKE b,a
40 NEXT b
1 REM

100 DATA 33,86,117,54,0,6,84, 219,254,254
110 DATA 191,32,1,52,16,247, 126,50,103,117

120 DATA 62,2,205,1,22,217,229, 217,253,54
130 DATA 67,0,253,54,68,84,1,0, 0,17
140 DATA 0,1,205,106,36,253,54, 67,0,253
150 DATA 54,68,85,1,0,0,17,0, 255,205
160 DATA 186,36,217,225,217, 201,0,0,0,0
170 DATA 62,0,6,255,50,79,117, 50,96,117
180 DATA 197,245,205,48,117, 241,193,60,16,240
190 DATA 201,219,254,254,255, 40,250,62,2,205
200 DATA 1,22,205,107,13,205, 110,117,205,142
210 DATA 2,123,254,32,200,195, 139,117,201
REM
290 STOP
300 RANDOMIZE USR 30091
    
```

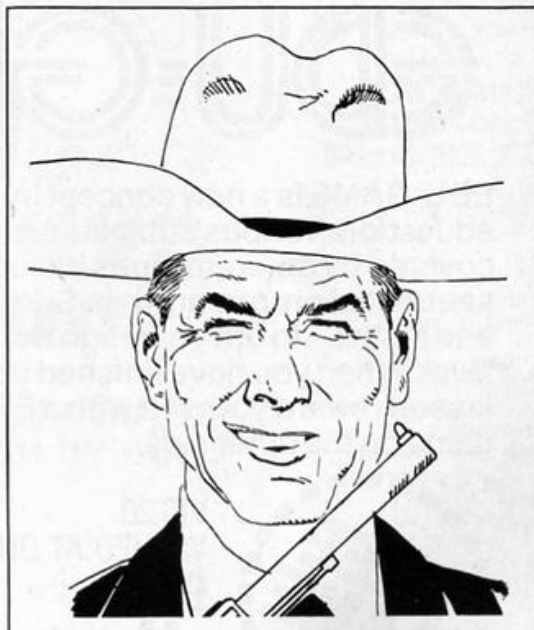
Listing for Polar Plotter

```

10 BORDER 6: LET s=80
20 LET e$="SIN (t/2)"
30 PRINT AT 0,9;"POLAR PLOTTER"
40 "r=";e$;AT 11,15;"-----"
50 TAB 24;80/s
40 FOR z=0 TO 60
50 LET t=PI*z/30
60 LET r=VAL e$
70 LET x=r*s*cos t
80 LET y=r*s*sin t
90 IF ABS y>80 OR ABS x>80 THEN
N LET s=s/2:CLS:GO TO 30
100 PLOT INK 2;121+x,83+y
110 NEXT z
    
```

WANTED REWARD

£500 to £5000



Paid for good programs, adventures or arcade style for Spectrum, Commodore 64 and VIC-20. We will purchase out-right or royalty split. Immediate payment. Send your programs quickly by recorded delivery to:

Marshall Software
37 George Street
Hove
East Sussex
BN3 3YB



WHAT IS EDU-GAME?



EDU-GAME

EDU-GAME is a new concept in education. Various subjects are covered by different tapes including sequential programmes in Spelling and Maths – to 5th year High School level. When you have finished your lesson reward yourself with a FREE game on the other side.



VIC 20
VALUED AT ONLY
£5.99

INCL. VAT AND POST
AND PACKAGING.



STOP PRESS

Yes we're ready – choose now from over 50 educational programmes designed for the CBM 64.

CBM 64 FOR ONLY **£5.99** INCL. VAT AND POST AND PACKAGING.

Cut-price school offer

COMMODORE has finally come up with its answer to the government's 'micros in schools scheme' – a cut-price offer of its own.

Deliberately designed to coincide with the end of the government scheme, Commodore is offering schools and

colleges throughout the UK the chance to buy Commodore 64s complete with 1541 single floppy disc drives, Logo and Simon's Basic for £299.99 per package. This is a saving of £172 over the recommended retail price of £472.

DISTRIBUTED BY:
Regency Software

Runnymede Malt House Room 18
Runnymede Road Egham Surrey TW20 980
Telephone Egham (0784) 34377 Telex 919778

PLEASE SEND FOR FURTHER DETAILS ON YOUR PROGRAMMES:

NAME _____

ADDRESS _____

P/CODE _____

Percy Penguin 32K BBC £7.95

Superior, Dept C, Ground Floor,
Regent House, Skinner Lane,
Leeds

Percy is trapped in an ice maze populated by deadly Snobeese. You must position the penguin next to an ice cube to skid into another ice cube or the side. Any unfortunate Snobeese in its path are crushed.

The graphics are fairly good, but movement is slow. After crushing an ice cube Percy stays still for a second or two, leaving the Snobeese a chance to kill him. Extra points are awarded for lining up diamond cubes. Hard to get used to, with time it becomes quite addictive.

The game has good sound. As you start the opening bars of 'Toccata' are played and throughout music is played. The instructions are quite clear and concise. For some reason an irrelevant picture of 'Percy's Home' appears after the instructions.

The major problem is the increase in difficulty. The first few Snobeese are easily killed, but the last one is nearly impossible. I have noticed this in a number of new games.

D.B.

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



Music Box Dragon 32 £7.95

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

This program is supplied in the most lavish packaging seen for a Dragon program at this price. The box is a giant, beautifully illustrated custom case and comes with an excellent book of instructions. The program itself is a form of synthesiser; you enter your musical composition into the computer and then hear it played back to you. Once completed, your masterpiece can be saved and loaded from tape, edited and even played backwards! This last feature is particularly interesting and amusing.

This program does not transform your Dragon into a real synthesiser, as the notes which make up the melody, bass etc have to be typed in using a special notation system that is reasonably easy to use considering that the program offers a number of parameters to the composer. There is a choice of four instruments which are gloriously combined on the introduction tune. After several hours of using the program, you start to get reasonable tunes, although still a long way from the standard of the introduction tune. At this price though, well worth the money.

C.G.

instructions	75%
ease of use	65%
display	60%
value for money	95%



Cosmic Bounce Commodore 64 £7.50

Cable, 52 Limbury Rd, Luton,
Beds LU3 2PL

When I first saw the inlay to this cassette my immediate reaction was, "Oh not, not another space destruction game". Much to my surprise this game turned out to be well designed, amusing and very difficult.

You play the part of the pilot of a Plasmobile. Your task is to protect an energy source from intruders called Doovries. Unlike most games where you have a rapid fire hyperlaser, you have a single plasma bolt. When fired the bolt zips around the screen rather like a ball on a pin-ball table. If it hits a Doovrie... the intruder dies; if it hits the power source... you die. To re-use the plasma ball, you must catch it with your ship (not an easy feat). If the Doovries hit the power source you lose a life.

The design and programming of the game are of a high standard. All animation is smooth and the design of the Doovries is highly amusing.

This is a well produced product which offers great value and will keep your attention for many hours.

A.W.

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



Use your brain, have some fun!

A batch of games and utilities
checked out for you by our
reviewers

Video Titles TI-99/4A £8

Stainless, 10 Alstone Rd, Stock-
port, Cheshire SK4 5AH

This program, written by the man behind Stainless Software, is the Extended BASIC version of a TI BASIC original.

If you have ever seen the demonstration program which used to be run on the TI in retailers, then you will have some idea of the presentation this program can produce.

By giving the computer instructions in the form of three-letter mnemonics, you can print text horizontally or vertically in many directions, scroll up or print normally — that is, on line 24 with upward scroll. You can set screen and character colours, pause for a specified time, and the instructions can be saved and reloaded from either tape or

disk.

Up to 400 entries can be made using this version, and any files produced with the TI BASIC version can be run as well — good to see compatibility between the original and the update.

The documentation is quite good, and must generally be referred to when using the mnemonic instructions. Suggestions are also given to assist those wishing to expand the program's capacity and facilities.

P.B.

instructions	95%
ease of use	95%
display	95%
value for money	80%



Cowboy/ Barricade Sord M5 £8.95

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

In Cowboy, your ranch is attacked by horse-thieves and you're the cowboy who has to fight them off. The figures are in fact matchstick men, and the horses are static objects dotted about the screen. You have to catch the randomly moving thieves when they are not red while avoiding contact with the horses, as they will kick you.

Barricade is a simple version of the game that used to be called "Surround" which, after the showing of the film "Tron", has been renamed Light Cycles. In Barricade, you are a continuously growing line and must avoid colliding with the opponent, the wall, or insects which appear at random intervals. Joypad option, two player option, various difficulty levels.

Both games are written totally in BASIC-I thus graphics and sounds are poor. However both are well written and the little instruction booklet is very informative, explaining how to connect a cassette recorder to your M5, load and play the games.

Overall this package represents fair value for money.

S.S.

instructions	100%
playability	50%
graphics	50%
value for money	70%



Two we can win your

```

1 REM*****
2 REM*FRUIT MACHINE*
3 REM*   BY   *
4 REM* DAVID REES *
5 REM*****
10 IFPEEK(52000)=1THEN1000
19 REM*[CLR][CYAN][DWN*2]
20 PRINT"[X]LOADING MACHINE CODE"
50 POKE52000,1
60 FORN=0T0399
70 READA:IFA=-1THENA=255
80 POKE14336+N,A
90 NEXT
100 FORN=0T052
110 READA:POKE49152+N,A
120 NEXT
200 FORN=0T052
210 READA:POKE49408+N,A
220 NEXT
500 DIMA$(5,2)
510 FORN=0T05:FORM=0T02
520 READA$(N,M):PRINT"[X]";A$(N,M)
530 X=M*3+N*9+50176
540 FORP=0T02
550 POKEX+P,PEEK(1024+P)
560 POKEX+P+256,PEEK(55296+P)
570 NEXTP
590 NEXTM,N
700 FORN=0T0189
710 READA:POKE49664+N,A
720 NEXT
800 FORN=0T070
810 READA:POKE49920+N,A
820 NEXT
999 REM*[CLR][GREEN]
1000 PRINT"[X] WELCOME TO THE FRUIT MACHINE."
1010 PRINT"YOU HAVE 50 PENCE TO BET WITH."
1020 PRINT"10 PENCE IS BET EACH TIME, AND IF A"
1030 PRINT"CHERRY APPEARS AT THE ROW START,";
1035 PRINT" OR 2 OR3 CHARACTERS";
1040 PRINT" APPEAR NEXT TO EACH OTHER."
1049 REM*...[DWN]
1050 PRINT"YOU WIN EXTRA MONEY.X"
1060 PRINT"PLEASE SET THE SPIN SPEED (1-255)"
1070 INPUT SP:IFSP<10RSP>255THEN1070
1110 POKE53265,PEEK(53265)OR64
1120 POKE53272,21
1130 V=53248:POKEV+34,1:POKEV+35,12
1140 POKEV+36,12:M=50
1150 POKEV+32,0:POKEV+33,0
1170 FORN=0T02:POKE858+N,1:NEXT
1180 POKE862,2:POKE863,8:POKE864,14
1200 S=54272:POKES+14,255
1210 POKES+15,255:POKES+18,129
1220 POKES+24,15
1400 M=M-10:IFM<0THEN1450
1410 PRINT"SORRY, YOU RAN OUT OF MONEY"
1420 PRINT"WOULD YOU LIKE ANOTHER GO (Y/N)?"
1430 GETA$:IFA$="Y"THEN1000
1435 IFA$<>"N"THEN1430
1440 POKE53272,21:END
1449 REM*[DWN][L.BLUE]
1450 PRINT"[X]PRESS ANY KEY BETWEEN 1 AND 9 ";
1460 PRINT"FOR SPIN LENGTH."
1500 GETA$:IFA$=""THEN1500
1510 IFVAL(A$)=0THEN1500
1520 L=VAL(A$)*2+8
1530 C(0)=INT((INT(RND(1)*10)+2)*L/2)
1540 C(1)=INT((INT(RND(1)*10)+2)*L/2)
1550 C(2)=INT((INT(RND(1)*10)+2)*L/2)
1580 POKE872,0
1590 FORN=0T02:POKE869+N,C(N):NEXT
1900 D(0)=INT(RND(1)*5)
1910 D(1)=INT(RND(1)*5)
1920 D(2)=INT(RND(1)*5)
1930 FORN=0T02:POKE866+N,D(N):NEXT
1990 POKE53272,31
2000 PRINT"[X]";
2010 FORN=0T023
2020 PRINT" "
2030 NEXTN
2039 REM*...[HOME]
2040 PRINT" "
2050 FORN=0T010:PRINT:NEXT

```

How it works

10-90 POKE graphics to memory
100-220 POKE in machine code
500-590 POKE in character layouts
700-820 POKE in more machine code
1000-1060 PRINT out instructions
1070-1150 set speed and video registers
1170-1180 set machine code routine registers
1200-1220 set random number registers
1400-1440 if you run out of stake money...
1450-1520 set maximum spin length
1530-1930 set spin length for each column
1990 user-defined character mode
2000-2080 set fruit machine display
2120-2140 GOTO machine code routine
2150-2310 work out the score
2320 clear key buffer
2390 wait
2400-2480 PRINT out winnings and give questions to continue the round
5000-5410 fruit graphics DATA
5500-5760 machine code DATA
6000-6040 character layout DATA
7000-8080 final machine code DATA

Fruit Machine

This is a fast game where, as you would expect, you gamble away your money on the outcome of three spinning columns. I have tried to make this version more interesting by using fast, versatile routines and good graphics.

The graphics are achieved by using extended colour mode, and plenty of user-defined graphics stored at 14336 and beyond.

E.C.M. limits the number of characters you can use to 64, but makes up for this by allowing you to use four different background colours at the same time (instead of one).

As you can also change the foreground colour of each character to one of 16, the good use of graphics here gives an effect that only a similar mode, or 16 colour high resolution graphics, could recreate.

The other interesting feature is the program's versatility. The whole routine that shows the columns spinning is pure machine code. This allows you to choose virtually any spin speed to suit your tastes.

Also, each column spins

```

2059 REM*[L.BLUE]
2060 PRINT,"[X]"
2069 REM*[LEFT].[RVS ON]
2070 PRINT,"[X] "
2079 REM*[L.BLUE]
2080 PRINT,"[X]"
2120 POKE56325,SP
2130 SYS49664:W=0
2140 POKE56325,62
2150 A=INT(PEEK(1506)/9)-7
2160 B=INT(PEEK(1512)/9)-7
2170 C=INT(PEEK(1518)/9)-7:X=0
2180 IFA=BANDB=CTHENMU=3:D=A:GOTO2300
2190 IFA=BTHENMU=2:D=A:GOTO2300
2200 IFB=CTHENMU=2:D=B:GOTO2300
2210 IFA=1THENM=M+10:D=1:GOTO2320
2220 MU=0:D=0:X=-10
2300 M1=(D=1)+2*(D=3)+3*(D=4)+4*(D=2)+5*(D=0)
2310 M1=-M1:W=M1*MU*2+10+X:M=M+W
2320 FORN=0T09:GETA$:NEXT
2390 FORN=0T02499:NEXT
2399 REM*[CLR][GREEN]
2400 POKE53272,21:PRINT"[X]"
2410 PRINT"YOU HAVE WON "W" PENCE."

```


ays you n with micro

Hints on conversion

This program uses one of the 64's graphics modes virtually to its limits, giving the impression of a 320 by 200 resolution with 16 colours per point. Thus, unless you have a computer with a similar mode, it is not worthwhile converting this program as it stands. Its heavy use of machine code will also hinder your task.

Instead, you could use BASIC sections of this program (e.g. lines 2150-2310) and the user-defined graphics to build up your own program.

independently of the others, allowing for some realistic effects. The parameters of these are controlled from BASIC and so can be easily changed.

Playing instructions are given in the program, and all special characters have been REMed.

Main variables

A,B,C fruit contents of each column
L overall spin length
M your money
SP spin speed
V start of video registers
W how much you have won after 10p deducted

As always, SAVE the program before you RUN it, in case there is a mistake in the machine code.

If you feel you are winning or losing too much, you can alter the odds by changing values in lines 2150-2310.

Finally you can also use it to show that the 64 is not as far behind the BBC micro as some people believe.

Making good use of the Commodore 64's graphics, HCW regular David Rees presents two fun games

```
2419 REM*[DWN]
2420 PRINT"YOU NOW HAVE "M" PENCE."
2430 PRINT"ENTER Y IF YOU WISH TO CONTINUE"
2440 GETA$:IFA$="Y"THEN2440
2450 IFA$="Y"THEN1170
2460 IFA$<"N"THEN2440
2470 POKE53265,PEEK(53265)AND(255-64)
2480 GOTO1420
4999 END
5000 DATA,-1,-1,,240,252,206,198,206
5010 DATA252,248,252,254,206,198,206
5020 DATA252,240,,,-1,-1,,,-1,-1,,
5030 DATA24,60,126,102,195,195,195,-1
5040 DATA-1,195,195,195,195,195,,,-1
5050 DATA-1,,,-1,-1,,124,126,103,99
5060 DATA103,126,124,120,108,108,102
5070 DATA102,99,99,,,-1,-1,,,-1,-1,,
5080 DATA,,3,7,15,15,15,15,7,3
5090 DATA112,112,56,56,56,24,28,31,27
5100 DATA24,24,28,60,54,99,193,193,225
5110 DATA243,243,147,147,225,192,,60
5120 DATA126,-1,-1,249,249,126,60
5130 DATA,,128,240,248,252,252,228
5140 DATA228,248,240,,7,31,62,60,120
```

```
5150 DATA,,1,3,3,7,7,3,3,1,,
5160 DATA24,248,48,56,124,254,254,254
5170 DATA254,254,254,254,-1,-1,-1,-1
5180 DATA-1,-1,252,248,220,-1,60
5190 DATA,,128,192,192,96
5200 DATA96,64,192,128,,3,15,31,63
5210 DATA59,127,125,-1,-1,239,-1
5220 DATA251,-1,-1,-1,118,127,63,61
5230 DATA31,15,3,,195,153,195,-1
5240 DATA246,223,253,223,247,253,-1
5250 DATA125,247,190,-1,251
5260 DATA,,
5270 DATA238,-1,-1,188,-1,251,183,-1
5275 DATA,,
5280 DATA,192,240,184,236,220,111
5290 DATA250,119,237,187,109,245
5300 DATA187,223,231,206,138,60
5310 DATA220,248,112,192,
5320 DATA,,1,1,1,1,3,3,7,7
5330 DATA6,3,,60,126,253,253,253
5340 DATA253,253,253,253,253,253
5350 DATA254,254,254,254,-1,-1,-1,24
5360 DATA60,153,-1,,
5370 DATA128,128,128,128,64,192
5380 DATA224,224,96,192,
5390 DATA1,3,7,15,31,63,127,255
5400 DATA255,127,63,31,15,7,3,1
5410 DATA1,3,7,15,15,7,3,1
5500 DATA160,,185,90,3,201,,240,38
5510 DATA169,4,133,252,133,39,169,216
5520 DATA133,254,133,41,185,94,3
5530 DATA133,251,133,253,24,105,40
5540 DATA24,133,38,133,40,162,,132,2
5550 DATA160,,32,,193,164,2,200,192,3
5560 DATA208,206,96
5700 DATA177,38,145,251,177,40,145,253
5710 DATA200,192,3,208,243,160,,165,38
5720 DATA24,105,40,144,5,24,230,39
5730 DATA230,41,133,38,133,40,165,251
5740 DATA24,105,40,144,5,24,230,252
5750 DATA230,254,133,251,133,253,232
5760 DATA224,24,208,204,96
5999 REM*[BLUE]...[BLUE]...[BLUE]
6000 DATA"---","-","-","-"]
6009 REM*[BLACK].[RED].[BLACK].[RD].[BLCK].[RD]
6010 DATA"███","███","███","███"
6019 REM*[BROWN].[PURPLE].[PURP].[PURP]
6020 DATA"███","███","███","███"
6029 REM*[ORANGE].[RVS ON].[ORNG].[ORNG].[GREY1]
6030 DATA"███","███","███","███"
6039 REM*[GREY1].[GRY1].[RVS ON].[RVS OFF]
6040 DATA"███","███","███","███"
7000 DATA169,,141,105,3,160,,140,97,3
7010 DATA185,90,3,201,,240,28,185,94,3
7020 DATA24,105,192,24,133,97,185,98,3
7022 DATA32,,195,172,97,3,185,98,3,24
7025 DATA105,3,24,153,98,3
7030 DATA172,97,3,200,192,3
7040 DATA208,210,32,,192,238,105,3
7050 DATA173,105,3,201,3,208,195,160,
7060 DATA140,97,3
7070 DATA185,90,3,201,,240,14,185,94,3
7080 DATA24,105,192,24,133,97,169,45
7090 DATA32,,195,172,97,3,200,192,3
7100 DATA208,224,32,,192
7110 DATA160,,173,27,212,41,7,56,233,3
7120 DATA144,246,24,170,169,,224,,240,9
7130 DATA169,,24,105,9,24,202,208,249
7140 DATA153,98,3,200,192,3,208,221
7150 DATA238,104,3,160,,140,106,3
7160 DATA185,101,3,56,237,104,3,176,5
7170 DATA169,,153,90,3,24,173,106,3
7180 DATA24,121,90,3,24,141,106,3
7190 DATA200,192,3,208,225,173,106,3
7200 DATA201,,208,1,96,76,,194
8000 DATA162,,133,2,134,26,133,27,164,27
8010 DATA185,,196,164,26,153,110,3
8020 DATA164,27,185,,197,164,26
8030 DATA153,113,3,230,27,230,26,165,26
8040 DATA201,3,208,226,160,
8050 DATA169,7,133,98,185,110,3,145,97
8060 DATA200,192,3,208,246,160,,169,219
8070 DATA133,98,185,113,3,145,97,200
8080 DATA192,3,208,246,96
```


COMMODORE 64 PROGRAMS

Prize Cards

Will you win a new car? Prize Cards gives you the chance by allowing you to gamble points on three rows of cards.

The questions are easy to answer, making this a game anyone can enjoy, and the user-defined graphics give realistic pictures of cards in the range two-10 and aces.

When typing in the program, be especially careful with lines 100-270. As well as user-defined graphics, the program also transfers normal graphics from ROM to RAM, and the keyboard has to be disengaged while this is done.

Thus, if there is a mistake in any of these lines, the program will stop and never reach the part which engages the keyboard. You will not be able to type in anything, and so you will have to switch the computer off and on again, losing the program.

How it works

30-40 set card strings
50-90 read card patterns
100-270 POKE normal and user defined graphics to RAM
300-330 reset cards played array
340-425 set display and variables
430-450 jump to routines
455-520 start card question
530-590 gamble: how much
600-630 higher or lower
640-690 new card
700-770 new row of cards
1000-1040 select a new card from those remaining
1100-1330 printout a new card
1500-1610 was your higher/lower choice correct?
2000-2250 end of game messages
5000-5130 card and graphics patterns DATA

After graphics are defined, the game starts. You go through two long rows and one short row of cards, betting points on whether the next card will be higher or lower (you are also allowed to change your card at the start of each row).

All questions except points

```
30 A$(0)="♠":A$(1)="♥":U$=CHR$(17)
34 A1$=CHR$(144)+"YOU WON THE CAR"+CHR$(145)
36 A2$=CHR$(28)+"YOU WON THE CAR"+CHR$(145)
40 A$(2)="♣":A$(3)="♦":Q$=CHR$(145)
49 REM*INPUT CARD PATTERNS*
50 FORN=0TO9
60 FORM=0TO6
70 FORL=0TO2
80 READA(N,M,L)
90 NEXTL,M,N
99 REM*GET GRAPHICS FROM ROM*
100 X=PEEK(14336)
110 IFX=60THEN260
120 POKE56334,PEEK(56334)AND254
130 POKE1,PEEK(1)AND251
140 FORN=0TO2047
150 POKE14336+N,PEEK(53248+N)
160 NEXT
170 POKE1,PEEK(1)OR4
180 POKE56334,PEEK(56334)OR1
190 FORN=0TO14
200 READA
210 FORM=0TO7
220 POKE15360+M+A*8,PEEK(14343+A*8-M)
230 NEXTM,N
240 FORN=0TO7:READA,B
250 POKE15824+N,B:POKE14800+N,A:NEXT
260 V=53248:POKEV+24,31
270 POKEV+32,6:POKEV+33,14
299 REM*SET CARDS PLAYED ARRAY*
300 FORN=0TO9
310 FORM=0TO3
320 C(N,M)=0
330 NEXTM,N
338 REM*SET DISPLAY*
339 REM*[CLR][RED]
340 PRINT"███ PLAY YOUR CARDS"
380 VOLD=0
390 X=3:P=200:Y=2:G=0:GH=0
400 PRINTCHR$(19);CHR$(31)
410 FORN=0TO9:PRINT:NEXT
420 PRINT"YOU HAVE "CHR$(144);P;CHR$(31);
425 PRINTCHR$(157)" POINTS "
430 IFG<0THEN530
435 IFGH<0THEN450
440 GOSUB1000
450 GOSUB1100
455 PRINTCHR$(19):FORN=0TO10:PRINT:NEXT
460 PRINTCHR$(28)"DO YOU WANT TO CHANGE";
465 PRINT" YOUR START CARD?"
470 GETA$
480 IFA$="N"THEN530
490 IFA$<"Y"THEN470
500 PRINT:
510 FORN=0TO9:PRINT" ";:NEXT:PRINT
520 GOSUB1000:GOSUB1100
530 PRINTCHR$(19)
540 FORN=0TO10:PRINT:NEXT
550 FORN=0TO9:PRINT" ";:NEXT:PRINTQ$
```

Hints on conversion

Remove anything to do with POKEs (these change modes and store graphics) and all PRINT statements, except those containing questions. There are few other alterations to be done, and then you can add your own commands to make the program a fully working version on your computer.

bet need one-key answers, making this an easy game to operate. The object is, by the end of the third row, to get the highest score you can, and if you have amassed 4,000 points or more, you win a car!

The cards are displayed in full colour, and are as real as is sensibly possible. They are randomly chosen, and are drawn from the array C(9,3), so a card can never appear twice in one game. Cards are in the range 2 to 10, and aces are high.

If you want to use the card graphics in other games, the PRINT routine is at lines 1100-1330.

If you want to try and beat my record score, it is 109,200!

Main variables

G go number per row
GH card row number
GP points gambled
P points you have remaining
V present card value
VOLD last card value
X print position of card Xwards
Y print position of card Ywards
A1\$,A2\$ you won the car message
AS(4) suit patterns for printing
C(9,3) cards played
A(9,6,2) card patterns

● As usual, we have inserted REMs in the lines above those in which control characters appear. These are only for your guidance when entering the programs and should not be entered. Be particularly careful with the lines containing DATA — there are often several commas in a row.

```
559 REM*[RED]
560 PRINTQ$;"HOW MUCH DO YOU WANT TO GAMBLE"
562 PRINT" "Q$
565 INPUTGP:GP=ABS(GP)
570 IFP>GPTHEN600
580 PRINTQ$:PRINT"THAT'S TOO MUCH"Q$;Q$;
585 PRINT" "Q$
590 GOTO565
595 PRINT
600 PRINT"A HIGHER OR A LOWER CARD?"
610 GETA$
620 IFA$<"H"ANDA$<"L"THEN610
630 AN$=A$
640 X=X+7:VOLD=V
645 PRINTCHR$(145);CHR$(145);
646 FORN=0TO9:PRINT" ";:NEXT
650 GOSUB1000:GOSUB1100
660 IFA$="H"THENGOSUB1500
```

```
670 IFA$="L"THENGOSUB1600
680 IFP=0THEN2000
690 G=G+1
700 IFG=1ANDGH=2THEN2100
710 IFG<4THEN400
720 G=0:GH=GH+1:X=3
730 PRINTSPC(160)"I AM ADDING 200 POINTS ";
740 PRINT"TO YOUR SCORE"
750 P=P+200:FORN=0TO1499:NEXT
759 REM*[CLR][RED]
760 PRINT"███ PLAY YOUR CARDS RIGHT "
770 GOTO400
1000 V=INT(RND(1)*10)
1010 S=INT(RND(1)*4)
1020 IFC(V,S)<0THEN1000
1030 C(V,S)=1
1040 RETURN
1099 REM*PRINT A CARD*
1100 PRINTCHR$(19);CHR$(144);
```


COMMODORE 64 PROGRAMS

```

1110 FORN=1TOY:PRINT:NEXT
1120 PRINTSPC(X);" "
1130 FORN=0TO6
1140 PRINTSPC(X);CHR$(144)" I ";
1150 FORM=0TO2
1160 IFA(V,N,M)=0THENPRINT " ";GOTO1190
1170 IFN>3THENPRINTCHR$(18);
1180 PRINTA$(S);CHR$(146);
1190 NEXTM
1200 PRINT "CHR$(144)" I "
1210 NEXTN
1220 PRINTSPC(X);" "
1230 PRINTLEFT$(A$(S),1);
1240 PRINTCHR$(19);
1250 FORN=0TOY:PRINT:NEXT
1260 PRINTSPC(X+1);
1270 IF V=9 THEN PRINT "A";GOTO1290
1275 A$=STR$(V+2):B$=RIGHT$(A$,1)
1277 IF V=8 THEN B$=" "
1280 PRINTB$;
1290 PRINTU$;CHR$(157);A$(S);
1300 PRINTU$;U$;U$;U$;SPC(3);CHR$(18);
1310 PRINTA$(S);U$;CHR$(157);
1320 IF V=9 THENPRINT "A":RETURN
1330 PRINTB$:RETURN
1500 IF V>VOLD THEN P=P+GP:RETURN

```

```

1510 P=P-GP:RETURN
1600 IF V<VOLD THEN P=P+GP:RETURN
1610 P=P-GP:RETURN
2000 FORN=0TO1999:NEXT
2010 PRINTCHR$(147);CHR$(144);U$;U$"YOU LOST"
2020 PRINTU$"BETTER LUCK NEXT TIME!"
2090 GOTO2200
2100 FORN=0TO1999:NEXT
2110 PRINTCHR$(147);U$;U$;U$"WELL DONE!"
2115 PRINTCHR$(31)"YOU HAVE WON"CHR$(28);
2120 PRINT "P;CHR$(31)" POINTS"
2130 IFC<4000THEN2200
2140 PRINTU$;U$"*****"
2150 PRINT"* YOU WON THE CAR *"
2159 REM*[UP*2]
2160 PRINT"*****.T]"
2170 FORM=299TO0STEP-10
2180 PRINTSPC(2);A1$
2185 FORM=0TOM:NEXT
2190 PRINTSPC(2);A2$
2195 FORM=0TOM:NEXTM
2200 PRINTU$;U$;U$;U$;CHR$(28);
2205 PRINT"WOULD YOU LIKE ANOTHER GO?"
2210 PRINT"TYPE 'Y' OR 'N'"
2220 GETA$
2230 IFA$="Y"THEN300
2240 IFA$<>"N"THEN2220
2250 END
4999 REM*CARD DATA*
5000 DATA,1,,,,,,,,,,,,,1,
5010 DATA,1,,,,,,,,,1,,,,,1,
5020 DATA1,,1,,,,,,,,,1,,1,
5030 DATA1,,1,,,,,,,,,1,,1,
5040 DATA1,,1,,,,,,,,,1,,1,
5050 DATA1,,1,,1,,1,,1,,1,,1,
5060 DATA1,,1,,1,,1,,1,,1,,1,
5070 DATA1,,1,,1,,1,,1,,1,,1,
5080 DATA1,,1,,1,,1,,1,,1,,1,
5090 DATA,,,,,1,,,,,
5100 DATA48,49,50,51,52,53,54,55,56,57
5110 DATA65,83,88,90,1
5120 DATA70,98,201,146,73,146,73,146
5130 DATA73,146,73,146,73,147,70,98

```



Timeless Software

BOOK

THE SMART PROGRAMMING GUIDE FOR SPRITES by Miller Graphics

Cat. No. B.1 £6.95

This book will show you some of the professional programming secrets that every serious Extended BASIC programmer should know. Full of hints and tips to demonstrate the full power of sprites on the TI-99/4A.

For a full list of programs for BASIC, Ex BASIC and Mini-Memory inc. Books, send S.A.E. to:—

TIMELESS SOFTWARE
3 Bridgend, Fauldhouse, West Lothian, Scotland EH47 9HF.

SPECTRUM SAVERS

Discounts off a vast range of Spectrum software.

Over 70 Software Houses on our list

Bargains on a wide range of hardware & books

Sample Prices

Spectrum 48K £119.95 inc. VAT

Disc Drive & Interface £230.00 inc. VAT

Send large S.A.E. for catalogue to

RAMTOPS, 47 BROOM LANE, LEVENSHULME,
MANCHESTER M19 2TX TEL. 061 442 5603

✂ Cut Out and keep to send with order



THE ΩMEGA RUN

The Last Flight to Armageddon



EXCITING FLIGHT SIMULATION GAME

SPECTRUM
CBM 64 48K

CheetahSoft

Soft we're not



FOR SPECTRUM 48K



CONQUEST

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

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

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

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

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

CheetahSoft

Soft we're not



FOR SPECTRUM 48K



3D BAT ATTACK

AFTER THESE, THE REST IS KIDS STUFF.

Are you ready for CheetahSoft?

There's only one way to find out.

But be warned: these vampire bats know a good meal when they see one. And our friend with the scythe has had years of experience...

CheetahSoft

Soft we're not



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

£6.95 at all good stores.

JLC DATA DUPLICATION CASSETTES — DISCS — EPROMS

- ★ 7 YEARS DATA EXPERIENCE
- ★ HIGH LEVEL OF SECURITY
- ★ NORMALLY NO MASTERING FEE
- ★ NORMALLY 7-10 DAY TURNAROUND
- ★ 24 HOUR TURNAROUND SUPERFAST SERVICE IF REQUIRED

Cassette Duplication — for most micros.

Disc Duplication — 35, 40, 80 track S/S, D/S, S/D, D/D.

Eprom Duplication — most types.

All data verified.

Blank Cassettes, Discs, Eproms — bulk sales only.

Blank Labels — most colours — bulk sales only.
Labels in sheets or rolls.

★ NEW SERVICE ★


Letter-heads and forms in rolls or fanfold for computer printing.

Telephone: (0226) 87707 24 hours
7 days a week

Enquiries and accounts to:
JLC DATA, 49 CASTLE STREET, BARNSELY,
SOUTH YORKSHIRE S70 1NT

In the interests of security, callers without appointments or proof of company status will not be seen.

Christine



TEXAS STRIKES HARD!


32K Stand alone ram	£125.00
Arcade quality joystick	£ 22.00
Cassette interface leads	
— single	£ 5.40
— dual	£ 6.90
Compatible cassette recorder	£ 25.95
Atari/Commodore to TI99/4a	
joystick interfaces — single	£ 6.00
— dual	£ 8.50
Quick joystick suitable for use with above interface	£12.95

Christine Computing can also supply over 100 different software titles for the Texas TI99/4a including selected titles from Stainless Software, Timeless Software, Tomputer, Fantasia 99 and many more.

For a complete list of hardware and software currently in stock, please send 50p which will be refunded on your first order.

All prices quoted are inclusive of VAT, please add 50p post and packing on all orders under £10. Please allow 28 days for delivery. (Orders normally despatched within 48 hours of receipt.)

Christine Computing Limited
6 Florence Close
Watford
Herts WD2 6AS Telephone (0923) 672941



The No.1*

Football Game

Football Manager

Designed by Kevin Toms

Some of the features of the game:

- ★ Matches in 3D graphics
- ★ Transfer market ★ Promotion and relegation ★ F.A. Cup matches ★ Injury problems ★ Full league tables ★ Four Divisions





★ Pick your own team for each match. ★ As many seasons as you like ★ Managerial rating ★ 7 skill levels ★ Save game facility.

Addictive

Comments about the game from press and our customers.

"FOOTBALL MANAGER is the best game I have yet seen on the Spectrum and my personal favourite of all the games on any micro... To the ordinary person it is an excellent view of what can be done in the field of computer games. The crowning glory of this game is the short set pieces of match highlights which show little stick men running around a pitch, shooting, defending and scoring... It is a compulsive game but people who cannot take game sessions of 9 hours or so, which happened on one happy Sunday, will be grateful to know that there is a 'save to tape' option. FOOTBALL MANAGER has everything it could... The originator, Addictive Games, certainly deserve the name." Rating: 19/20 (Practical Computing — August 1983)

From software stockists nationwide, inc

Prices: Spectrum 48K £6.95
ZX81 16K £5.95

(N.B. 3D GRAPHICS ARE NOT INCLUDED IN THE ZX81 VERSION)
Overseas orders add £1.50

Addictive Games
7A RICHMOND HILL,
BOURNEMOUTH BH2 6HE

★ ZX81 Chart
Home Computing Weekly
1.8.83 and 1.11.83.

Dealers! For urgent stocks send your headed notepaper direct to our address.

YOU CANT STOP PLAYING

LIONEL and the LADDERS

Willy, Horace, Cuthbert. If you own a TI-99/4a you missed a lot of FUN. Dont worry LIONEL will change that.



FULLY ANIMATED
SPRITE GRAPHICS
MULTI SCREENS
HALL OF FAME

TI-99/4A

£7.95

Available from good software stores or us by return, post free.
SEND S.A.E. FOR OUR SUPER GAMES LIST

INTRIGUE SOFTWARE

Send P.O. Cheque to:
TI-99/4A EXTENDED BASIC
INTRIGUE SOFTWARE
Cambridge Road
Tisbury Wilt
SP12 8JL

JOURNEYS BEYOND YOUR IMAGINATION

IN GRAPHICS & TEXT FOR THE TI-99/4A

£5.95 each

ADVENTUREMANIA
DISCOVER THE ULTIMATE QUEST



MANIA
ESCAPE TO THE CORRIDORS OF TIME



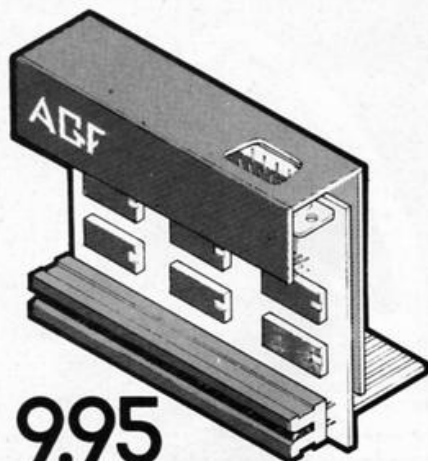
INTRIGUE SOFTWARE

Send P.O. Cheque to:
INTRIGUE SOFTWARE
Cambridge Road
Tisbury Wilt
SP12 8JL

AGF

PRICE
BREAKTHROUGH

EXCLUSIVE MAIL ORDER SPECIAL OFFER



9.95

AGF Joystick Interface II for Spectrum or ZX81

Now the AGF Interface II is even better value. Since we pioneered the cursor-key interface in October 1982 there are now over 100 games or utility programs with either the AGF option or cursor key controlled - that makes it unbeatable at this new low price.

Still incorporating the all important rear expansion connector which means other peripherals can be connected at the same time i.e. Ram Packs, Printers, Speech Units etc, and of course the key replication principle used guarantees this will never conflict electrically with any other add-ons.

When you feel like upgrading to a more flexible joystick system you can claim 12.5% off the purchase price of our Programmable Interface.

All AGF Joystick interfaces will work with any industry standard joysticks using 9-pin 'D' plugs - including QuickShot II and the new Trackball controllers.

Don't settle for less choose AGF.

Joysticks

The choice is yours. The standard QuickShot is excellent value incorporating suction cups for sure-footed precision and a comfortably contoured handle with a convenient top firing button, plus conventional button in the base.

Four feet of cord terminates in the industry standard 9-pin 'D' plug for compatibility with our interfaces or direct connection to a selection of home micros.

The new QuickShot II has improved styling with a trigger type firing control as well as the top firing action and a broader base for greater suction stability. The rapid fire switch, which allows a continuous stream of shells where normally a button press is required for each one, is located in the base for easy access in use.

Cord length and termination is as the standard QuickShot controller.

8.95



QuickShot

QuickShot II

11.95



12.5% discount off our Programmable Interface - valid 1 year on orders over £18
PLUS free m/c arcade game with 1st 100 orders Spectrum only

so **HURRY** ...
post free both ways

Please allow up to 28 days from receipt of your order although we normally despatch from stock within 7 days. All AGF products are guaranteed for 12 months and are supplied on a 14 day money back undertaking. AGF Hardware, Bognor Regis, West Sussex. Telephone: (0243) 823337.

FROM: MR/MRS/MISS
ADDRESS

I ENCLOSE A CHEQUE/POSTAL ORDER PAYABLE TO AGF HARDWARE FOR £
SEND (NO STAMP NEEDED) TO: A.G.F. HARDWARE, DEPT. HW,
FREEPOST, BOGNOR REGIS, WEST SUSSEX, PO22 9BR

QTY	ITEM	ITEM PRICE	TOTAL
	AGF JOYSTICK INTERFACE II	9.95	
	QUICKSHOT JOYSTICK	8.95	
	QUICKSHOT II JOYSTICK	11.95	
ONE	DISCOUNT VOUCHER IF ORDER EXCEEDS £18	FREE	
ZX81 <input type="checkbox"/> ZX SPECTRUM <input type="checkbox"/> Please tick		FINAL TOTAL	

CLEVER CLOCSTM



It's ARRIVED!

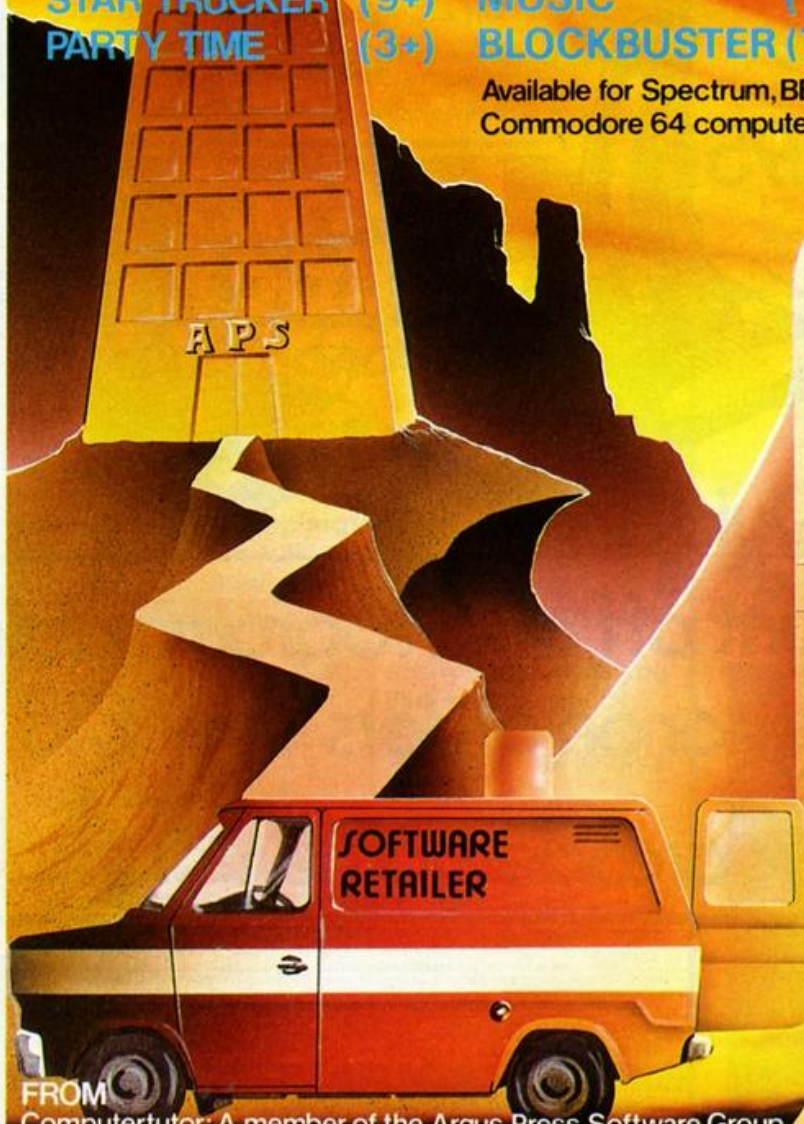
— the next generation of

EARLY
LEARNING
SOFTWARE

Games that make fun out of learning
Hand-built by teachers, played by children

JUNGLE JUMBLE (5+)	SHIPSHAPES (3+)
WHIZZ QUIZ (7+)	SAM SAFETY (5+)
STAR TRUCKER (9+)	MUSIC (7+)
PARTY TIME (3+)	BLOCKBUSTER (7+)

Available for Spectrum, BBC and
Commodore 64 computers



Available at W.H. Smith
and other leading
software outlets

FROM
Computertutor: A member of the Argus Press Software Group
No 1 Golden Square, London W1R 3AB.

**Choose your
prize from**



**There's £1,000-
worth to be
won**

YOU can choose your own prize in this week's free competition from Romik Software and Home Computing Weekly.

Romik has nearly 60 titles for most popular home computers: Spectrum, VIC-20, Commodore 64, BBC, ZX81, Oric and Atmos, Dragon, Electron, Lynx and Atari.

So when you enter our wordsquare competition don't forget to write on the coupon the computer you own and the prize you would like.

There will be £1,000-worth of

prizes which means more than 100 winners. The total depends on the prices of the tapes our winners select.

Romik co-founders Mike Barton and Steve Clark started in September 1982 with just five programs for the VIC-20.

Mr Barton, the managing director and chairman, who was with another software company, said: "I'm a computer addict, that's why I started Romik. I couldn't get enough good software."

Mr Clark, at present studying for a computer science degree, will soon be joining Romik full time.

Mr Barton said: "Steve was a

freelance programmer and we decided to combine and form our own company. We borrowed enough to get started and we had paid it back within a few weeks.

"It was my ambition to be the biggest independent software house in the world within two years and we are well on target. Our software is produced under licence in 10 countries and we export directly to 20 more."

Coming soon from Romik are titles for the newly-launched Amstrad computer, games on disc for the Commodore 64, 15 titles for the new MSX system computers plus more titles for existing computers.

Romik also plans more utilities. Among them is a graphics package for the Commodore 64, priced at £14.99, which, says the company, will be easier to use and offer more than the competition.

And there will also be games with an educational content.

Spectrum

Galactic Trooper Colour Clash
3D Monster Chase Shark Attack
Spectra Smash Sub
plus Breakout Astroplaner (48K)
Beatcha

VIC-20

(Extra RAM, if needed, is in brackets)

Martian Raider Multisound
Shark Attack Synthesizer
Sea Invasion Mind Twisters
Space Attack Moons of Jupiter
Power Blaster (3K)
Atom Smasher Space Fortress
Pedes and Mutants Time Destroyers
The Golden Apples (3K)
of Zeus (8K/16K) Sword of Hrakel
Alphoids Zorzon's Kingdom
Animal Magic (8K/16K)
Quadrant Caterpillar (3K)
Insector Space Escort

Commodore 64

Turtle Jump Zappy Zooks
Stellar Triumph Tombs of Xelops
Fool's Gold FORTH
Pottit Multisound
Synthesizer

BBC

Birds of Prey Atom Smasher
Alien Break-in (32K only)

ZX81

(All except Super Nine need 16K RAM expansion)
Super Nine Galactic Trooper
Galaxy Jailbreak Bubble Bugs
Bank Robber

Oric/Atmos

Loch Ness Monster (48K only)

Dragon

Strategic Command Convoy Attack
Romik Cube Cyclops
White Crystal

Electron

Birds of Prey Atom Smasher
Alien Breakin

Lynx

Power Blaster Atom Smasher
Floyd's Bank

**You decide
what you win
in this week's
wordsquare
competition
Enter now**

Atari

See Saw Scramble Silicon

How to enter

Study our wordsquare and mark all the Romik titles you find with a ballpoint or semi-opaque felt-tip pen. Complete the coupon fully and clearly — if you are a winner it will be used as a label — and send the wordsquare and coupon to us.

Important: you must write on the back of the envelope the number of titles you found. You may enter as many times as you wish provided each is on the official wordsquare and coupon and in a separate envelope. Please do not enclose anything else. Incomplete entries cannot be considered.

Clues: Multisound Synthesizer starts with the third character in from bottom right, runs backwards and turns up into column one. There are more titles than usual this time and they are spelled backwards and forwards, horizontally, vertically and diagonally. All except Multisound Synthesizer are on one line.

Our wordsquare was compiled by 15-year-old Dawn Barton, Mr Barton's niece. The software titles in the wordsquare are drawn from the following lists of Romik's products. Each title in the square appears once only.

Send your entry to Romik Software Competition, Home Computing Weekly, No. 1 Golden Square, London W1R 3AB. Closing date is at first post on Friday May 25, 1984. Prizes will be awarded to the sender of correct entries opened at random, regardless of computer owned, until the prize value reaches a total of about £1,000. The prizes will arrive from Romik within 28 days of the results appearing in Home Computing Weekly, or earlier.

The rules

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

The editor's decision is final and no correspondence will be entered into.

Romik Software Competition

Entry Coupon

Name _____

Address _____

_____ post code _____

Number of titles found _____

Computer owned _____

Prize you would like (choose one title, only from the list in the How to Enter section)

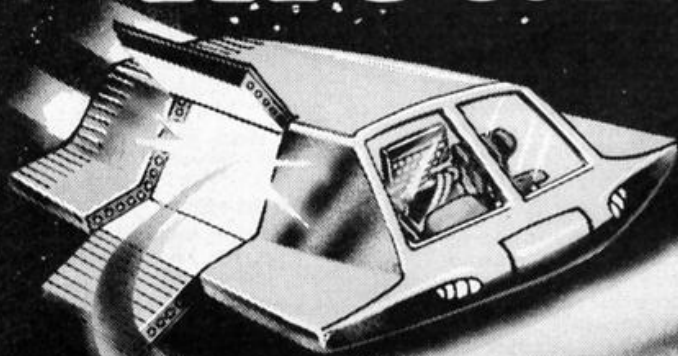
Complete clearly and fully — if you are a winner this will be used as a label. Post to Romik Software Competition, Home Computing Weekly, No. 1 Golden Square, London W1R 3AB. Closing date: first post, Friday May 25, 1984. Follow carefully the advice in the How to Enter section.

Z L O C H N E S S M O N S T E R
C S D N O M A I D S Y K C I D Y
U T M O D G N I K S N O G R O Z
I V C W H D L O G S L O O F R N
R K Y Y O S O X S U K M L Z A I
F C C E J Z A I G R I O T N L K
P A L R Y B L L Y K Y N I T L A
Y T O P S I S R C D A M X I I E
R T P F C U O U S R A W M T P R
E A S O P Z B B D L U V A T R B
Z K N S W E A A M M O O D O E N
I R K D O N U A K N H J L P T E
S A A R K Q G P H O L T B O A I
E H M I V I J T E X G F R Y C L
H S Z B C R E H S A M S M O T A
T N Y S D N U O S I T L U M F O

R&R

SOFTWARE

means value



At R&R we believe that value comes first, and we make it our business to ensure that we provide good quality programs at realistic prices... for your enjoyment.

ALL ARCADE GAMES NORMALLY HAVE CHOICE OF KEYBOARD OR JOYSTICK CONTROL. Should you have difficulty in obtaining our products from your local Dealer please send cheque or Postal Order indicating titles required, for return of post service.

TITANIC

The Adventure Begins
(For 48K Spectrum Only)

Find the wreck of the TITANIC. Locate the sunken Gold. Survive the dangers of the deep. An Adventure! Management game for FAMILY entertainment.

WITH Currah Micro Speech and FREE Pop Music.

R.R.P. £7.95

CHOPPER X-1

(For any ZX Spectrum)

You command the Spectrum Chopper X-1 Gunship—Your mission is to repel invading forces and save the earth. An action packed original game in full machine code.

R.R.P. £5.50

JUNIOR ARITHMETIC

(For any ZX Spectrum)

An excellent educational program for 6-9 year olds. The fun way to learn and practice Addition, Subtraction, Multiplication and Division. Mistakes are corrected and explained, along with a running total of correct answers. Terrific value at just

R.R.P. £4.95

SPECTIPEDE

(For any ZX Spectrum)

Enjoy the thrill of this full machine code arcade game. Battle to keep the Spectipede at bay but watch out for a very unpredictable spider which is out to get you. For 1 or 2 players with top score and on-screen high score feature.

R.R.P. £5.50

GOLF

(For any ZX Spectrum)

Enjoy a game of golf in the comfort of your own home! With the choice of a 9 or 18 hole course and the challenge of Fairway, Rough, Trees, Bunkers, Water & Green. Displays are in realistic colour graphics with full score cards. No two games are alike!

R.R.P. £3.75

GNASHER

(For any ZX Spectrum)

The 'famous' arcade maze game with fast machine code action, excellent graphics, colour and sound. Eat-up all the dots before the Ghosts eat you, or beat them to an energy pill which will allow you to eat them! Hours of addictive fun with on-screen scoring and high-score tape-save capability for just

R.R.P. £4.95

STAR TREK

(For 48K Spectrum only)

One of the original computer space games, but this program has many up-dated features normally only found on larger computer versions. Test yourself as Starship Commander as your mission takes you to the outer reaches of the Galaxy to protect Federation Space, the Starship and yourself! Excellent value at

R.R.P. £4.95

OTHER COMPUTERS?

Send S.A.E. for a full list of our growing range of software available for ZX81 and now ORIC-1 Computers.

R&R

SOFTWARE

DEALER ENQUIRIES WELCOME
R&R Software Ltd.
5 Russell Street, Gloucester GL1 1NE.
Tel (0452) 502819

CALLING ALL PROGRAMMERS...

WANTED New, Quality Software.
Send us your latest Program
for evaluation - NOW,

AVAILABLE FROM LEADING DEALERS NATIONWIDE

Watch out for Wally Week



MIKRO-GEN

You could be on our pages

We welcome programs, articles and tips from our readers. If you feel that your work meets our standards, please submit it to us for consideration for publication.

- Programs must always be sent on cassette. Listings are helpful, but not necessary. Check carefully that they are bug-free. Include details of what your program does, how it works, variables you have used and hints on conversion.
- Articles on using home computers should be no longer than 2,000 words. Don't worry about your writing ability — just try to keep to the style in HCW. Articles most likely to be published will help our readers make better use of their micros by giving useful ideas, possibly with programming examples. We will convert any sketched illustrations into finished artwork.
- Tips are short articles, and brief programming routines. Your hints can aid other computer users.

All submissions will be acknowledged and the copyright in such works which will pass to Argus Specialist Publications Ltd will be paid for at competitive rates.

Keep a copy of your work and include an SAE. Label everything clearly and give a daytime and home phone number if you can.

All work for consideration should be sent to:

Paul Liptrot, Home Computing Weekly,
No.1 Golden Square, London W1R 3AB

HAPPY BIRTHDAY FROM CABLE

to celebrate our first birthday we have reduced software prices and released some great new titles

QUAZIMODO (Dragon) £6.95
never before available for the Dragon 10 screens and 4 difficulty levels of arcade action.

COSMIC BOUNCE (CBM 64) £7.50
An entirely different type of shooting game. An indestructible bolt of energy that keeps bouncing and destroying if you can't control it. Great fun to play.

BLADE THE WARRIOR (Spectrum 48) £5.95
A classic roll-playing fantasy for 'real' adventurers.

Special birthday prices for Dragon owners
Livingstone and geography now only £6.95

Drone, Dragrunner, Trace Race,
Cave Fighter, Baccarat,
Dragon-Racer — Wasp Invasion.
NOW ONLY £5.00 EACH

All titles available mail order from

CABLE SOFTWARE
52 Limbury Road
LUTON
Bedfordshire
LU3 2PL

All prices include P/P and VAT

Instead of zapping aliens, try helping this one back to his spaceship. Alasdair Jarvie, whose game runs on any Oric or Atmos, gives you the chance to be kind to a being from outer space

Will you do a favour for an alien?

Alien is lost and cannot find his way back to the spaceship unless you help. You have to guide him up the ladders, avoiding the bombs.

You collect bonus points when you reach the spaceship or move underneath an object.

The game also has a "choose your own volume" feature so your family won't be bothered by the noise! It runs in 16K and will work on any Oric or Atmos.

How it works

10-50 variables
60-90 get input and react
100-200, -300, -400, -500 move alien left, right, down, up
500-600 update score etc
600-900 move bomb 1, bomb 2, bomb 3
10000-19999 redefine characters
20000-29999 instructions
30000-39999 set up screen
40000-45000 lose a life
45000-45999 end
50000-50000 move to another screen

Variables

A,B position of alien
C,D,E,F position of spaceship
G,H,I,J,K,L positions of bombs

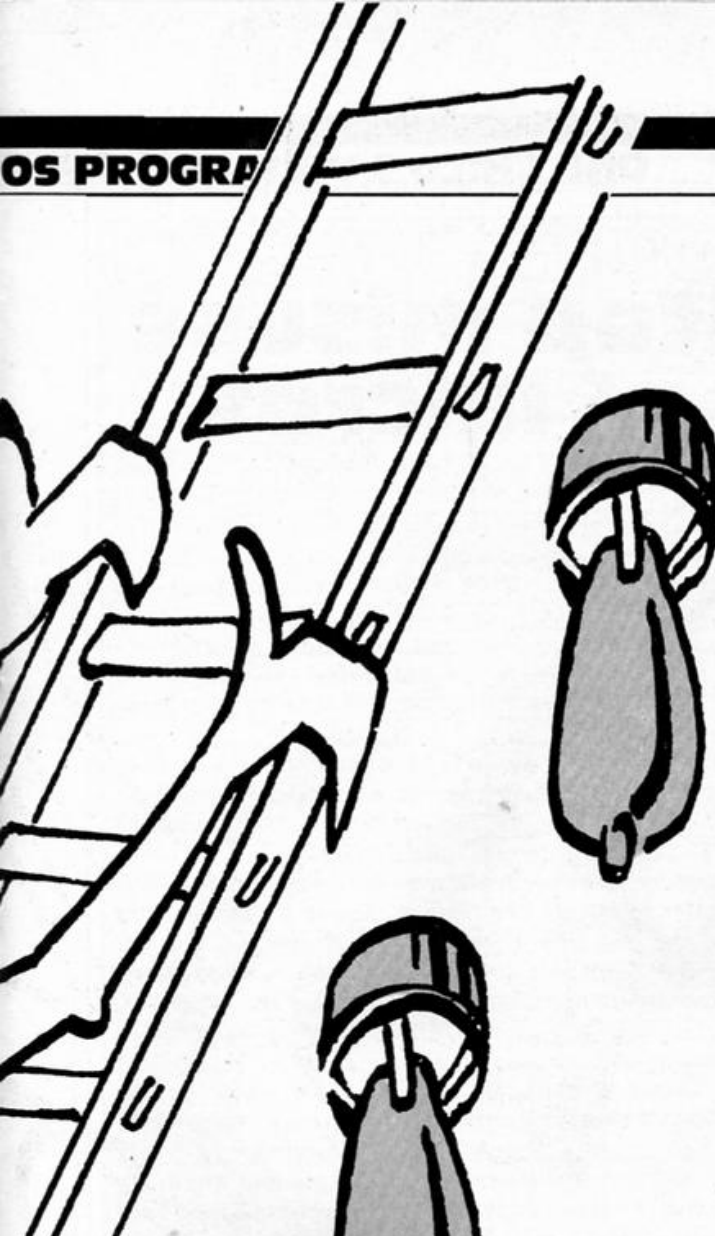
Hints on conversion

PLOT can be replaced by PRINT AT, PAPER and INK change the colour of the screen, SCRN checks what is on the screen, ABS is the absolute value and POKE 618, 10 switches off cursor and keyclick.

```

1 TEXT
8 POKE 618,10
10 REM *** ALIEN ***
11 POKE 618,10
20 REM *** BY A. JARVIE ***
30 LIVES=3:P=40000
40 GOSUB 10000:GOSUB 55000:GOSUB 20000
50 GOSUB 30000
60 A=18:B=19:C=4:D=1:E=4:F=2:G=4:H=3:I=-34:J=7:K=4:L=1
1:Q$="de":W$="fg"
70 PLOT A,B,"h":PLOT C,D,Q$:PLOT E,F,W$:PLOT ABS(G),H,"1"
:PLOTABS(I),J,"1"
75 PLOT ABS(K),L,"1"
80 A$=KEY$
85 IF A$="Z" THEN GOTO 100
87 IF A$="X" THEN GOTO 200
89 IF A$="/" THEN GOTO 300
91 IF A$="." THEN GOTO 400
95 GOSUB 500:GOSUB 600:GOSUB 700:GOSUB 800
97 GOTO 70
100 REM *** ALIEN - LEFT ***
105 IF A <= 3 THEN GOTO 70
110 PLOT A,B," ":A=A-1:PLOT A,B,"h"
115 IF SCRN(A-1,B)=108 THEN GOTO 40000
120 IF SCRN(A,B-1)=105 THEN MARK=MARK+10:PLOT A,B-1," "
125 IF SCRN(A,B-1)=106 THEN MARK=MARK+50:PLOT A,B-1," "
130 IF SCRN(A,B-1)=107 THEN MARK=MARK+100:PLOT A,B-1," "
131 IF SCRN(A+1,B-1)=99 THEN PLOT A+1,B,"c"
132 IF SCRN(A+1,B+1)=99 THEN PLOT A+1,B,"c"
133 IF SCRN(A,B-1)=102 THEN GOTO 50000
134 GOSUB 500:GOSUB 600:GOSUB 700:GOSUB 800
135 A$=KEY$
140 IF A$<>"C" THEN GOTO 145
141 IF A-4<= 3 THEN GOTO 145
142 PLOT A,B," ":A=A-4:PLOT A,B,"h"
145 IF A$="X" THEN GOTO 200
150 IF A$="/" THEN GOTO 300
155 IF A$="." THEN GOTO 400
190 GOTO 100
200 REM *** ALIEN - RIGHT **
205 IF A >= 36 THEN GOTO 70
210 PLOT A,B," ":A=A+1:PLOT A,B,"h"
215 IF SCRN(A+1,B)=108 THEN GOTO 40000

```

```

220 IF SCRN(A,B-1)=105THENMARK=MARK+10:PLOT A,B-1," "
225 IF SCRN(A,B-1)=106THENMARK=MARK+50:PLOT A,B-1," "
230 IF SCRN(A,B-1)=107THENMARK=MARK+100:PLOT A,B-1," "
231 IF SCRN(A-1,B-1)=99THENPLOT A-1,B,"c"
232 IF SCRN(A-1,B+1)=99THENPLOT A-1,B,"c"
233 IF SCRN(A,B-1)=102THENGOTO 50000
235 GOSUB 500:GOSUB 600:GOSUB 700:GOSUB 800
240 A$=KEY$
245 IFA$<>"C"THENGOTO250
246 IF A+4>=35THENGOTO250
247 PLOTA,B," ":A=A+4:PLOTA,B,"h"
250 IF A$="Z"THENGOTO100
255 IF A$="/"THENGOTO300
260 IF A$=" "THENGOTO400
290 GOTO 200
300 REM *** ALIEN - DOWN ***
305 IF SCRN(A,B+1)<>99THENGOTO70
310 PLOT A,B,"c":B=B+1:PLOT A,B,"h"
315 GOSUB 500:GOSUB 600:GOSUB 700:GOSUB 800
390 GOTO 300
400 REM *** ALIEN - UP ***
405 FORQ=1TO4
406 IF SCRN(A,B-1)<>99THENGOTO70
410 PLOT A,B,"c":B=B-1:PLOT A,B,"h"
415 IF SCRN(A,B-1)=104THENGOTO40000
420 NEXTQ
435 GOTO 70
500 REM ** BONUS AND SHIP **
505 PLOT C,D," ":PLOT E,F," ":C=C+1:E=E+1:PLOT C,D,0$
:PLOT E,F,W$
510 PLOT 2,1,4:PLOT 2,2,4:PLOT 3,1,1:PLOT 3,2,1
515 IF C>=35THENPLOT C,D," ":PLOT E,F," ":E=3:C=3
520 PLOT 8,24," SCORE":PLOT 16,24,STR$(MARK):PLOT 21,2
4," LIVES"
525 PLOT 29,24,STR$(LIVES)
529 P=P-30
530 PLOT 12,26,"--BONUS--":PLOT 23,26,LEFT$(STR$(P),5)
535 IF P=0THENGOTO45000
590 RETURN
600 REM *** BOMB -1 ***
605 PLOT ABS(G),H," "
610 IF ABS(G)>=35ORABS(G)<=3THENG=-G:H=H+4
615 G=G+1:PLOT ABS(G),H,"1"

```

```

616 IF H>=20THENPLOT ABS(G),H," ":G=4:H=3
620 IF SCRN(ABS(G-1),H-1)=99THENPLOT ABS(G-1),H,"c"
625 IF SCRN(ABS(G-1),H+1)=99THENPLOT ABS(G-1),H,"c"
630 IF SCRN(ABS(G+1),H)=104THENGOTO40000
635 IF SCRN(ABS(G),H+1)=99THENO=INT(RND(1)*2):IFO=1THE
NGOTO 660
650 RETURN
660 FORQ=1TO4
665 PLOT ABS(G),H,"c":H=H+1:PLOT ABS(G),H,"1"
669 IF SCRN(ABS(G),H+1)=104 THENGOTO40000
670 NEXTQ
675 G=-G
690 GOTO 600
700 REM *** BOMB -2 ***
705 PLOTABS(I),J," "
710 IF ABS(I)>=35ORABS(I)<=3THENI=-I:J=J+4
711 I=I+1:PLOT ABS(I),J,"1"
715 IF SCRN(ABS(I-1),J+1)=99THENPLOT ABS(I-1),J,"c"
716 IF J>=20THENPLOTABS(I),J," ":I=4:J=3
720 IF SCRN(ABS(I-1),J-1)=99THENPLOT ABS(I-1),J,"c"
725 IF SCRN(ABS(I+1),J)=104THENGOTO40000
730 IF SCRN(ABS(I),J+1)=99THENO=INT(RND(1)*2):IF O=1TH
ENGOTO760
750 RETURN
760 FORQ=1TO4
765 PLOT ABS(I),J,"c":J=J+1:PLOT ABS(I),J,"1"
770 NEXTQ
775 I=-I
790 GOTO 700
800 REM *** BOMB -3 ***
805 PLOT ABS(K),L," "
810 IF ABS(K)>=35OR ABS(K)<=3THENK=-K:L=L+4
811 K=K+1:PLOT ABS(K),L,"1"
815 IF SCRN(ABS(K-1),L+1)=99THENPLOT ABS(K-1),L,"c"
816 IF L>=20THENPLOT ABS(K),L," ":K=4:L=3
820 IF SCRN(ABS(K-1),L-1)=99THENPLOT ABS(K-1),L,"c"
825 IF SCRN(ABS(K+1),L)=104THENGOTO40000
830 IF SCRN(ABS(K),L+1)=99THENO=INT(RND(1)*2):IFO=1THE
NGOTO860
850 RETURN
860 FORQ=1TO4
865 PLOTABS(K),L,"c":L=L+1:PLOT ABS(K),L,"1"
867 IF SCRN(ABS(K),L+1)=104THENGOTO40000
870 NEXTQ
875 K=-K
1012 GOTO800
10000 REM *** REDEFINITION ***
10010 FOR A=0TO95:READD:POKE 46080+A+(8*ASC("a")),D:NE
XTA
10020 DATA 63,33,33,33,33,33,33,63
10030 DATA 33,51,30,12,12,30,51,33
10040 DATA 33,33,33,63,63,33,33,33
10050 DATA 03,07,13,25,49,63,62,60
10060 DATA 48,56,44,38,35,63,31,15
10070 DATA 60,62,63,31,15,07,03,01
10080 DATA 15,31,63,62,60,56,48,32
10090 DATA 12,30,63,45,33,51,30,12
10100 DATA 30,12,63,63,63,63,12,30
10110 DATA 03,03,06,12,12,24,48,48
10120 DATA 30,30,33,45,18,18,30,63
10130 DATA 30,45,45,63,63,45,45,30
19999 RETURN
20000 REM *** INSTRUCTIONS ***
20010 CLS:PAPER6:INK4
20020 PLOT 5,3," A L I E N":PLOT 5,4," A L I E N ":PLO
T 5,3,14:PLOT 5,4,14
20030 PLOT 3,7," THE OBJECT OF THIS GAME IS TO HELP"
20040 PLOT 3,9,"THEN LITTLE ALIEN GET BACK TO ITS"
20050 PLOT 3,11,"SPACE SHIP (WHICH IS AT THE TOP"
20060 PLOT 3,13," OF THE SCREEN). YOU DO THIS "
20070 PLOT 3,15," BY CLIMBING LADDERS AND "
20080 PLOT 3,17,"AVOIDING THE BOMBS THAT THE "
20090 PLOT 3,19,"SPACE SHIP DROPS AT YOU"
20100 PLOT 3,21,"THIS IS A SAFTY PRECAUTION ONLY"
20110 PLOT 3,24," PRESS ANY KEY FOR CONTROLS"
20120 PLOT 2,24,4:PLOT 0,24,16
20130 GETA$
20140 CLS:PAPER4:INK2
20150 PLOT 19,6," ":PLOT 18,4,"UP"
20160 PLOT 9,13,"Z":PLOT 6,11,"RIGHT"
20170 PLOT 29,13,"X":PLOT 27,11,"LEFT"
20180 PLOT 19,19,"/":PLOT 17,21,"DOWN"
20190 PLOT 5,23," PRESS ANY KEY TO START !"
20200 PLOT 19,13,"C":PLOT 17,11," JUMP"
20210 PLOT 1,6,1:PLOT 1,4,0:PLOT 1,13,1:PLOT 1,11,0:PL
OT1,19,1:PLOT 1,21,0
20230 GETA$
29999 RETURN
30000 REM *** SET UP SCREEN ***
30005 CLS:PAPER0:INK1
30010 PLOT 1,0,"aaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaa
a"
30020 PLOT1,1,"a a"
30030 PLOT1,2,"a a"
30040 PLOT1,3,"a c c c a"

```


ORIC/ATMOS PROGRAM

```

30048 PLOT1,4,"a bbbcbcccccccccccccccccccccccccccccccc a"
30060 PLOT1,5,"a      c              c              c      a"
30070 PLOT1,6,"a      c      i              c      j      c      k      a"
30080 PLOT1,7,"a      c      c              c      c      c      c      a"
30090 PLOT1,8,"a bbbcccccccccccccccccccccccccccccccccccc a"
30100 PLOT1,9,"a              c              c              a"
30110 PLOT1,10,"a      k      c      j      c      j      a"
30120 PLOT1,11,"a      c      c      c      c      c      c      a"
30130 PLOT1,12,"a bbbcccccccccccccccccccccccccccccccccccc a"
30140 PLOT1,13,"a      c              c              c      a"
30150 PLOT1,14,"a      c      j      c      i              ci      a"
30160 PLOT1,15,"a      c              c      c      c              c      a"
30170 PLOT1,16,"a bbbcccccccccccccccccccccccccccccccccccc a"
30180 PLOT1,17,"a              c              c              a"
30190 PLOT1,18,"a              j      c      jc              j      a"
30200 PLOT1,19,"a              c              c              a"
30210 PLOT1,20,"a bbbcccccccccccccccccccccccccccccccccccc a"
30220 PLOT1,21,"a              a"
30230 PLOT1,22,"aaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaa"
30240 FORA=4TO20STEP4:PLOT 2,A,2:PLOT 37,A,1:NEXTA
39999 RETURN
40000 REM *** THE END? ***
40010 LIVES=LIVES-1:IF LIVES<=0THENGOTO45000
40020 CLS:PAPER2:INK4:PLOT 5,12," YOU LOSE A LIFE"
40030 T$="12345678912345678912345123459876598765987654
321987654321123119911991"
40040 FORA=1TOLEN(T$)
40050 W=VAL(MID$(T$,A,1))
40060 PLAY 7,0,0,0:MUSIC 1,2,W,V :MUSIC 2,6,W,11:MUSIC
2,3,W,5:NEXTA
40070 PLAY 0,0,0,0:WAIT 100:GOTO50
45000 REM *** THE END ***
45005 CLS:PAPER5:INK6
45010 PLOT 5,10,"THE END" :PLOT 5,9,"THE END":PLOT 4,9
,10:PLOT 4,10,10
45020 T$="11991199191919876543223456789876543211234567
899991111999191919191"
45030 FORA=1TOLEN(T$)
45040 W=VAL(MID$(T$,A,1))
45050 PLAY 7,0,0,0:MUSIC1,1,W,V :MUSIC 2,6,W,V :MUSIC
3,3,W,10
45055 SOUND 6,W, V:SOUND 1,W,V :SOUND 3,W,10:SOUND 5,W
,8
45060 NEXTA
45070 PLAY 0,0,0,0:END
50000 REM *** FINISH A SCREEN ***
50005 PAPER4:INK0
50010 CLS:P=1000:MARK=MARK+500
50020 PLOT 5,10," GO ONTO ANOTHER SCREEN "
50030 T$="12345676532234565425413245765421212456765421
23456765439876543459876"
50040 FOR A=1TOLEN(T$)
50041 W=VAL(MID$(T$,A,1))
50042 PLAY 7,0,0,100
50045 MUSIC 1,3,W,V:MUSIC 2,1,W,V:MUSIC 3,6,W,V
50060 NEXTA
50070 PLAY 0,0,0,0
50080 GOTO 50
55000 REM *** VOLUME CONTROL ***
55010 CLS:PAPER1:INK4
55020 PLOT 5,5," VOLUME CONTROL":PLOT 5,6," VOLUME CON
TROL":PLOT5,5,14
55030 PLOT 5,6,14
55040 PLOT 2,8,"PICK THE VOLUME CONTROL "
55050 PLOT 2,10,"BETWEEN THE NUMBERS (1 TO 15)":INPUT
A#
55060 IF VAL(A#)<10R VAL(A#)>15THENGOTO 55050
55070 PLOT 10,20,"THE VOLUME IS ":PLOT 25,20,A#
55080 PLOT 8,22," PRESS <H>TO CHANGE OR <C> TO"
55090 PLOT 12,24," CONTINUE"
55100 GETA#
55110 IF A#="H"THENGOTO55050
59999 RETURN

```

ONE CHILD'S VIEW

Stop misuse of micros

It is with growing unrest that I write this, such is the state of the computer scene today.

Two years ago, when I first bought a computer, enthusiasts were using the Atari and Intellivision games systems for playing games, not computers — these were being used, correctly, for programming. Nowadays, too many computers are being used exclusively for game playing.

At least 75 per cent of those in my class who own computers treat them as games machines. Their programming skills are limited to LOAD"" and 10 PRINT" Arsenal rule OK" and 20 GOTO 10.

Owners are often heard to boast about their computers. During one French lesson I heard from behind me: "So what if you've got a Dragon 64, I've got a BBC B." Since this came from a devoted games player it set me wondering what was the point of spending £400 on a computer when a £60 games machine would have been sufficient.

I would also like to add my own views on the turbulent controversy surrounding software piracy. Two years ago, when I bought my first computer, a trusty ZX81, software companies were not making anywhere near as much money as they do now. In those days piracy took place maybe even more than nowadays; software houses are now making thousands of pounds in profit, but they have started kicking up a fuss. Surely they have enough money not to worry about the (relatively) small loss over piracy? If they want to prevent piracy, a drop in prices would help, as there would then be less need for it. At its present price software is utterly, confoundingly extortionate.

In general, the computer market is going downhill. Micros are being used for games too much, leading some people to think that is the limit of their capabilities. Programs are becoming increasingly scarce: this in turn will lead to personal computers being used for a narrower range of purposes.

Computers are becoming games machines with programming as a sidekick. This all contributes to making the programmer's life harder and encouraging users to submit entirely to games playing and thus misuse what can be one of man's greatest tools.

Robin Elworthy
Hardline, anti-games, no playing, no compromises
computer activist
Maidstone, Kent

● This space is for you to sound off about the micro scene, to present bouquets, to hurl brickbats, or just to share your opinions or experiences. Contributions from individuals earn a fee. Send your views to Paul Liptrot, Editor, Home Computing Weekly, No.1 Golden Square, London W1R 3AB

Text Planning Sheet for the BBC micro. Use it for Mode 7 down to the bold line and the whole graph for all other modes.
Designed by Micro-Aid, 25 Fore Street, Praze, Cornwall TR14 0JX.
A 12-sheet pad costs 65p including postage, from Micro-Aid.

Modes 2,5
Modes 4,6,7
Modes 0,3

PROGRAM TITLE

Notes:

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
0	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
2	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
3	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
4	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
5	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
6	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
7	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
8	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
9	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
10	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
11	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
12	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
13	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
14	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
15	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
16	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
17	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
18	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
19	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
20	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
21	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
22	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
23	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
24	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
25	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
26	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
27	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
28	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
29	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
30	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
31	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
32	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
33	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
34	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
35	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
36	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
37	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
38	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
39	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19

It's two of you versus the BBC
micro. Who'll come out ahead
in Geoff Turner's Hidden
Numbers program?

BBC P

Find the numbers and foil your micro



```

10 REM *****
20 REM * HIDDEN NUMBERS *
30 REM * By Geoff Turner *
40 REM * 1984 *
50 REM *****
60 ON ERROR MODE7:REPORT:PRINTERL:END

70 *TV255
80 MODE7
90 PRINTTAB(0,5),STRING$(40,"?")
100 PRINT
110 PRINTTAB(10,8);CHR$(141);CHR$(129);"HIDDEN NUMBE
RS"
120 PRINTTAB(10,9);CHR$(141);CHR$(129);"HIDDEN NUMBE
RS"
130 PRINTTAB(11,10);CHR$(134);"By Geoff Turner"
140 PRINTTAB(0,13),STRING$(40,"?")
150 PRINTTAB(2,20);CHR$(136);"DO YOU WANT INSTRUCTION
S (Y/N) ?"
160 I$=INKEY$(5):IF I$="" THEN 160
170 IF I$="Y" THEN PROCINSTRUCTIONS

```


Hidden Numbers is a game for one or two players against the computer. At the start of the game the computer generates 100 numbers between one and 10, and hides them in a 10 x 10 matrix. Each player takes a turn to uncover any two numbers, in an attempt to find two identical.

If he is successful, the player scores points to the value of the exposed numbers, and the pair are removed from the board. The game continues until all the numbers have been removed from the screen, and the winner is the player with most points.

To enable the computer to have a reasonable chance of winning the game, it has been programmed to remember the last five numbers exposed. I have found this to be a reasonable amount of memory to enable the computer to compete with its human opponents.

Playing the game is fairly easy. When the board is displayed, the first player is chosen at random, and his/her name is displayed at the bottom

How it works

80-160 display title page, option to view instructions

180 calls PROCEDURE to initialise variables

210 calls PROCEDURE to set up screen display

220 starts a repeat loop which continues to call main loop PROCEDURE until there are no numbers left on screen

260-300 give option to play again or end

310-620 initialise PROCEDURE. Several arrays are DIMensioned and variables are set to their initial values. The PROCEDURE also asks how many players, and their names. The hidden numbers are generated at lines 550 to 610. Note that this can take several seconds.

630-860 display instructions if requested

870-1120 set up screen display. All hidden numbers are covered by a ? at this stage

1130 enters the main loop. Each players' turn consists of one pass through this loop. The PROCEDURE allows input from the player and checks validity. After two valid numbers are selected, line 1480 diverts the program to check for two similar numbers

1530-1600 deposit exposed numbers in memory

1620-1710 check for winning combinations, increase scores

1720-1800 update players' scores on screen

1810-1900 ends game with suitable message

1910-2000 generate computer's selection

2110-2080 check memory for winning number

```

180 PROCINITIALISE
190 MODE2
200 VDU23,1,0;0;0;0;0;
210 PROCSCREEN
220 REPEAT
230   PROCMAINLOOP
240   UNTIL LEFT%=0
250 PROCEND
260 PRINTTAB(1,12);"PLAY AGAIN (Y/N) ?";
270 I$=INKEY$(5):IF I$="Y" THEN CLEAR:RUN
280 IF I$<>"N" THEN 270
290 MODE7
300 END
310 DEFPROCINITIALISE
320 ENVELOPE 1,2,-25,-80,-6,15,0,0,126,0,0,-126,126,1
26
330 ENVELOPE 2,1,-36,-93,-9,11,0,0,126,0,0,-126,126,1
26
340 LEFT%=50
350 DIM NAME$(3)
360 DIM F%(10,10)
370 DIM SC$(3)
380 DIM M$(5)
390 DIM G3(5)
400 DIM G4(5)
410 MEM=1
420 CLS
430 PRINTTAB(0,5);"HOW MANY PLAYERS (1 or 2) ?";
440 INPUT"NM
450 NM=INT(NM):IF NM<1 OR NM>2 THEN VDU7:GOTO 420
460 PRINTTAB(0,8);"PLAYER ONE ENTER YOUR NAME";CHR$(1
30);:INPUT"NAME$(1)
470 IF NM=2 PRINTTAB(0,10);"PLAYER TWO ENTER YOUR NAM
E";CHR$(130);:INPUT"NAME$(2) ELSE NAME$(2)="BEEB"
480 NAME$(3)="BEEB"
490 A$="?"
500 FOR I=1 TO 3
510   SC$(I)=0
520   NEXT
530 T%=RND(NM+1)
540 PRINTTAB(0,15);"PLEASE WAIT WHILST I HIDE THE NUM
BERS"
550 FOR R%=1 TO 10
560   FOR I=1 TO 10
570     N%=RND(10):M%=RND(10)
580     IF F%(N%,M%)<>0 THEN 570
590     F%(N%,M%)=R%
600   NEXT
610 NEXT
620 ENDPROC
630 DEFPROCINSTRUCTIONS

```

of the screen. The player enters his first choice with a letter and a number, e.g. A3 or G5 etc. The computer checks the validity of the chosen number and then exposes the number on the screen. The player is then prompted to enter a second choice and the procedure is repeated.

When it is the computer's turn to play, the message BEEB THINKING is displayed, and the computer makes its selection. The first number

chosen is completely random, but the second may be taken from the computer's memory if a match is found or, alternatively, a second random number is chosen.

In the later stages of the game, the computer's thinking time will be longer, as it may have to make many random selections before a valid number is found.

Hidden Numbers runs in about 4K on a BBC model B in mode 2. Model A users may use

mode 5 with slight variation to the colours used.

Main variables

LEFT% numbers left on screen
 NAMES(*) players' names
 F%(*,*) value of each hidden number
 SC%(*) players' scores
 M%(*) Beeb's memory counter
 G3(*) Beeb's memory
 G4(*) Beeb's memory
 NM number of players
 T% turn number
 G1,G2 player's first selection
 G3,G4 player's second selection


```

640 CLS
650 PRINT
660 PRINT "A GAME FOR ONE OR TWO PLAYERS AGAINST"
670 PRINT "THE COMPUTER."
680 PRINT
690 PRINT "THERE ARE ONE HUNDRED HIDDEN NUMBERS"
700 PRINT "DISPLAYED ON THE SCREEN. YOU HAVE TO"
710 PRINT "FIND TWO EQUAL NUMBERS TO SCORE POINTS"
720 PRINT
730 PRINT "HIGHER NUMBERS SCORE MORE POINTS."
740 PRINT
750 PRINT "IF YOU FIND TWO STARS '*' YOU WILL"
760 PRINT "SCORE TWENTY POINTS"
770 PRINT
780 PRINT "ENTER YOUR CHOICE WITH A LETTER AND"
790 PRINT "NUMBER LIKE THIS :- A5 or G3 etc."
800 PRINT
810 PRINT "THE GAME ENDS WHEN ALL NUMBERS ARE"
820 PRINT "UNCOVERED"
830 PRINT:PRINT:PRINT:
840 PRINT "PRESS SPACE BAR."
850 REPEAT UNTIL INKEY(-99)
860 ENDPROC
870 DEFPROCSCREEN
880 COLOUR 6
890 PRINT " A B C D E F G H I J"
900 FOR I=0 TO 9
910   PRINTTAB(0,(I*2)+2);I
920   NEXT
930 COLOUR2
940 FOR X=1 TO 19 STEP 2
950   FOR Y=2 TO 20 STEP 2
960     PRINTTAB(X,Y);A$;
970     NEXT
980   NEXT
990 COLOUR 7
1000 PRINTTAB(0,22);STRING$(20,"_")
1010 COLOUR 1
1020 PRINT "SCORES"
1030 PRINT
1040 COLOUR 6
1050 FOR I=1 TO 2
1060   PRINT LEFT$(NAME$(I),8)
1070   PRINT
1080   NEXT
1090 IF NM=2 PRINT NAME$(3)
1100 MOVE 704,0
1110 DRAW 704,9*32
1120 ENDPROC
1130 DEFPROCMAINLOOP
1140 PROCSCORES
1150 T%=T%+1:IF T%=NM+2 THEN T%=1
1160 FOR I=1 TO 4
1170   PRINTTAB(12,22+(I*2));SPC(8);
1180   NEXT
1190 COLOUR 11
1200 PRINT TAB(12,24);LEFT$(NAME$(T%),6);"'S";
1210 IF NAME$(T%)="BEEB" PRINT TAB(12,26);"THINKING" E
1220 COLOUR 7
1230 PRINTTAB(12,28);"1  ";
1240 IF NAME$(T%)="BEEB" THEN PROCBEEB(1) ELSE G1=GET
1250 IF G1<65 OR G1>74 VDU7:GOTO 1240

```



```

1260 N1%=G1-64
1270 IF NAME$(T%)<>"BEEB" PRINTTAB(15,28);CHR$(G1);
1280 IF NAME$(T%)="BEEB" THEN PROCBEEB(2) ELSE G2=GET
1290 IF G2<48 OR G2>57 VDU7:GOTO 1280
1300 M1%=G2-47
1310 IF F%(N1%,M1%)=0 THEN 1230
1320 IF NAME$(T%)="BEEB" PRINTTAB(15,28);CHR$(G1);
1330 PRINTTAB(16,28);CHR$(G2);
1340 IF F%(N1%,M1%)<10 PRINTTAB((G1*2)-129,(G2*2)-94);
F%(N1%,M1%); ELSE PRINTTAB((G1*2)-129,(G2*2)-94);"*"
1350 PRINTTAB(12,30);"2 ";
1360 IF NAME$(T%)="BEEB" THEN PROCBEEB(3) ELSE G3=GET
1370 IF G3<65 OR G3>74 VDU7:GOTO 1360
1380 N2%=G3-64
1390 IF NAME$(T%)<>"BEEB" PRINTTAB(15,30);CHR$(G3);
1400 IF NAME$(T%)="BEEB" THEN PROCBEEB(4) ELSE G4=GET
1410 IF G4<48 OR G4>57 VDU7:GOTO 1400
1420 M2%=G4-47
1430 IF F%(N2%,M2%)=0 THEN 1350
1440 IF G1=G3 AND G2=G4 VDU7: GOTO 1400
1450 IF NAME$(T%)="BEEB" PRINTTAB(15,30);CHR$(G3);
1460 PRINTTAB(16,30);CHR$(G4);
1470 IF F%(N2%,M2%)<10 PRINTTAB((G3*2)-129,(G4*2)-94);
F%(N2%,M2%); ELSE PRINTTAB((G3*2)-129,(G4*2)-94);"*";
1480 PROCHECK
1490 FOR TM=1 TO 5000:NEXT
1500 COLOUR 2
1510 PRINTTAB((G1*2)-129,(G2*2)-94);A$
1520 PRINTTAB((G3*2)-129,(G4*2)-94);A$
1530 MEM=MEM+1:IF MEM=6 THEN MEM=1
1540 G3(MEM)=G1
1550 G4(MEM)=G2
1560 M%(MEM)=F%(N1%,M1%)
1570 MEM=MEM+1:IF MEM=6 THEN MEM=1
1580 G3(MEM)=G3
1590 G4(MEM)=G4
1600 M%(MEM)=F%(N2%,M2%)
1610 ENDPROC
1620 DEFPROC CHECK
1630 IF F%(N1%,M1%)<>F%(N2%,M2%) THEN A$="?" :SOUND 0,
2,50,5:ENDPROC
1640 A$=" "
1650 SOUND 1,1,200,10
1660 LEFT%=LEFT%-1
1670 IF F%(N1%,M1%)<10 SC$(T%)=SC$(T%)+F%(N1%,M1%) ELS
E SC$(T%)=SC$(T%)+20
1680 F%(N1%,M1%)=0:F%(N2%,M2%)=0
1690 G3(MEM)=0:G4(MEM)=0
1700 G3(MEM-1)=0:G4(MEM-1)=0
1710 ENDPROC
1720 DEFPROC SCORES
1730 COLOUR 1
1740 FOR S=1 TO NM+1
1750 P=10
1760 IF SC$(S)>9 THEN P=9
1770 IF SC$(S)>99 THEN P=8
1780 PRINTTAB(P,24+(S*2));SC$(S);
1790 NEXT
1800 ENDPROC
1810 DEFPROC END
1820 COLOUR 6
1830 G$="GAME OVER"
1840 FOR I=1 TO LEN G$

```


54
28
27

```

1850 PRINTTAB(4+I,10);MID$(G$,I,1);
1860 SOUND 1,-15,I*10,5
1870 TIME=0:REPEAT UNTIL TIME>50
1880 NEXT
1890 SOUND 1,-15,100,20
1900 ENDPROC
1910 DEFPROC BEEB(G)
1920 FOR Q=1 TO 1000:NEXT
1930 ON G GOTO 1940,1950,1960,1980
1940 G1=RND(10)+64:ENDPROC
1950 G2=RND(10)+47:ENDPROC
1960 PROCMEMORY:IF M=1 ENDPROC
1970 G3=RND(10)+64:ENDPROC
1980 IF M=1 THEN ENDPROC
1990 G4=RND(10)+47:ENDPROC
2000 ENDPROC
2010 DEFPROC MEMORY
2020 M=0
2030 I=1
2040 REPEAT
2050 IF F%(N1%,M1%)=M%(I) THEN G3=G3(I):G4=G4(I):M=1
:M%(I)=0:IF G1=G3 AND G2=G4 THEN M=0
2060 I=I+1
2070 UNTIL I=5 OR M=1
2080 ENDPROC
    
```

Tune-in to Jet-Boot Jack.[®]

The massive hit from English Software

Atari 400, 800 and XL Compatible

Jet-Boot Jack is absolutely unique. He's the space-age jet-powered jogger who takes you on a chase through the vaults of the Record Pressing plant, collecting his favourite music as he goes.

Evil creatures try to thwart his every move, but Jack's special bouncing powers send them hurtling to their deaths!

Sliders and elevators provide access to new levels – but sometimes they turn nasty!

With 10 different screens and 6 skill levels, Jet-Boot Jack will stretch your abilities to the limit.

Jack and our other programs are available from branches of Boots, Laskys, Greens and all good software dealers, or direct using the coupon below.

Jet-Boot Jack Program
written by Jon Williams.



Telephone Sales Hot Line
061-835 1356
Trade Enquiries: 061-835 1358

Only **£9.95** 32K
cassette or disk

To The English Software Company, Box 43, Manchester M60 3AD.
Please send ☐ Jet-Boot Jack 32K Cassette @ £9.95 each
☐ Jet-Boot Jack 32K Disk @ £9.95 each

I enclose cheque/P.O. for £_____ (Post Free) or please debit

My Access/Visa No. _____

Name _____ Address _____

HCW61

Typing Tutor TI-99/4A £6.50

Warwick, 40 Kingsway, Newby,
Scarborough, North Yorks
YO12 6SG

This program is designed to teach touch typing. There are three programs, the first containing instructions on how to do the exercises on the other two. Although invited to 'press any key to continue' the program will sometimes crash with a Bad Line Number.

The second program acquaints the user with the keyboard, starting with the home keys, progressing to upper and lower case, shift and function keys. Exercises give practice with characters on the keys displayed or blanked out. My main objection is that specific guidance is not given as to which fingers should be used. Written

instructions and diagrams to supplement those on screen would prove useful. At the end of each exercise the average response time is given.

The third program progresses to typing complete words. The computer has been given a vocabulary of 500 words, but as these are stored in data statements you sometimes have to wait a long time for the next one to appear.

Considering these programs are meant to encourage accurate typing, there are several spelling mistakes littered throughout all three. Practise what you preach, please!

instructions	60%
ease of use	60%
display	85%
value for money	65%



Clever Dick 48K Spectrum £5.50

Simply, 2/6 Baker Street, Old
Town, Stevenage, Herts SG1
2NJ

When will programmers learn that young children cannot read and spell well — if at all? The whole point of using a computer is to teach in a colourfully graphic way, using the minimum of words and allowing repetition, or the stopping of tuition.

Obviously Simply Software is not in that league yet. It states this program is for the two- to eight-year-olds. No way! You cannot quit a section and return to the menu, it relies on words being entered but cannot accept wrong spellings (how many eight-year-olds can spell Wednesday?), has some bugs —

did you know Wednesday comes one day after Wednesday — and does not keep your answers on-screen.

It attempts to cover testing of number knowledge; practise in addition, subtraction, multiplication and division; teaches colours; practises the alphabet, days of the week and months of the year.

There are some nice touches, such as words coming from left or right, a pretty tune playing when correct, levels of difficulty and randomised scores with 'alright', 'good' or 'excellent' after a section finishes.

instructions	35%
ease of use	25%
display	20%
value for money	30%



Maths Invaders Commodore 64 £7.95

Stell, 36 Limefield Ave, Whalley,
Lancs B6 9RJ

In my experience children generally enjoy playing more than work. If you combine play with work children can learn without realising it.

This game follows the usual space invader format as you have to shoot down invading spaceships. However, in this case, the spaceships have a maths problem and to shoot them down you have to hit them with the correct answer. Your gun fires with a satisfying crack and all being well the ship will explode. Speed is of essence, as is dexterity. If you do not answer quickly enough another bank of invaders appears. There are fifteen ships in a wave and when you have killed them all a siren sounds.

There are twelve types of sum: addition, subtraction, multiplication and division, at easy, medium and hard levels. There was little difference between the easy and hard multiplication, but the difference in addition and subtraction levels was evident.

Technically the game is well executed with adequate graphics and sound. Not unexpectedly, the game is not up to the standard of many of the arcade games, but then again, they don't try to teach you anything!

M.W.

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



Reports on the teachers

End of term marks by our
reviewers for all that's new in
teaching software

The Grunberg Linkword Language System — Spanish Dragon 32 £12.95

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

The Grunberg system of learning basic foreign vocabulary and grammar has hit the headlines in the last few months since it has been adapted for a range of computers. Dragon Data have produced a most creditable version which is supplied in a large presentation case with a reasonable instruction booklet and an audio tape as well as the program.

The system does seem to work

when learning basic vocabulary; in a matter of a few hours this package rapidly improved my Spanish, which admittedly did not stretch far beyond olé and paella.

I found it easy to recognise and understand the words and grammar, although the system may not work for everybody. There are some 400 words to learn plus the basics of grammar. The program is divided up into sections, which load separately. The loading takes ages but is eventually worth it.

The program is certainly worth buying if you want to know a little Spanish before you take your holiday there.

instructions	90%
ease of use	90%
display	60%
value for money	90%



'O'-ACES Physics 1 Electron/ BBC 32K £6.90

Sunland, 204 High St West,
Sunderland SR1 1UA

This is one of the worst educational programs I have seen for a while. It is boring, uninspiring and represents the worst teaching possible.

The program drills the student with questions against the clock. The inlay claims "three great games". They are Time Limit Test, i.e. each question has a limited answer time; Mind-master, a one-minute test with you answering as many as possible, and Examination where you choose the number of questions and the computer sets the time limit.

There is also a "browse" facility to familiarise you with the questions (and answers). If you regard these as "great" then this could be for you, but I doubt it.

There is an "incentive" to do well: you could be awarded a 'CO-CO-NUT' if you get to the oasis (O'aces. Get it?) but the graphics are so crude as to be laughable.

The worst feature is that this claims to test physics. Science is about discovery and it is very sad to see a subject reduced to this.

One final criticism: you cannot enter your own questions and although there are 100 questions this is rather poor.

instructions	50%
ease of use	50%
graphics	0%
value for money	10%



Colditz Adventure 48K Spectrum £6.95

Phipps Associates, 172 Kingston Rd, Ewell, Surrey

A split screen graphics/text adventure. Your aim, naturally enough, is to escape. An interesting set of objects litters the locations: floorboards, keys, broken glass, rope, a gun and so on.

The locations themselves are numerous and varied. If you fancy a crypt or a stone coffin its here, together with wire fences, tunnels in various state of repair and lots of guards. Not only must you escape the castle but also get safely to the border.

The graphics are limited to a modest window and, in common

with the Hobbit, don't show every location. They are simple but effective and are drawn extremely rapidly. The vocabulary too is limited to the simple phrases beloved by true adventure enthusiasts and the HELP feature is equally quirky. The words seem to be interpreted much more quickly than in other adventures I've recently seen.

The usual SAVE GAME routine is provided for use when patience, time, or both, run out. I've seen the solution and the guy who wrote this is a sadist! Good fun.

instructions	80%
playability	95%
graphics	85%
value for money	95%



Fighter Pilot TI-99/4A £6

Stainless, 10 Alstone Rd, Stockport, Cheshire

Search and destroy is the name of the game. Enemy planes must be destroyed before they have the opportunity to bomb you. You start with five but are awarded one extra after 3000 points.

The joystick is used in conjunction with the keyboard to control speed, height and direction. The screen shows a control panel with gauges for all these parameters as well as radar. But before you even start looking for the enemy the fighter must be lifted from the airstrip. The first few games are usually wasted in trying to find the requirements for a perfect take off.

Once in the air you launch the attack on the enemy who has the added advantage of cloud cover. For each adversary hit, points are awarded. Failing to take evasive action will probably find you one fighter less and back on the ground!

When you feel you've had enough you may return to the ground — but only if your fuel is not too high and, more importantly, if you are not so disorientated that you can't find the runway.

J.W.

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



The Ring of Darkness 48K Spectrum £9.95

Wintersoft, 30 Uplands Park Rd, Enfield, Middx EN2 7PT

A define-your-own-character adventure which is more graphics than text. Having decided who and what you are, you flip the cassette and LOAD the main game code block.

A graphics window on an enormous playing area is revealed, with rivers, seas and castles. Assailed by a number of nasties, your equally crudely drawn and animated person traverses the area presumably seeking something. Offer services to one of the kings and a quest will be set.

As you play you gain in experience, consume food, acquire gold and arrival in a new location, displayed in simple arcade style, means the opportunity to barter for food, arms, transport and so on. Some castles conceal entrances to underground mazes, drawn in rather fine 3D, which require yet more code to be LOADED. Indeed, on some occasions you will need to flip the cassette again.

The beauty of this game is its infinite variation. Change your character and the game responds in a totally different way. Implementation on Microdrives would add speed to what is already quite a sophisticated program.

Although the graphics and language interpreter are not beyond criticism, well worth looking at.

D.M.

instructions	80%
playability	80%
graphics	65%
value for money	75%



Will you believe you're there?

New simulations and
adventures for Spectrum, TI
and Sord reviewed and star
rated by our panel

Real Tennis Sord M5 £23.95

Computer Games, Golding Hill, Loughton, Essex IG10 2RR

This must be one of the most impressive tennis simulations available for any micro. It has absolutely nothing to do with traditional breakout games but is a proper simulation in 3D.

The court is displayed giving you a view rather like the one you get on telly from Wimbledon except the court is, for some strange reason, bright orange and yellow!

The simplest way to play is to move your man, who is, incidentally, incredibly well animated, to the ball and the man will automatically hit the ball back. But if you're feeling

adventurous, you can try lobs or ground strokes. You can play another person or the computer, but be warned, the computer is amazingly good at this game. He never seems to miss a shot and his service is second to none!

Overall, this has some of the most impressive graphics I have ever seen, sound is very realistic and animation is simply superb. Meticulous attention to detail, right down to the shadow on the ball makes this one of the best, if not the best, tennis game on the market, just as addictive as any shoot-'em-up game.

S.S.

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



Heavy Boxing Sord M5 £23.95

Computer Games, Goldings Hill, Loughton, Essex IG10 2RR

This game cartridge attempts to recreate some of the atmosphere of heavy boxing and a jolly good job it does too!

The ring is displayed, the crowd in the background cheer and whistle and wave their arms with impatience. Then the gong rings. The two fighters stand up and move towards the middle of the ring. The fight is on. You move your fighter with your joypads and throw punches at your opponent whose punches can be avoided by ducking or throwing wild punches. Strength is shown on the bottom of the screen and every time you are hit, it goes down. The fight is over when you or your opponent are knocked out, or settled by decision, i.e. number of hits. You have the option to play the computer or a human player.

Animation is excellent and the tension as you helplessly watch your player on the floor being counted is excruciating. The realistic thuds as you land punches and small details such as the whistles of the crowd make this game a winner. The only thing you've got to watch for is not to break your joypads when you get too excited!

S.S.

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





ASP SOFTWARE

Presents

The Greatest Challenge Ever To Face Man And Machine

(Atari, BBCB, Spectrum and Commodore 64)

FIVE MILLION BARBARIANS

AN ARMY OR TWO OF
PERSIANS

SEVERAL THOUSAND
UPSET ARMENIANS

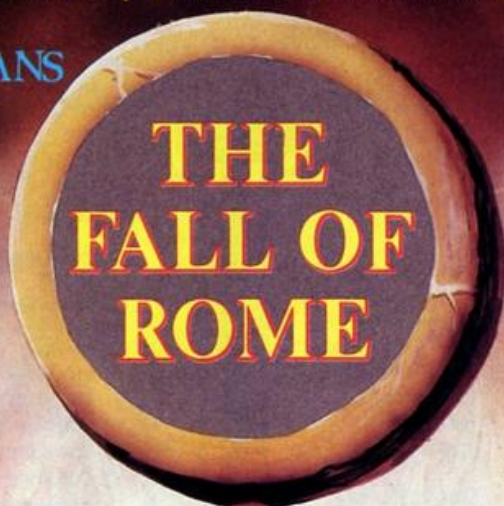
FIFTY LEGIONS OF
ITINERANT ITALIANS

AND YOU!

THE FALL OF ROME

In case of difficulty, Order
from: Argus Press
Software Group,
No 1 Golden Square
London W1R 3AB

Please add 50p p&p
and allow 14 days
for delivery



At your dealers now!
£6.99 all inc.

HORNSBY 84

CHARTBUSTERS

BRITAIN'S SOFTWARE CHARTS

by the ASP Market Research Group

ARCADE

1 Jet Set Willy	Software Projects	Spectrum (2)
2 Fred	Quicksilva	Spectrum (6)
3 Codename MAT	Micromega	Spectrum (8)
4 Manic Miner	Software Projects	Spectrum (-)
5 3D Ant Attack	Quicksilva	Spectrum (-)
6 Caesar the Cat	Mirrorsoft	Spectrum (4)
7 Space Pilot	Anilog	CBM 64 (7)
8 Bumping Buggles	Bubble Bus	CBM 64 (9)
9 Manic Miner	Software Projects	CBM 64 (1)
10 Chinese Juggler	Ocean	CBM 64 (-)

NON-ARCADE

1 Twin Kingdom Valley	Bug-Byte	CBM 64 (1)
2 Golf 64	Abrasco	CBM 64 (2)
3 First Steps With Mr Men	Mirrorsoft	Spectrum (-)
4 The Wizard and the Princess	Melbourne House	VIC-20 (-)
5 Colossus Chess	CDS	CBM 64 (-)
6 The Valley	APS	Spectrum (3)
7 Goldlocks	Arrow Books	Spectrum (8)
8 The Hobbit	Melbourne House	Spectrum (9)
9 Party Time	Clever Clogs	Spectrum 64 (-)
10 Whizz Quiz	Clever Clogs	Spectrum (10)

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

SPECTRUM

1 Jet Set Willy	Software Projects (2)
2 Fred	Quicksilva (-)
3 Codename MAT	Micromega (-)
4 Manic Miner	Software Projects (-)
5 Ant Attack	Quicksilva (10)
6 Caesar the Cat	Mirrorsoft (-)
7 Pogo	Ocean (7)
8 Cyrus-Is-Chess	Intelligent (9)
9 Lunar Jetman	Ultimate (8)
10 Alchemist	Imagine (-)

COMMODORE 64

1 Quick Thinking	Mirrorsoft (2)
2 Caesar the Cat	Mirrorsoft (3)
3 Manic Miner	Software Projects (1)
4 Ugh!	Softek (8)
5 Hunchback	Ocean (4)
6 Mr Wimpey	Ocean (6)
7 Spirites and the Snowman	Commodore (-)
8 International Football	Commodore (9)
9 Revenge of the Mutant Camels	Llamasoft (5)
10 Colosus Chess	CDS (-)

DRAGON 32

1 Dragon Chess	Oasis (1)
2 Hungry Horace	M.House (3)
3 Chuckle Egg	A&F (4)
4 Ugh!	Softek (2)
5 Pedro	Imagine (6)
6 Eightball	Microdeal (-)
7 Krieg Spiel	Beyond (5)
8 Cuthbert in the Jungle	Microdeal (-)
9 Up Periscope	Beyond (7)
10 Frogger	Microdeal (-)
10 Skramble	Microdeal (-)

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

VIC-20

1 Snooker	Visions (1)
2 Crazy Kong	Interceptor (5)
3 Flight 015	Ferranti / Davenport (2)
4 Sub Commander	Thorn (-)
5 Escape MCP	Rabbit (-)
6 Harrier Attack	Rabbit (9)
7 Dam Buster	Rabbit (10)
8 Jetpac	Ultimate (6)
9 Emmet Attack	Commodore (7)
10 Gridrunner	Llamasoft (8)
10 Mine Madness	Thorn (-)

BBC

1 Demolator	Visions (-)
20 Man Brother	MRM (1)
40 Man	MRM (2)
5 Killer Gorilla	Precision (-)
Diamond Mine	MRM (5)
7737 Simulator	Salamander (3)
8 Space Shuttle	Microdeal (-)
10747 Simulator	Doctor Soft (6)

ZX81

1 Fantasy Games	Sinclair (2)
2 Flight Simulation	Sinclair (5)
3 Mothership	Sinclair (1)
4 Skramble	Quicksilva (7)
5 Football Manager	Addictive (5)
6 Invaders	Quicksilva (8)
7 Space Raiders	Sinclair (3)
8 Asteroids	Quicksilva (4)
9 Defenders	Quicksilva (9)
10 Chess	Sinclair (-)

Experience CDS Educational programs



ORIC I / ATMOS



£6.95

*A new release now available
on the Oric I / Atmos
Wordsearch.*

*A thought stimulating game
for all the family Use your knowledge
to find the missing words*



CDS Micro Systems

Ghostman 48K Oric/ Atmos £7.50

Severn Software, 15 High St,
Lydney, Gloucester GL15 5DP

Control your Ghostman around the maze eating the dots and fruits and avoiding the ghosts who are very clever at chasing you. If you are concerned by the ghosts, try to get the power-pill when you become temporarily invisible to the ghosts. When you've eaten all the dots, you go on to the next level where action is faster.

Sounds familiar? Well, Ghostman is a version of the arcade block-buster. Most of the features of the original are there: pizza-shaped pacman, four ghosts, four power-pills at the corners, fruits for bonus points and the secret tunnel. Key layout

is sensible, unlike some games, and the response very good. All characters are well defined and move smoothly. Also animation is excellent. The sound — volume can be altered — is used very effectively. As you would expect from any decent game nowadays, there's a hall of fame. It would have been nice if the author could have put in intro music, but you can't expect everything.

Technically excellent, obviously lacking in originality, but if you still like pacman, this is probably the definitive version for the Oric. S.S.

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



Khe Sahn TI-99/4A £

Stainless, 10 Alstone Rd, Stockport, Cheshire

A simulation of the Tet offensive in South Vietnam during 1968. You have five platoons and four helicopters, which you must use efficiently to seek out and destroy two companies of North Vietnamese regulars, which are invisible and controlled by the computer.

On the map is a military base, with four roads leading to it, an air base, a Vietnamese village and the players five troops.

A truck travels to the base every so often. If part of the road along which it travels has been destroyed, the truck will wreck and points will be awarded to the North Vietnamese Army (NVA). This road must be repaired, and

can be by using platoons and a helicopter.

The procedure for moving the helicopters has been badly thought out. The numeric keys are used to input a coordinated position, which is the destination of the helicopter. Unfortunately, the screen is not marked out in any way at all, so the positions have to be estimated. Obviously, a game such as this should not have to do with rough estimations of positions.

Although I feel that pleasure should not be gained from the subject of war, Khe Sahn may hold the interest of a wargames enthusiast. J.J.

instructions	100%
playability	65%
graphics	75%
value for money	65%



Timebomb Spectrum £5.95

CDS, 10 Westfield Cl, Tickhill, Doncaster, S.Yorks DN11 9LA

Another "help suicidal Cedric defuse bombs" game with two keyboard control choices or Kempston-type joystick. You move around a grid erasing blue squares, flags and bombs, but avoiding the skulls. After the first screen, beware the Mobile Boots. There is the facility to scroll your position left and right without erasure and there is a total of five skill (speed) levels.

The bombs countdown from 30 with five defusions per screen. The real-time countdown is six seconds — just locating Cedric takes a couple. I don't mind it being difficult... but this is impossible!

Graphics are unspectacular and there is a popular classic "tune" which is murdered as you move.

Bravely persevering, I discovered "hold". Shamelessly using it on every bomb to work out the best route and with three lives, I survived to screen 12, taking my very high-score into the Hall of Fame.

But cheating is only fun for a while. This is not among the best game of its type.

CDS really ought to put its address on its products. Or is the company confident that no purchaser will ever have cause to contact it? D.C.

instructions	90%
playability	40%
graphics	50%
value for money	60%



Time for some more fun

A new batch of games star
rated by our team. Read
before you buy

Word Maze Sord M5 £23.95

Computer Games, Goldings Hill, Loughton, Essex IG10 2RR

Word Maze is described as a combination of 3D maze and word guessing game.

A maze is displayed in 3D and starts moving by itself. When it comes to a fork, you have to guess a word, rather like in hangman except you have to guess it before a bomb goes off! If you don't manage to get the word, marks will be deducted and you're asked to advance left or right. If your choice agrees with the computer, you will advance toward the exit, if not, towards a dead end. If you get the word right, your score is increased and you're guided

towards the exit by the computer. If you get out of the maze before oxygen runs out, you have the option to play again.

As a 3D maze, Word Maze is trivial and boring. As a educational game, even though the program allows you to add your own words, it won't teach you many new words. Sound and animation are virtually non-existent and I'm afraid, all this boils down to is a souped up game of Hangman with some graphics at an inflated price. S.S.

instructions	100%
playability	30%
graphics	30%
value for money	30%



Super Cobra Sord M5 £23.95

Computer Games, Goldings Hill, Loughton, Essex IG10 2RR

Super Cobra was a minor hit in the arcades a few years back. It was a good game but for some reason, it was totally overshadowed by a very similar game called Skramble. In case you haven't seen either, let me explain.

The objective is to fly the helicopter to take on military supplies while successfully avoiding missiles and UFOs. The helicopter is highly manoeuvrable and may be moved in eight directions. By pressing the attack key, laser missiles are fired from the front of the helicopter, while heavy bombs are dropped from the bottom. Your main targets are anti-aircraft units, UFOs and missiles. After clearing four screens, military supplies will appear. If you can load the supplies, it's your chance to increase your score.

Graphics are very impressive and sprites are used to their fullest effect. The sound of the rotor blades is very effective and overall the game is very close to the arcade original. Although this game is virtually impossible to play on the keyboard — you are required to manipulate no less than nine keys at once — it is a must for all scramble-type game addicts. S.S.

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



NATIONWIDE SHOPS & DEALERS

BEDFORDSHIRE

SOFTWARE CENTRE

Computer Software and accessories.
Large S.A.E for lists.
52A Bromham Road, Bedford
Tel: Bedford 44733

ESSEX

BBC ★ COMMODORE 64
SPECTRUM ★ DRAGON 32

Extensive range of software/
hardware/books always in stock.
ESTUARY SOFTWARE PRODUCTS
261 Victoria Avenue, Southend,
Essex. Tel: 0702 43568.

LONDON

COMPUTER VID

The leading computer
software shop.
Mail order or personal
callers welcome.

GAMES FOR SPECTRUM, CBM 64,
VIC-20 etc FROM £1.99

Many special offers on all
software and hardware.
S.A.E. for catalogue &
details to:

278A WRIGHTMAN ROAD
HORNSEY N8
TEL 340-4074

**HCW —
COMPATIBLE
WITH ALL
POPULAR HOME
COMPUTERS.**

**DO YOU WANT MAXIMUM
BENEFIT FOR YOUR MONEY?
— THEN USE OUR SHOPS AND
DEALERS GUIDE TO ADVERTISE
YOUR RETAIL/MAIL ORDER
BUSINESS.**

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

SOMERSET



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

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

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

**ADVERTISE
IN OUR
NATIONWIDE
GUIDE AND SEE
YOUR BUSINESS
GROW. PHONE
NOW FOR
DETAILS ON
01-437 0699**

STAFFS

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

SURREY

COMPUTASOLVE LTD.
8 Central Parade, St. Marks
Hill, Surbiton, Surrey KT6 4PJ.
Tel: 01-390 5135.
Open 9.30-18.30 Mon-Sat
Over 600 different software
titles in stock. We are pleased to
demonstrate any program
before you buy.
48K SPECTRUM £129.95

CLASSIFIED ADVERTISEMENT — ORDER FORM

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

PREFERRED CLASSIFICATION

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

Advertise nationally for only 35p per word
(minimum charge 15 words).

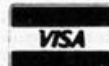
Simply print your message in the coupon and
send with your cheque or postal order made
payable to Argus Specialist Publications Ltd to:

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

Name

Address

Tel. No. (Day)



--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

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 Stuppel
ASP LTD.
1 Golden Square,
London W1R 3AB

ALARMS

Burglar Alarm equipment. Please visit our 2,000 sq.ft. Showrooms or write or phone for your free catalogue. C.W.A.S. Ltd, 100 Rooley Avenue, Bradford BD6 1DB. Telephone 0274 731532.

AUSTRALIAN IMPORTS

SOFTWARE PUBLISHERS SELL IN AUSTRALIA

TO OVER 350 RETAILERS
COMPUTERPLAY is Australia's fastest growing, reputable software distributor seeking to import or reproduce under licence. Contact Kerry Harrison. Computerplay, P.O. Box 69, Glen Waverley, Victoria 3150, Australia.
Tel: Melbourne 5611078.
Telex: AA30625 Attn. ME 269.

BOOKS & PUBLICATIONS

Popping, Break dancing. Teach yourself. Loose stamp for details. Dance Publications, 136 Monkhill Lane, Pontefract WF8 1RT.

COURSES

LET US HELP YOU TO LEARN TO PROGRAM

Also Childrens holiday courses are available throughout the Summer

Ring: COMPUTER WORKSHOP
on 01-318 5488
4 LEE HIGH ROAD, LEWISHAM,
LONDON SE13 5LQ

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

CLUBS

Software exchange. Swap your used software. £1.00 per exchange. Spectrum/Dragon only. S.A.E. please — UKSEC (HCW), 15 Tunwell Greave Sheffield S5 9GB.

Part exchange your unwanted software for new titles at half price. S.A.E. for details. NCC, 12 York Close, Barton, Beds MK45 4QB.

FOR HIRE

Hire a computer from ZX81 upwards for a week or a year. We also buy and sell second-hand computers, magazines and books. Business & Computer Services, 294a, Caledonian Road, 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

KENILWORTH SOFTWARE TI-99/4A

PROGRAM RECORDER
INCLUDING
INTERFACE LEADS£44.95
SINGLE LEAD.....£5.40

9 Dencer Drive,
Knights Meadow,
Kenilworth, Warks.

COMPUTER CASSETTE RECORDER

Tape counter. Ear/mic/din sockets. L.E.D. indicator. Battery/mains. Compatible with most popular home computers. 1 year guarantee.
J.W. LEISURE, 87 Elmhurst Avenue,
Elm Park, Hornchurch, Essex RM12 4RB

ZX Microdrive with Interface 1 and RS232 lead option! Call 603-4998 5pm to 7pm.

Replica Blank
Firing Colt 45 Automatic
As used by US army, ideal stage prop with ammo,
4.75 carriage 50p



Replica 44 Auto
Magnum
the gangsters favourite
with ammo £4.35
carriage 50p



Another collectors
item. **Colt Python 357**
As used by screen heavies
and police. £4.65 with
ammo, carriage 50p



Ideal for video film making. Mail order only. Send cheques or PO to:
Razzamattaz, 80 Selhurst New Road,
London SE25

LIBRARIES

COMMODORE 64 GAMES LIBRARY

Over 230 titles, all originals. Hire of first two games absolutely free. Life membership only £6. Join now on money back approval.
Send for details to:

Commodore 64 Games Library
c/o Yorkshire Software Library,
13 Park Top, Pudsey, West Yorks.
Cheques/PO's to
"Yorkshire Software Library".

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

Computer Vid. Unique rent a tape service from £1 a week. If you like the game we take a rental fee off the cost of the game. £5 life membership. Available for popular computers. Write to: 278A Wightman Road, Hornsey N8. Tel: 340-4074.

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

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

REPAIRS

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. 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.

HCW YOUR SOFTWARE SUPERMARKET.

NEW ZX81 & SPECTRUM REPAIRS ADD ON SPECIALISTS MOST COMPUTER COMPONENTS

- Fast Micro & Power Supply Repairs
- Product Design & Manufacturing Undertaken
- Tape Recorders Compatible With Most Micros £19.95. Ring for Details
- Open 9 a.m. to 8 p.m. Mon - Sat



MANCOMP LTD.
Printworks Lane, Levenshulme,
Manchester M19 3JP
Tel: 061-224 1888

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.

SERVICES

ALL YOUR CASSETTE NEEDS

Blank cassettes C15 with case 40p Labels in Blue, White or Yellow, 20 for 36p. Inlay cards in Blue, Yellow, Red, Green, Orange or Purple, 20 for 60p. Library cases 9p each. Postage on each complete order 60p. Stonehorn Ltd. 59 Mayfield Way, Barwell, Leicester. LE9 8BL

FOR SALE

VIC-20, includes cassette deck, 16K switchable cartridge, joystick, books, plus £100 software. £95.00. Work No 828 8070 ext 3033 Bob.

Atari 400 with typewriter keyboard, 410 cassette, 10 cartridges/games. Ideal beginners kit. Offers on complete package to Mr Campbell 01-385 3621 (evenings)

SOFTWARE APPLICATIONS

COMMODORE 64 AND VIC-20 PROGRAM COPIERS

They copy most cassette based BASIC, machine code and multi-part programs of any size. Both copiers are written in machine code. Programs using a range of protection techniques can be copied easily. Audio and visual prompts are used for easy operation. Full instructions are contained in the programs.

VIC IMITATOR £6
IMITATOR 64 £6
Please state which is required and make cheques/P.O.s payable to IAN WAITE.

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

BACK-UP TAPE COPIERS

Unique machine code programs to allow security back-up copies of the majority of protected software.

Available for:
COMMODORE 64 £5.95 ELECTRON £5.95
VIC 20 £5.95 ATARI £5.95
BBC £5.95 SPECTRUM £5.95

TAPE TO DISK TRANSFER UTILITIES

Speed loading and transfer your games, etc to disk. Available for:

COMMODORE 64 £9.95
BBC £9.95
ATARI £9.95

ALL COMPLETE WITH FULL INSTRUCTIONS
Price includes VAT, Post & Packing. Cheques or Credit Card Number to

EVESHAM MICRO CENTRE
Bridge St., Evesham, Worcestershire
Tel: 0586 49641

NEW SHOP NOW OPEN - Micro Centre,
1756 Pershore Rd., Cotteridge, Birmingham Tel. 021-458 4564

● COPYMATE 64 ●

A back-up utility for COMMODORE 64. Will make security copies of most cassette based software. Supplied on a quality cassette with full instructions. Send £4.75 to:

**HORIZON SOFTWARE,
15 Bamburg Close, Corby,
Northants NN18 9PA**

SUPER BREAKER

For the COMMODORE 64, this utility will back-up most popular cassette based programs onto Tape or Disk. Supplied on data cassette with full instructions. Also now available a TAPE TO DISK UTILITY. Transfer your cassette software onto disk. Fast despatch, by First Class Post. Both priced at just £4.99 each. Send to:

**Clark Kent Software
26 North Cape Walk, CORBY
Northants. NN18 9DQ**

Dragon clone-it will back-up copy all m/code programs up to 30K including Cuthberts 100% m/code £6. K. Hunter, 7 Balladen, Rossendale, Lancashire.

Unexpanded TI-99/4A. We need more high-quality games, adventures, utilities and educational programs (or written material). We offer extremely good royalties in exchange. Please send what you have now for evaluation to: Pikadee Software, 35 Parker St, Preston, Lancashire PR2 2AH

TAPE COPIER 5 (new version)

Makes BACK-UP COPIES ALL types of SPECTRUM programs (incl. headerless, m/c unstoppable) easily with MANY unique features. **FULL MONEY BACK GUARANTEE** if you are not satisfied.

● M/DRIVE copies Basic/mc/arrays on the microdrive STOPS programs to help the run.

● LOADS in all program parts CONTINUOUSLY — even without pressing a key. Other copiers require many loadings — MASSIVELY saving you time and trouble!

● MAXBYTES copies programs occupying the FULL 16K or 48K! Verifies. Repeat copies. Auto. Abort. HEAD data.

● Full instructions, very user friendly. BREAK at any time (just save a header!), then carry on LOAD. Copies all programs that we are aware of.

Cost only £4.49 or £5.50 with M/DRIVE. (Overseas: £1 Europe, £2 others).

**5 STARS FROM THE
HCW REVIEW, WITH THREE
100% RATINGS!**

**MASSIVELY IMPROVE ALL
YOUR SPECTRUM
PROGRAMS
using our**

**GRAPHICS AND SOUND
TOOL KIT**

Write impressive GAMES, or smarten up your other programs with PROFESSIONAL machine code effects. Yes m/code at your fingertips called from BASIC. No knowledge of m/c required!

● Over 80 routines including PIXEL scrolls — all directions — wrap around.

● Character rotates and reflects, border effects, screen inverts, BOX fill.

● Sound, memory left, etc, etc. DEMO tape and FULL MANUAL.

● Easy to use, and relocatable in memory. ONLY £5.50 (not the usual £10+)

**ALSO 5 STARS FROM
AN HCW REVIEW
IN ISSUE 59!**

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

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

SPECTRUM KOPYKAT IMPROVED PERFORMANCE

Simply the best. Copying any program is now as easy as LOADING and SAVEing your own programs. Any ZX Spectrum program can be backed-up onto a fresh tape. Even programs that cannot be stopped can now be copied. 100 per cent machine code. Prints file names. Copies headerless files. SPECTRUM KOPYKAT uses no program area so full size programs over 41.7K (9K for 16K machines) can be copied. PLUS FREE Header Reader program.

Despatched by first class return of post.

Send cheque/P.O. for £4.95 to:

MEDSOFT

PO Box 84, Basingstoke

Hants RG25 2LW

IT CAN EVEN COPY ITSELF

Hypersave-64 Any Commodore 64 program saved with this utility will independently reload at seven times normal speed. £7.50. Advanced back-up copy program £3.50. Why pay more, this one's the best. Special discount, both programs £9.99. Supplied on tape. Fast despatch. SAE full details to Dosoft, 2 Oakmoor Avenue, Blackpool FY3 0EE

SOFTWARE EDUCATIONAL

SOFTWARE CENTRE

**THE EDUCATIONAL
SOFTWARE specialists.**

Large S.A.E for lists.

**52A Bromham Road,
Bedford**

Tel: Bedford 44733

Chemistry exams? Alchemy is still the best for problem solving. 6 programs and booklet for Spectrum or BBC. Send SAE for details. 78 Tweendykes Road, Hull, Nth. Humberside HU7 4XG

TI-99/4A "TRAINAGRAM"

Anagrams for 6-11 year olds. Use the engine to form the letter wagons into a word train. £3.50. Mail order only.

ORITEX, Church House Cottage, Trinity Hill, Medstead, Alton, Hants.

SOFTWARE GAMES

LLAMASOFT!!
awesome games
software



VIC 20

CBM 64

ATARI

SPECTRUM

**NOW IN BOOTHS, LASKEYS &
MANY RETAILERS, OR FROM
49 MT. PLEASANT,
TADLEY, HANTS.**

TEL: 07356 4478

TEXAS

★
GUARANTEED

★
QUALITY SOFTWARE

★
LOW COST

★
DISCOUNTS

★
FREE DELIVERY

★
**SEND SAE FOR LIST
AND FULL DETAILS TO:**

MICRO-BYTE SOFTWARE
11 SAINT MARY'S AVENUE, PURLEY,
READING BERKSHIRE RG8 8BJ

SOPHISTICATED GAMES for VIC 20

VIC CRICKET Realistic game of skill and luck with all the major rules of cricket correctly interpreted. Full scorecard, printer and game save facilities. Needs 16K expansion.

£5.99*

LEAGUE SOCCER League championship game for two to 22 teams/players. Automatic fixtures, full action commentaries, match facts. League tables, results check, postponed games, etc. Non league matches also playable — the VIC will even make the cup draw. Printer and game save. Needs 16K expansion.

£5.99*

WHODUNNIT? Twelve guests have gathered for drinks at Murder Manor. However one of them has more than drinks on his mind. Thrilling detective game for one to six players, with genuinely different murder every time. You can even rename the suspects! Needs 8K expansion.

£4.99*

TOP OF THE POPS Money making game about the music business. Make your own records and see them climb the chart. Printer and game save facilities. Needs 8K expansion.

£4.99*

VIC PARTY 4 contains MASTERWORD, A DAY AT THE RACES, GAME X (Strip Poker), and CONSEQUENCES. Four games ranging from the serious to the ridiculous. All good fun — nothing offensive. Needs at least 3K expansion.

£5.99*

**Sophisticated Games,
Dept HCW, 27 Queens Road,
Keynsham, Avon BS18 2NQ
Tel: 02756 3427**

Write for details of our full range.

*P&P free (UK) only. All games sold subject to our conditions of sale, which are available on request.

FLY AWAY!!

Solo Flight C64 £12
(Micropros)
747 Flight BBC £8.00
(Doctorsoft)

Colossus Chess C64 £9.00
(CDS)
The Hobbit all versions **£11.50**
(Melbourne)
VALHALLA 64 (telephone) **£11.65**
(Legend)
Quickshot II Joystick **£11.00**
Fall of Rome (ASP) **£6.00**

**OFFERS APPLY UNTIL END
OF MAY**

Cheques/P.O.'s to:

LA MER SOFTWARE AVON
BS23 1JU TEL. 0934 26339
(for your computer needs
between 10-6pm)

LOADE ENTERPRISES THE BEST SOFTWARE FOR YOUR TEXAS

INTRIGUE SOFTWARE

ADVENTURE MANIA (Basic) £5.95
Graphics Adventure set in London. First discover your mission but beware the ungodly are everywhere.

MANIA (Basic) £5.95
This graphic adventure begins where Adventure Mania ends. You journey through a strange land in your search.

JOYSTICKS
Quickshot II £11.20
Tac 2 £18.95

BOOKS

UNDERSTANDING MICROPROCESSORS £4.50
Describes the fundamentals of micro-processor concepts, applications of 8-bit and 16-bit microprocessors.

UNDERSTANDING COMPUTER SCIENCE £4.50
Explains how the computer was developed, what goes on inside it and how you tell it what to do.

LANTERN SOFTWARE

DADDIE'S HOT ROD (Basic) £5.95
Drive through the countryside but don't crash picking up hitchhikers along the way.

HUNCHBACK (Basic) £5.95
Egor the hunchback has to keep rushing about in lifts and buggies, stamping out fires, gas-leaks and electrical faults, it's absolute havoc.

Please include 50p p&p on books.

For full lists please send S.A.E. to

LOADE ENTERPRISES, c/o Ensemble (HCW), 35 Upper Bar, Newport, Shropshire TF10 7EH.
Tel No. (0952) 813667 or 814292

MAIL ORDER ONLY

Dromeda Software. Quality games for TI-99/4A. S.A.E. for details. 56 Wells Street, Haslingden, Lancashire BB4 5LS.

48K SPECTRUM OWNERS

use graphics, animation and sound with ISP's "SCOPE" for the bargain price of £10.30 inc. p&p

MAIL ORDER SOFTWARE
9 KNOWLE LANE, WYKE, BRADFORD. BD12 9BE

TI-99/4A SOFTWARE

Any three fantastic games for only £5. 38 titles to choose from. For full list S.A.E. to:

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

"YOUR OWN SOFTWARE BUSINESS"

Start your own full/part time Software Business. Special manual covers all you need to know. Legal/Practical Aspects, Advertising, Signing Writers, Contracts, etc. etc.

Order Now! Send £3.99 to Book Bug (HW), 15b Kingswood Road, Prestwich, Manchester.

TI-99/4A "Computer Magic" two parts magic tricks. Watson. 8 Oak Tree Court, Uckfield, Sussex. Trade welcome. £5.

MORE THAN 1000 COMPUTER PROGRAMS

At huge discounts for the Spectrum, CBM 64, Dragon, VIC-20, Atari 400/600/800 and BBC.

Send S.A.E. for free list stating which computer to:

WHITE ROSE ENTERTAINMENT, 25 CHURCH ST MEXBOROUGH S.YORKS

UTILITIES

Spectrum 48K title designer enlarge text to any size and colour you can save load copy alter store and recall any screen only £4.00. Old English Software, 25 Kelly Close, Shepperton, Middx. TW17 8RL

WANTED

Wanted, VIC-20 Software cassettes. Will pay up to £3 for any tape. Large quantities or small. Tel Nottingham 626953 for offer.

**ADVERTISE
IN OUR
NATIONWIDE
GUIDE AND SEE
YOUR BUSINESS
GROW. PHONE
NOW FOR
DETAILS ON
01-437 0699**

RECRUITING? SELLING A PRODUCT? OR A SERVICE?

GET MAXIMUM BENEFIT FOR YOUR MONEY
FIND OUT ABOUT OUR WHOLE RANGE OF PUBLICATIONS IN:

COMPUTING ELECTRONICS VIDEO RADIO

Simply telephone

ASP CLASSIFIED

01-437 1002

(We take Access and Barclaycard)

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

DADDIE'S HOT ROD (BASIC) £5.95
Drive through sheep fields, woods, over rivers and avoid all obstacles, then pick up hitch-hikers down perilously twisting roads. HCW gave five stars.

HUNCHBACK HAVOCK (BASIC) £5.95
Arcade action in TI-BASIC! Race with Egor through 24 different sheets. Superb graphics and great fun.

THE BLACK TOWER (BASIC) £5.95
Unlock the mysteries of the black tower and rescue the Lady Gwen in our latest full 16K adventure. Addictive and entertaining.

BATTLESTAR ATTACK (EXT-BASIC) £6.95
Stop the battlestar before it blows up your home planet. A fast game with excellent graphics. HCW gave five stars and said: 'even at level one a very addictive game'.

Send cheque or P.O. to
LANTERN SOFTWARE,

4 Haffenden Road, Tenterden, Kent TN30 6QD Tel: 05806 5424
or SAE for full list. Look out for our products at your TI retailer.

SHARP MZ700 SOFTWARE
Books and Peripherals — Large SAE for list

COMPUTER REPAIRS BY POST
ANY MAKE
UNBEATABLE PRICES
FAST TURNAROUND

TEXAS TI-99/4A SOFTWARE
Books and Peripherals — Large SAE for list

SECOND HAND COMPUTERS
SOFTWARE AND
PERIPHERALS BOUGHT AND
SOLD

STATION ELECTRICAL
COASTAL ROAD, HEST BANK
LANCASTER LA2 6HN
TELEPHONE (0524) 824519

TI-994A SOFTWARE

Two great games for the unexpanded TI-99/4A

PILOT £5.95
A great new flight simulation game for one player. Options for take-off, landing or in flight. Graphics display of landing strip, terrain map, instrument panel. Full instructions included. Graphics and sound.

TI TREK £5.95
Defeat the Klingon invasion fleet. Includes 5 skill levels, graphics quadrant display, 8 x 8 galaxy, phasers, photon torpedoes, long range scans, and much more. Full instructions included. Graphics and sound.

TEXAS PROGRAM BOOK £5.95
35 programs ready to type into the unexpanded TI-99/4A, including 3-D Maze, Lunar Lander, Horse Race, Invader, Caterpillar and many more.

Send cheque or P.O. or telephone with Access/VISA for immediate despatch. Please add 50p p&p to orders under £10. Orders over £10 post free.



APEX SOFTWARE
Hastings Road, St. Leonards-on-Sea,
E. Sussex TN38 8EA
Tel. Hastings (0424) 53283



Oric 1 and Oric Atmos

3D BATTLE STAR DEFENCE

*"I challenge you to defy my superiority
in the universe"*

MISSION: Take your new X17 Starfighter, defend yourself from attacking forces. **SHOOT ON SIGHT!!**

"100% machine code makes this game, fast, exciting, (includes special effects otherwise impossible to imitate).

FEATURES: Full sound & colour, adjustable volume and skill levels, full high score table, user definable control keys
One or two play option + lots more.

ONLY £6.50

Available now for any ORIC 1 or Atmos.

Immediate delivery.

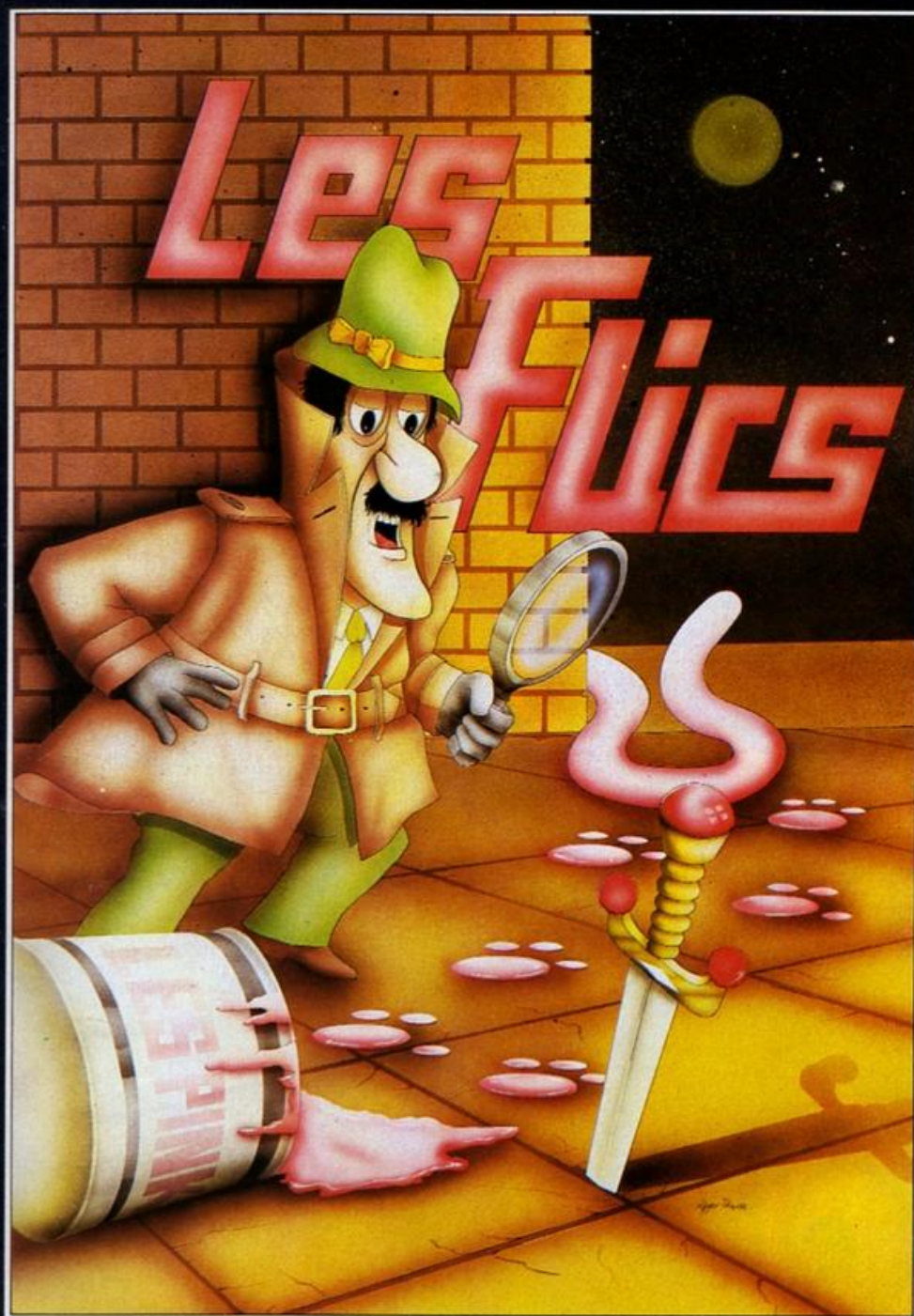
FREE Postage & Packaging.

**TOPAZ SOFTWARE, 49 Red Hill,
Kiveton Park, Sheffield S31 8QA**



Allo?, Ah ahm Unspected Cleudeau of the Sureté....

IN
YOUR
SHOPS
FROM
19th MAY



ah neu eggsactly weut yew
are eup tew, because that ees
mei jeub.

Ah neu yew are geuing tew
trah en steal a gem steun in
mei care beut eet weel
naught be eeze mei frend,
eau neau, me and mei trusty
servant Kaolin weel be tryin
to steup yew.

Not eaunly zat, beut Les
Flics, the treu gend'armerie
eunder mei commant weel be
out en force, so, you foel, you
'ave neo chance aggenst
Cleudeau.....

You control that Pink
character with the tail in your
quest for the Purple Puma, a
priceless gemstone, avoid the
Police cars and enter the
buildings, evading
Gendarme Kaolin
(disguised as a chef) and of
course Cleudeau himself.

Pick up the items as you
find them, we leave you to
find out what they do!

Bon Chance

£6.95

Arcade Adventure For Spectrum 48K

Items to collect:

Dagger Bag

Spanner

Knife & Fork

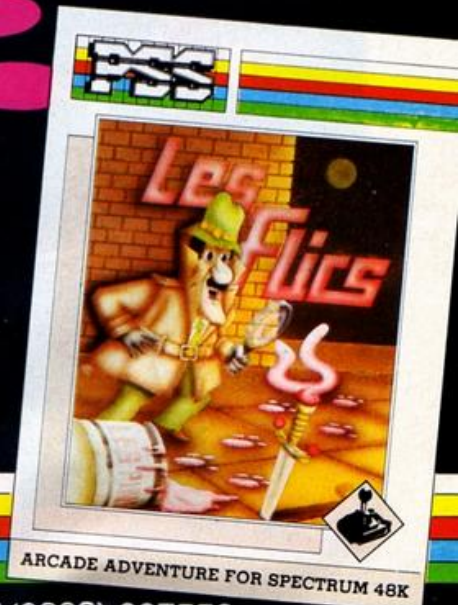
Key

Money

Disguise

Mask

Diamond



ARCADE ADVENTURE FOR SPECTRUM 48K

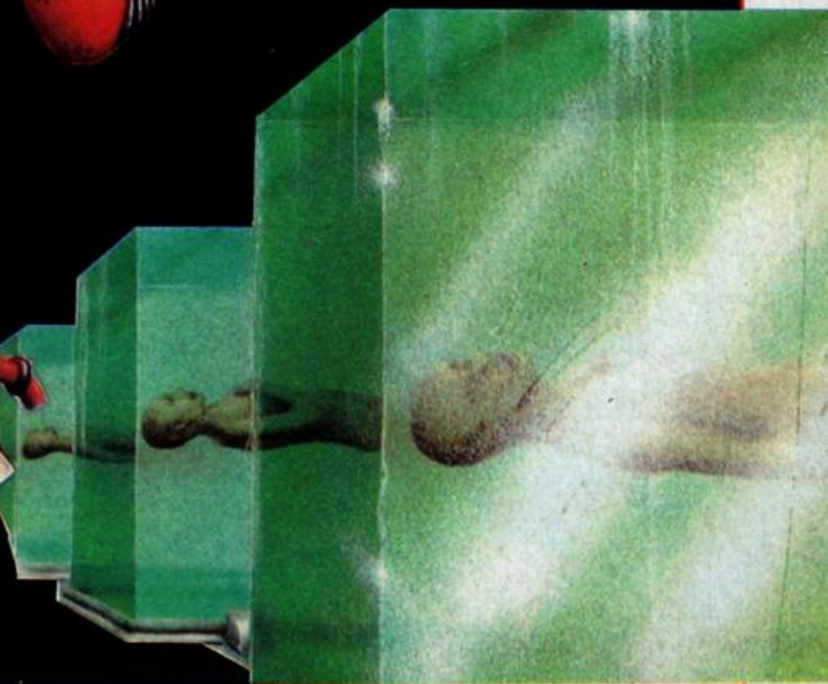
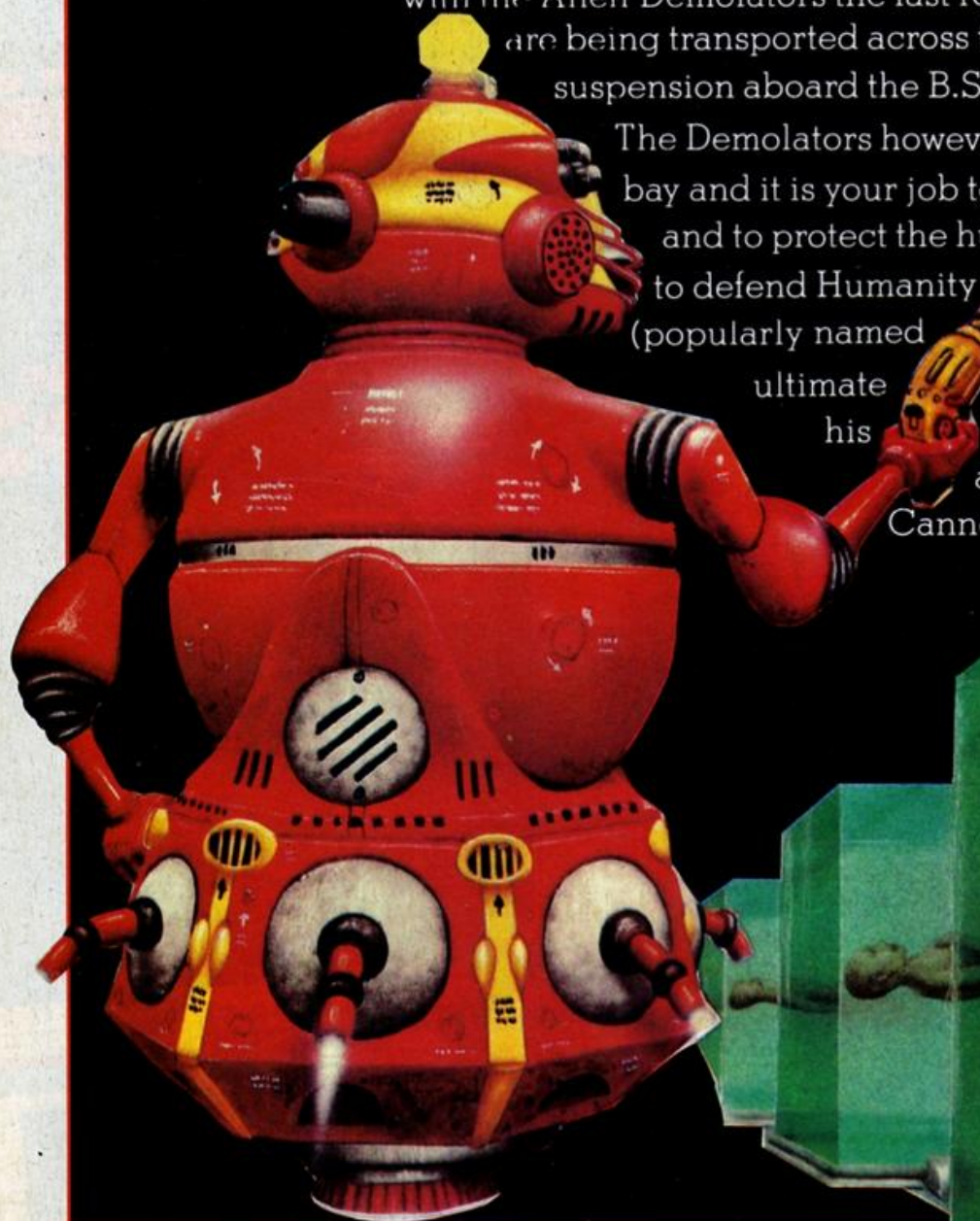
THE NAME IN VIDEO GAMES

Visions

DEMOLATOR

Following the Thousand year war with the Alien Demolators the last remnants of the human race are being transported across the galaxy in cryogenic suspension aboard the B.S. Quinn (Battle Star).

The Demolators however have invaded the cargo bay and it is your job to destroy the Demolators and to protect the human cargo. All you have to defend Humanity with is Xeno (popularly named "the Phobe") the ultimate Robot. You can control his movements on two planes and fire an ultrasonic Cannon to defend humanity with.



EXCLUSIVELY AVAILABLE FROM LARGER BRANCHES OF



DEMOLATOR — BBC — MODEL 'B' OS1-2, £6.95

(FOR A LIMITED PERIOD)