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Computing WEEKLY

No. 44
Jan 28-16, 1984

40p

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to win
**RICHARD
SHEPHERD**
adventure
games

Software
reviews for:
Dragon, BBC,
Spectrum, Lynx,
VIC-20, Texas,
Commodore 64

Great
Spectrum
programs to
type in:
Wordsquare and
Address Book

Our BBC Screen
Pump goes one
better

PLUS:
programs for
Texas, Dragon,
Commodore 64

AND: U.S.
Scene, your
letters, One
Man's View...



W.H. Smith bars island adventure

All copies of an adventure game have been retained for exclusively W.H. Smith following a complaint that it involves copyright. Tapes of *Esperanza Island*, a Spectrum game which has been on sale for 18 months, were being returned to Hull software house Artic Computing.

A spokesman for Smith said: "Our attention was drawn to it by a reader who writes and was upset about it. We followed his instructions and discovered it."

"I understand that it was not because of these words in the program are repeated in the particular program the only way to Continued on page 5

'Manopoly': Judge orders sales halt

A software company has launched an appeal to help Britain's legal battle with board game giant Waddington Games.

Acornsoft, now known for the Puma character in its games, has been ordered by a judge to stop selling its *Go To Jail* program.

It has been told by Waddington that it was *Manopoly* under another name, for which there was already an undertaking not to publish.

Kevin Patrick, of Waddington, says: "They are talking on the back of a game we have had for 20 years. They know damn

Continued on page 5

NEW RELEASE



The Guardian

by Peter Dinklage
Illustrated by Peter Dinklage
128 pp. £3.95

BEHIND THIS SCREEN THERE'S A WHOLE

THE MICROSPHERE

WAITING TO GET



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Available at good computer shops everywhere. Get the full story from **MICROSPHERE**, 75, Macclesfield Road, Luton, MK1 1JA (Tel: 01525 866771).

24 PAGES OF SPECTRUM BEST

Send 20 stamps for Spectrum Supermarket, 27 Abchurch Lane, London EC4N 3JH

Briefly

Just out from Arcade is Bubble Trouble, a 44K Spectrum game which lets you take the role of a bugler trying to steal some treasure. But your bubbles are not to stop your draining — but Arcade lets you watch The Prisoner? With a choice of 30 screens and three levels, it tells for £2.99. Coming next from Arcade is an adventure game called The Zone which the copy says "may take you to hell". It will certainly have full screen high-resolution images, and a huge vocabulary.

Arcade Technology News, 37 Chesham Road, Croydon, Kent RM5 2DG

The Electron and BBC B are the new programs such from Atlantic. For the Electron, Bug-Hunter and Lunar Rescue cost £1.95, Final Machine £2.95, Prayers Time, an educational program is £2.95, and there's Scouter II, a word processor, for £9.95. Also at £9.95 for the BBC B are Distributions, Eagle Empire, and educational programs Primary Time and Primary Art. Computer Design costs 2000. An added bonus for Spectrum Distributions: the highest scoring player wins an all-expenses-paid trip to Hollywood in West Germany, some of the Distributions and in World War II.

Atlanta, 178 West Street, Sheffield S1 4BT

Ellen has brought out three books for users of Commodore micros. 34 VIC-20 Computer Programs for Home, School and Office costs £7.50. Also at £7.50 are 104 Programming Tips and Tricks for the VIC-20 and Commodore 64, and Commodore 64/VIC-20 Computer Programs for Beginners.

Ellen Electronics, 17 Bury New Road, Farnham, Hampshire GU14 5JZ

Computing fans in the West Midlands will be glad to know that a new Spectrum store is opening soon in Walsall.

Atlanta, 16 Broadway Street, Farnham, West Midlands, WS1

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Artistic Editor

Paul Barrett

Artistic Editor

Carole Robinson

Manager

Brian Pridmore

Managing Editor

Ann Lyons

Editorial Advertising Manager

Colleen Paine

Artistic Advertising Manager

Robin Holloway

Scott Skelton

Editorial Advertising

Debra Bryant

Class Secretary

Ann Lyons

Amicus Specialist Publications Ltd.

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To advertise your latest products! Ring Colleen or Jerry on 01-437 9662 NOW!



Play this game on your Spectrum — just turn to page 17 and type in our listing.



You can do this with your BBC micro and printer. The listing on page 18 creates screens in shades of grey.



We review more software than any other magazine. In this issue we review paint (our stars) 16 products. Read before you buy...



This is a useful address book... so it will be once you've typed in the Spectrum listing which starts on page 34.



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1989

— ONLY AT THE NEW LOGIC FOUNDATION —

'Monopoly'

From front page

well as the other game, it's over." Whittington, which also produces Claudio, Topopoly, Saboteur, Artimation, games and playing cards, licensed Monopoly from the American company Parker Brothers.

There was plans to bring out software this year, said Mr Fitzhugh.

Mr Crocker, of Antenna, said more than 80 software houses had given cash or pledges at the Year Computer Show in December to help cover legal costs, which could amount to £9,000.

Mr Crocker said: "I say stop Go To Jail in a copyright audio

cassette on sale by mail order and a computer chips and a member of the public got hold of a large boxed game that contained a wrong. It enables the Spectrum to play the game, there is an unusual difference."

"If I was Whittington's world have brought out a computer game of Monopoly two years ago, or licensed someone to do it. There are 13 versions of a property trading game on the market at the moment."

Whittington has been pressed throughout the year to full bearing over the issue, due at the end of the month.

Mr Fitzhugh said: "We don't want to litigate people. We just want to be protected."

"When did the fellow get the idea? Where back on that one?" This is what the hearing is all about. If he's to please why doesn't he thank the two ones clear?"

Shops complain over Spectrums

Shops have complained that while they could not sell through Spectrums to meet demand, Sinclair Research has been selling them out the country at its Camberley distributor premises.

Shop-keeper Roymary Harris, of Look and See in Shipton, North Yorkshire, and personal customers had been buying down to the way to 30 miles to find shops with stocks.

She said: "I think it's an absolute disgrace. Apparently at Camberley you can buy in mass at you like and we're being turned away customers for stock waits."

"I would have thought they would have made sure there were enough for the retailers."

A Sinclair spokesman said: "It's perfectly true. We did hold back a block of stock against mail order sales."

"Many people are prepared to drive a long way — sometimes from Wales and Scotland — and when people drive that far you can't turn them away."

"We may have been getting 50-60 a day. We are talking about the low hundreds, we are not selling them in the thousands. It's just a little customer service."

In the three months to October 31 Sinclair had sold 100,000 computers, 90 per cent of them Spectrums. He said: "It's been quite extraordinary. Everybody has underperformed — retailers and manufacturers."

Adventure bar

From front page

got paid the help is to return at

But Amco's company secretary, Margaret Turner — mother of

Sir Clive's next micro

Sir Clive Sinclair's next computer will cost about £200 and use Motorola's 68000 16-bit processor.

The details come from an HCW source who is usually reliable. The new store, said to be due for launch in late spring, is also believed to have more RAM than any other home store now on the market and, as reported, two Microchips built in.

Screen resolution will be 256 by 512 with 16 alternatives per pixel. It is said that one of the UK's leading software houses is already working with a prototype.

If all the details are accurate, it means that Sinclair Research is turning its attention to the upper end of the home market — occupied by machines like the BBC micro and the Commodore 64.

founder Richard Turner — and the appeal by Smiths came as a surprise to her.

She said: "We didn't know anything about it. It's perfectly harmless. It's very unfair. We have had many letters of complaint about the program."

"As a certain point of you reply with a rude word you get a nasty response, but not with a swear word. Most people would get through the whole game without reaching this point."

In fact, the mad, at the point in the program the correct response would be to give the woman a string of beads and the beads over a knife's to be used kept in the program.

Flight fight

There's just 21 minutes to destroy the remaining three in CRL's new flight simulator for the real Spectrum. The Omega Run Writers by Richard Brantingham, editor of Galactic Patrol, a feature 10, lasers, 84k and re-banking from a tankers aircraft. The Omega Run costs £5.99 and Commodore 64 version is promised soon.

CRL, 7 Kings Road, Capeside Road, London E15 3AD

You could be on our pages

We welcome programs, articles and tips from our readers.

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 1,000 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 which we can put together with others. Your hints can aid other computer users.

Competitive rates are paid.

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

Paul Lipsett, Home Computing Weekly, No.1 Golden Square, London W1S 3EJ

Don't you believe it

Two of Britain's best-known software companies have gone head to head in a new venture — but first...

The details were kept secret until the dramatic announcement by Kenneth Thompson at a formal dinner at London's Hilton Hotel.

Leading figures from the industry found that Quixote's and Bug-Byte had formed a new venture called Quix-Byte.

Already, 200 orders were set to open in the UK — with more to many planned for the US — following a surge in orders at an experimental centre in Woking and field tests in Toronto and Yorkshire.

The event was also the occasion for an awards ceremony — and Home Computing Weekly and its editor each accepted an award.

It's too good... For 1 year... Each the best... The awards were well-staged affairs.

There's not a word of truth in the Quix-Bite announcement and all the "awards" were jokes.

The jokes were dropped up by Rod Conway, managing director of Quixote's, and Jeff Phelps, Quixote's sales manager.

All the ingredients were there, including well-timed comments and specially-designed menus featuring the "Quix-Bite" which turned out to be a fairly ordinary meat ball.

It appeared as though the software industry was alive with excitement that, perhaps, the two companies were about to merge or reach a firm distribution agreement.

But the laughs, here are the awards. But remember that all of them were awarded in a spirit of fun. Each of the "nominations" is given with the award written in bold type. The first two awards awarded privately.

Presented by the Press. An PC, to stimulate the software industry, to stimulate the software industry, to stimulate the software industry.

Presented by the Press. An PC, to stimulate the software industry, to stimulate the software industry, to stimulate the software industry.

Presented by the Press. An PC, to stimulate the software industry, to stimulate the software industry, to stimulate the software industry.

"Amiga" — although "Compucon for All" the job of Edward also located in office, Mike Computing Weekly, to be the best computer of the year. The award was given to the "Word Amiga" by John Miller, Microsoft's most popular program. Other winners of the year, chosen by computer users, were the "Word Amiga" and "Amiga" for software. The award was given to the "Word Amiga" by John Miller, Microsoft's most popular program. Other winners of the year, chosen by computer users, were the "Word Amiga" and "Amiga" for software.

All the awards, for 1984, were "Given" — like the firm industry's Dorian award that year were the team of Sir Clive Sinclair. The exception was the Quixote Club which was a gold-colored open mouth awarded on a plinth.

Paul Lipson



All the BBC interfaces you can get from DCP

About interface

If you want to get more out of your BBC micro, DCP has brought out a range of plug-in and plug-together units giving the ultimate interface you need for control and monitoring applications at home, school and work. The more interfaces you...

which costs £19.95, provides four relay outputs, four reed inputs, eight bit input, and output ports and an eight-channel analogue to digital converter. It costs twelve times power supply.

Add to play rate that are analogue-digital and digital-analogue converters for £19.95 each. DCP's 25 Station Close, Longwood, Norwich NR11 4EX.

Ad aggro

Advis Electronics, Oric, Decas, Commodore and Quixote's are just some of the companies to come under fire from the Advertising Standards Authority recently for misleading adverts.

The ASA was reacting to complaints from members of the public, and several of the complaints concerned that ad buyers — advertising goods that aren't actually available.

Advis found itself in hot water over the new electronic Puffer keyboard. It replied to its ad that the PDS was in stock and would be despatched within 30 days.

In fact, Advis had had trouble in getting hold of the keyboard over since it was first launched in March 1983. Puffer had repeatedly said that stocks would be available within 30 days to two weeks, but none had materialised.

The ASA told Advis that it should make it quite clear in its ads if a product was not immediately available.

Quixote's and Commodore were both criticised by the ASA for advertising goods that couldn't deliver — Quixote's for its Trader game and Commodore for its Pot-pot computer.

A member of the public disputed that claims made in a brochure for Oric, which has been the subject of those other...

complaints during the past year. The brochure claimed that the Oric recorded clock rates and could save data and errors, that 40 characters per line could be displayed, that the Oric communications system was available and British Telecom approved, and that the Oric user manual had "over 200 pages". The complainant read all these...

claims were untrue, and Oric didn't accept. It was told to send its ways in future brochures.

It was the Oric that got Quixote into trouble, too, over ads that said that the machine was "exclusive to Decas" and "at an amazing low low price" when it wasn't. Decas admitted that the ads were untrue, and promised not to run them again.



New voice for the VIC

AndOr Systems of Dublin has brought out a new speech synthesizer unit for the VIC-20 and Commodore 64, called the Comusack.

Like the Adman speech synthesizer for the VIC, the Comusack can be programmed using speech news coded alphabets, which can be built up to give an unlimited vocabulary — in theory, at least.

Unlike the Adman, a novel...

voice cartridge slot first by plugging into the expansion socket. Speech is channelled through the TP's speaker.

At £25, it's also cheaper than the Adman. It comes with a program manual, manual and six speech programs. A PC version is also available.

AndOr Systems, 28 Millers Lane, Roskilde, Dublin 14, Ireland.

£2,000-worth of RICHARD SHEPHERD adventure games must be won



Just find the missing link words and you could be among the 150 winners of great Richard Shepherd adventures.

We've got 12,000 words to give away for the Spies, Dragon II and Commodore II.

They are the top sellers. Tasty! Tasty! Tasty! Spies, Dragon II and Commodore II.

Fifty winners will each receive two copies and 100 winners will get one copy.

All are available for the Spectrum, Amstrad/Orion, Tandy and Super Spy are also available for the Dragon II and Sierra Award and Step of the Law are available for the Commodore II.

How to enter

There are 12 words in pairs of words

missing from the following story. Using the clues in the artwork, write the 12 words on a sheet of plain paper in the order in which they appear.

Attach the sheet to the fully completed coupon and envelope it in an envelope.

Impressively, write to the back of the envelope the number of letters beginning with the letter J.

Post your entry to Richard Shepherd competition, Home Computing Weekly, No 1 Chelsea Square, London W8 1AB.

Entries close at first post on Friday January 21.

The winners of each game will be notified first by e-mail and approved and 100 winners of our prize will be the next 100 names drawn.

Do not forget to name your choice of two adventures — along with the computer you own.

Winners of single copies will get the rest they wanted. But

Copies of the coupon will not be accepted. The address and the names of the winners will appear in the next volumes of Home Computing Weekly and the prizes will arrive from Richard Shepherd before noon within 24 days of the publication of that issue.

Cheques, mortgages and sheets of paper which are not fully completed will be discarded.

The rules

The first three winners of each game drawn at noon on Friday January 21 will win the prizes. Single completed and paper which are not fully completed will not be considered.

Prizes will not be awarded from winners of Alpha (Special) Edition Home Computing Weekly to Brian and Alexander Patterson & Sons. The winners also apply to members, families and agents of this company.

SUPER SPY

It was a dark and stormy night... The man in the trench coat... The woman in the dress... The man in the trench coat... The woman in the dress...

EVEREST ASCENT

Everest is the highest mountain in the world... The climber... The mountain... The climber... The mountain...

Transylvanian Tower

A collection of 100 words... The tower... The castle... The tower... The castle...

INVINCIBLE ISLAND

The ship... The treasure map... The island... The ship... The treasure map...

One there, Super Spy is remembered as the bottom story we don't like old adversary _____ He boards the waiting _____ and boards for the mysterious inevitable island the only clues are on the _____ of Koro which leads him to the _____ near the _____ Our hero starts up the ice adversary ready to pounce _____ Crash! Boom! the ground shakes as the _____ and sends a cloud of smoke into the air. Dr Death senses the danger and reaches down the secret path. Two months later our hero is still on the trail. This time on the hazardous slopes of Mt _____ Dr Death has an up to _____ to capture his evil work protected by the defenses _____ Super Spy has to _____ up the mountain with his team of _____ and a surprising distance who can stop on a patch of _____ and falls down a _____ of _____ at the base of Transylvanian Tower. He feels a prodding in his back and as he turns over to face the water. "Come on John it's night o'clock and you'll be late", says his mother. It seems our hero has invented and our story has just been an "Adventure into Imagination".

Richard Shepherd competition
Entry Coupon

Name _____

Address _____

_____ post code _____

Prizes I would like to see: the computer they ran on: _____

1. _____

2. _____

Write this 12 words on a sheet of paper in the order in which they appear and attach it to the coupon. Post to Richard Shepherd competition, Home Computing Weekly, No 1 Chelsea Square, London W8 1AB. Closing date: Friday January 21. Do not forget to write on the back of the envelope the number of letters beginning with the letter J.

H·U·R·O

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N.O.W...

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WONDERFULLY — H.U.R.G. will help you through a series of easy to follow prompts, ending in the creation of a game that is as wild as your imagination.

REAL TIME — You can see exactly what you're creating at all times. Every game has hundreds of variations, and you can change its features at any time. You can speed up the action, change the size of the characters, individual traits, make more enemies — it's all up to you, and you can see it all on-screen, every minute.

Quickly Mastered — H.U.R.G. enables you to design, edit, store the game, your choice, on cassette, and play them later using H.U.R.G. as the reading program. It's that easy — create your own new life!

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

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To really fire your imagination, H.U.R.G. includes three ready-to-play features that sound games, created using H.U.R.G.

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Each month up until April 30 1984, three prizes will be awarded every month for the best game of the month. At the end, the best game will win a grand prize of £3,000.

YOU could be a famous game designer! Every entrant has the opportunity of being published by Melbourne House and earning royalties.

Details of the competition are available with H.U.R.G.

COMPETITION

SEE SPECTRUM Cassette

H.U.R.G.	£174
The Hobbit	£174
Panorama	£8
Tanzer-Duress 40	£8
Melbourne House Computer Bridge	£18
Abernath Path	£14

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Please add postage for all paper orders

£

£

TOTAL £

I enclose my cheque money order for £

Please debit my Access card/no

Expiry Date Signature

Name

Address

Postcode

H.U.R.G. will be officially released in mid-December 1983. Get your order in now, receive your copy so that you can be among the first with this revolutionary software! Access orders can be telephoned through 24-hour 24-hour operators (01) 534 1287

Melbourne House

A change of scene

New Ideas department: our review panel rates a crop of original action games

Sir Slurp-A-Lot TI-99/4A £4.95

Chromatix Computers, 4 Theodosia Close, Westford, Herts.

As the title of the Slurp-A-Lot game, don't be deceived: there's nothing in this game.

The screen displays a grid, on top of which appear areas of horizontal which appear as lines in four different colours. As the computer alternates between the four colours, the player's job is to press the correct key to win the colour.

When playing you select the time limit, from 45 seconds to three minutes, for which you are prepared to lose the Slurp-A-Lot through the game, anything the winner stands to be paid.

100 movements may be ac-

commodated either the score key or a joystick.

The controls provided, here also, is probably interrupted by the random positions via the joystick available through the game display and resulting games.

It exerts a pleasing influence on Sir Slurp-A-Lot who appears to be programmed to wander the screen randomly and randomly.

Should you ever think that you will be bored playing in four colours, the game still has a lot to offer and a well thought out feature set. There is also a challenge to your performance — or is it your level of concentration? **AW**

entertainment	95%
playability	90%
graphics	80%
value for money	75%

★★★★

Outback VIC-20 £5.50

Premiere Software, 21 Waterloo Lane, Swanton, Cleveland

This is not just a remake of a popular arcade game, it's more like a new take on it.

The game takes the player on a journey to the belly of a crocodile. The player's job is to avoid the crocodile's teeth while the crocodile moves towards the player. The player's job is to avoid the crocodile's teeth while the crocodile moves towards the player.

The game is a remake of a popular arcade game, it's more like a new take on it.

The game is a remake of a popular arcade game, it's more like a new take on it.

The game is a remake of a popular arcade game, it's more like a new take on it.

randomly appearing has a lot to offer. The player's job is to avoid the crocodile's teeth while the crocodile moves towards the player.

The graphics are top notch, the controls are good, and the game is a challenge to your performance. The game is a remake of a popular arcade game, it's more like a new take on it.

The game is a remake of a popular arcade game, it's more like a new take on it.

The game is a remake of a popular arcade game, it's more like a new take on it.

The game is a remake of a popular arcade game, it's more like a new take on it.

entertainment	90%
playability	85%
graphics	75%
value for money	70%

★★★★

Ugh! Oregon 52 £7.95

Softex, 32711 Halesworth St, Carroll Gardens, London

This is an original and laddy original action game with an excellent story line.

You are Ugh! a cowboy who decides to try and save the world by taking some Phosphor eggs.

All you need to do is to get off the ground and start to drop down. The game is a challenge to your performance.

The game is a challenge to your performance.

The game is a challenge to your performance.

only a few great in action game!

The screen appearance is very pleasant and well designed, including special effects.

The screen appearance is very pleasant and well designed, including special effects.

The screen appearance is very pleasant and well designed, including special effects.

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The screen appearance is very pleasant and well designed, including special effects.

Get it down in black and white — and grey

The screen dump program for the BBC micro plus NEC-8023 printer goes one better than the usual black-and-white screen dump — it dumps the screen in four shades: Truest and black, dark grey, light grey and white.

The program does this by looking at each pixel on the screen in turn, and deciding what the logical colour is from the displayed colour, so forcing those who hate printers using VGA 256

This isn't just any old screen dump program. It'll make your printer copy the display in shades of grey, as its author Russel Calbert explains

An example of the screen dump program's output

Main variables

- 1% line of screen being output
- 1% pixel of 1% being output
- 1% horizontal position of byte being output
- 1% line type of pixel
- 1% second type of pixel

To get the different shades, the printer head has to move twice across the paper. Thus, the fact that each pixel has to be calculated, means that a SCREEN 1 screen dump can take upwards of 10 minutes.

In writing the program in machine code will speed it up, but I write it in BASIC, so that it could be easily converted for other printers.



How it works

- 0000 enter graphics mode to force on left column, enable bit to be printed anywhere
- 0001 move graphics cursor off screen to anything printed should affect printer
- 0002 enable printer and output line
- 0003 with line spacing on printer so the 144 cells on 60 spaces between lines
- 0004 wrap down the screen 32 lines
- 0005 move graphics cursor off screen
- 0010 enter the image printer mode on printer, and tell it to receive the bytes of information from the top line of graphics
- 0011 wrap through horizontal resolution
- 0012-0019 read half of the first and output all that goes to printer. Note: to change the number in line 0012-0019 you can change what shade is output for the colour of the pixel
- 0020 output 1% of 1% in printer to end of each horizontal line
- 0021 move printer line spacing on 1% each and double printer

```

10 SCREEN 1
20 GOTO 100
30 PRINT "SCREEN DUMP PROGRAM"
40 PRINT "BY RUSSEL CALBERT"
50 PRINT "VERSION 1.0"
60 PRINT "1988"
70 PRINT "1% LINE OF SCREEN BEING OUTPUT"
80 PRINT "1% PIXEL OF 1% BEING OUTPUT"
90 PRINT "1% HORIZONTAL POSITION OF BYTE BEING OUTPUT"
100 PRINT "1% LINE TYPE OF PIXEL"
110 PRINT "1% SECOND TYPE OF PIXEL"
120 PRINT "1% LINE OF SCREEN BEING OUTPUT"
130 PRINT "1% PIXEL OF 1% BEING OUTPUT"
140 PRINT "1% HORIZONTAL POSITION OF BYTE BEING OUTPUT"
150 PRINT "1% LINE TYPE OF PIXEL"
160 PRINT "1% SECOND TYPE OF PIXEL"
170 PRINT "1% LINE OF SCREEN BEING OUTPUT"
180 PRINT "1% PIXEL OF 1% BEING OUTPUT"
190 PRINT "1% HORIZONTAL POSITION OF BYTE BEING OUTPUT"
200 PRINT "1% LINE TYPE OF PIXEL"
210 PRINT "1% SECOND TYPE OF PIXEL"
220 PRINT "1% LINE OF SCREEN BEING OUTPUT"
230 PRINT "1% PIXEL OF 1% BEING OUTPUT"
240 PRINT "1% HORIZONTAL POSITION OF BYTE BEING OUTPUT"
250 PRINT "1% LINE TYPE OF PIXEL"
260 PRINT "1% SECOND TYPE OF PIXEL"
270 PRINT "1% LINE OF SCREEN BEING OUTPUT"
280 PRINT "1% PIXEL OF 1% BEING OUTPUT"
290 PRINT "1% HORIZONTAL POSITION OF BYTE BEING OUTPUT"
300 PRINT "1% LINE TYPE OF PIXEL"
310 PRINT "1% SECOND TYPE OF PIXEL"
320 PRINT "1% LINE OF SCREEN BEING OUTPUT"
330 PRINT "1% PIXEL OF 1% BEING OUTPUT"
340 PRINT "1% HORIZONTAL POSITION OF BYTE BEING OUTPUT"
350 PRINT "1% LINE TYPE OF PIXEL"
360 PRINT "1% SECOND TYPE OF PIXEL"
370 PRINT "1% LINE OF SCREEN BEING OUTPUT"
380 PRINT "1% PIXEL OF 1% BEING OUTPUT"
390 PRINT "1% HORIZONTAL POSITION OF BYTE BEING OUTPUT"
400 PRINT "1% LINE TYPE OF PIXEL"
410 PRINT "1% SECOND TYPE OF PIXEL"
420 PRINT "1% LINE OF SCREEN BEING OUTPUT"
430 PRINT "1% PIXEL OF 1% BEING OUTPUT"
440 PRINT "1% HORIZONTAL POSITION OF BYTE BEING OUTPUT"
450 PRINT "1% LINE TYPE OF PIXEL"
460 PRINT "1% SECOND TYPE OF PIXEL"
470 PRINT "1% LINE OF SCREEN BEING OUTPUT"
480 PRINT "1% PIXEL OF 1% BEING OUTPUT"
490 PRINT "1% HORIZONTAL POSITION OF BYTE BEING OUTPUT"
500 PRINT "1% LINE TYPE OF PIXEL"
510 PRINT "1% SECOND TYPE OF PIXEL"
520 PRINT "1% LINE OF SCREEN BEING OUTPUT"
530 PRINT "1% PIXEL OF 1% BEING OUTPUT"
540 PRINT "1% HORIZONTAL POSITION OF BYTE BEING OUTPUT"
550 PRINT "1% LINE TYPE OF PIXEL"
560 PRINT "1% SECOND TYPE OF PIXEL"
570 PRINT "1% LINE OF SCREEN BEING OUTPUT"
580 PRINT "1% PIXEL OF 1% BEING OUTPUT"
590 PRINT "1% HORIZONTAL POSITION OF BYTE BEING OUTPUT"
600 PRINT "1% LINE TYPE OF PIXEL"
610 PRINT "1% SECOND TYPE OF PIXEL"
620 PRINT "1% LINE OF SCREEN BEING OUTPUT"
630 PRINT "1% PIXEL OF 1% BEING OUTPUT"
640 PRINT "1% HORIZONTAL POSITION OF BYTE BEING OUTPUT"
650 PRINT "1% LINE TYPE OF PIXEL"
660 PRINT "1% SECOND TYPE OF PIXEL"
670 PRINT "1% LINE OF SCREEN BEING OUTPUT"
680 PRINT "1% PIXEL OF 1% BEING OUTPUT"
690 PRINT "1% HORIZONTAL POSITION OF BYTE BEING OUTPUT"
700 PRINT "1% LINE TYPE OF PIXEL"
710 PRINT "1% SECOND TYPE OF PIXEL"
720 PRINT "1% LINE OF SCREEN BEING OUTPUT"
730 PRINT "1% PIXEL OF 1% BEING OUTPUT"
740 PRINT "1% HORIZONTAL POSITION OF BYTE BEING OUTPUT"
750 PRINT "1% LINE TYPE OF PIXEL"
760 PRINT "1% SECOND TYPE OF PIXEL"
770 PRINT "1% LINE OF SCREEN BEING OUTPUT"
780 PRINT "1% PIXEL OF 1% BEING OUTPUT"
790 PRINT "1% HORIZONTAL POSITION OF BYTE BEING OUTPUT"
800 PRINT "1% LINE TYPE OF PIXEL"
810 PRINT "1% SECOND TYPE OF PIXEL"
820 PRINT "1% LINE OF SCREEN BEING OUTPUT"
830 PRINT "1% PIXEL OF 1% BEING OUTPUT"
840 PRINT "1% HORIZONTAL POSITION OF BYTE BEING OUTPUT"
850 PRINT "1% LINE TYPE OF PIXEL"
860 PRINT "1% SECOND TYPE OF PIXEL"
870 PRINT "1% LINE OF SCREEN BEING OUTPUT"
880 PRINT "1% PIXEL OF 1% BEING OUTPUT"
890 PRINT "1% HORIZONTAL POSITION OF BYTE BEING OUTPUT"
900 PRINT "1% LINE TYPE OF PIXEL"
910 PRINT "1% SECOND TYPE OF PIXEL"
920 PRINT "1% LINE OF SCREEN BEING OUTPUT"
930 PRINT "1% PIXEL OF 1% BEING OUTPUT"
940 PRINT "1% HORIZONTAL POSITION OF BYTE BEING OUTPUT"
950 PRINT "1% LINE TYPE OF PIXEL"
960 PRINT "1% SECOND TYPE OF PIXEL"
970 PRINT "1% LINE OF SCREEN BEING OUTPUT"
980 PRINT "1% PIXEL OF 1% BEING OUTPUT"
990 PRINT "1% HORIZONTAL POSITION OF BYTE BEING OUTPUT"

```

```

1000 PRINT "1% LINE OF SCREEN BEING OUTPUT"
1010 PRINT "1% PIXEL OF 1% BEING OUTPUT"
1020 PRINT "1% HORIZONTAL POSITION OF BYTE BEING OUTPUT"
1030 PRINT "1% LINE TYPE OF PIXEL"
1040 PRINT "1% SECOND TYPE OF PIXEL"
1050 PRINT "1% LINE OF SCREEN BEING OUTPUT"
1060 PRINT "1% PIXEL OF 1% BEING OUTPUT"
1070 PRINT "1% HORIZONTAL POSITION OF BYTE BEING OUTPUT"
1080 PRINT "1% LINE TYPE OF PIXEL"
1090 PRINT "1% SECOND TYPE OF PIXEL"
1100 PRINT "1% LINE OF SCREEN BEING OUTPUT"
1110 PRINT "1% PIXEL OF 1% BEING OUTPUT"
1120 PRINT "1% HORIZONTAL POSITION OF BYTE BEING OUTPUT"
1130 PRINT "1% LINE TYPE OF PIXEL"
1140 PRINT "1% SECOND TYPE OF PIXEL"
1150 PRINT "1% LINE OF SCREEN BEING OUTPUT"
1160 PRINT "1% PIXEL OF 1% BEING OUTPUT"
1170 PRINT "1% HORIZONTAL POSITION OF BYTE BEING OUTPUT"
1180 PRINT "1% LINE TYPE OF PIXEL"
1190 PRINT "1% SECOND TYPE OF PIXEL"
1200 PRINT "1% LINE OF SCREEN BEING OUTPUT"
1210 PRINT "1% PIXEL OF 1% BEING OUTPUT"
1220 PRINT "1% HORIZONTAL POSITION OF BYTE BEING OUTPUT"
1230 PRINT "1% LINE TYPE OF PIXEL"
1240 PRINT "1% SECOND TYPE OF PIXEL"
1250 PRINT "1% LINE OF SCREEN BEING OUTPUT"
1260 PRINT "1% PIXEL OF 1% BEING OUTPUT"
1270 PRINT "1% HORIZONTAL POSITION OF BYTE BEING OUTPUT"
1280 PRINT "1% LINE TYPE OF PIXEL"
1290 PRINT "1% SECOND TYPE OF PIXEL"
1300 PRINT "1% LINE OF SCREEN BEING OUTPUT"
1310 PRINT "1% PIXEL OF 1% BEING OUTPUT"
1320 PRINT "1% HORIZONTAL POSITION OF BYTE BEING OUTPUT"
1330 PRINT "1% LINE TYPE OF PIXEL"
1340 PRINT "1% SECOND TYPE OF PIXEL"
1350 PRINT "1% LINE OF SCREEN BEING OUTPUT"
1360 PRINT "1% PIXEL OF 1% BEING OUTPUT"
1370 PRINT "1% HORIZONTAL POSITION OF BYTE BEING OUTPUT"
1380 PRINT "1% LINE TYPE OF PIXEL"
1390 PRINT "1% SECOND TYPE OF PIXEL"
1400 PRINT "1% LINE OF SCREEN BEING OUTPUT"
1410 PRINT "1% PIXEL OF 1% BEING OUTPUT"
1420 PRINT "1% HORIZONTAL POSITION OF BYTE BEING OUTPUT"
1430 PRINT "1% LINE TYPE OF PIXEL"
1440 PRINT "1% SECOND TYPE OF PIXEL"
1450 PRINT "1% LINE OF SCREEN BEING OUTPUT"
1460 PRINT "1% PIXEL OF 1% BEING OUTPUT"
1470 PRINT "1% HORIZONTAL POSITION OF BYTE BEING OUTPUT"
1480 PRINT "1% LINE TYPE OF PIXEL"
1490 PRINT "1% SECOND TYPE OF PIXEL"
1500 PRINT "1% LINE OF SCREEN BEING OUTPUT"
1510 PRINT "1% PIXEL OF 1% BEING OUTPUT"
1520 PRINT "1% HORIZONTAL POSITION OF BYTE BEING OUTPUT"
1530 PRINT "1% LINE TYPE OF PIXEL"
1540 PRINT "1% SECOND TYPE OF PIXEL"
1550 PRINT "1% LINE OF SCREEN BEING OUTPUT"
1560 PRINT "1% PIXEL OF 1% BEING OUTPUT"
1570 PRINT "1% HORIZONTAL POSITION OF BYTE BEING OUTPUT"
1580 PRINT "1% LINE TYPE OF PIXEL"
1590 PRINT "1% SECOND TYPE OF PIXEL"
1600 PRINT "1% LINE OF SCREEN BEING OUTPUT"
1610 PRINT "1% PIXEL OF 1% BEING OUTPUT"
1620 PRINT "1% HORIZONTAL POSITION OF BYTE BEING OUTPUT"
1630 PRINT "1% LINE TYPE OF PIXEL"
1640 PRINT "1% SECOND TYPE OF PIXEL"
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1670 PRINT "1% HORIZONTAL POSITION OF BYTE BEING OUTPUT"
1680 PRINT "1% LINE TYPE OF PIXEL"
1690 PRINT "1% SECOND TYPE OF PIXEL"
1700 PRINT "1% LINE OF SCREEN BEING OUTPUT"
1710 PRINT "1% PIXEL OF 1% BEING OUTPUT"
1720 PRINT "1% HORIZONTAL POSITION OF BYTE BEING OUTPUT"
1730 PRINT "1% LINE TYPE OF PIXEL"
1740 PRINT "1% SECOND TYPE OF PIXEL"
1750 PRINT "1% LINE OF SCREEN BEING OUTPUT"
1760 PRINT "1% PIXEL OF 1% BEING OUTPUT"
1770 PRINT "1% HORIZONTAL POSITION OF BYTE BEING OUTPUT"
1780 PRINT "1% LINE TYPE OF PIXEL"
1790 PRINT "1% SECOND TYPE OF PIXEL"
1800 PRINT "1% LINE OF SCREEN BEING OUTPUT"
1810 PRINT "1% PIXEL OF 1% BEING OUTPUT"
1820 PRINT "1% HORIZONTAL POSITION OF BYTE BEING OUTPUT"
1830 PRINT "1% LINE TYPE OF PIXEL"
1840 PRINT "1% SECOND TYPE OF PIXEL"
1850 PRINT "1% LINE OF SCREEN BEING OUTPUT"
1860 PRINT "1% PIXEL OF 1% BEING OUTPUT"
1870 PRINT "1% HORIZONTAL POSITION OF BYTE BEING OUTPUT"
1880 PRINT "1% LINE TYPE OF PIXEL"
1890 PRINT "1% SECOND TYPE OF PIXEL"
1900 PRINT "1% LINE OF SCREEN BEING OUTPUT"
1910 PRINT "1% PIXEL OF 1% BEING OUTPUT"
1920 PRINT "1% HORIZONTAL POSITION OF BYTE BEING OUTPUT"
1930 PRINT "1% LINE TYPE OF PIXEL"
1940 PRINT "1% SECOND TYPE OF PIXEL"
1950 PRINT "1% LINE OF SCREEN BEING OUTPUT"
1960 PRINT "1% PIXEL OF 1% BEING OUTPUT"
1970 PRINT "1% HORIZONTAL POSITION OF BYTE BEING OUTPUT"
1980 PRINT "1% LINE TYPE OF PIXEL"
1990 PRINT "1% SECOND TYPE OF PIXEL"

```

The Towers of Hanoi revisited

Here's how Don Thomasson solved a fascinating old puzzle on his Spectrum. Try it for yourself and see

The Towers of Hanoi is an old problem, involving a number of discs of different sizes which may be arranged in three piles.

No disc may be put on top of a disc smaller than itself. The problem is to start with all the discs on pile one and transfer them to pile three.

Academic analysis of these problems has suggested a need for a recursive process, a substantive which calls itself, for example. Impassioned methods have been proposed, but they are difficult to explain or justify logically. The target here is to avoid these extremes.

The program was adapted from a Fortran version, so it has a clear modular structure. The main subroutine decomposes moves, and then calls three subroutines. Subroutine 1000 puts up the file display, 1200 introduces the screen, and 2000 moves the disc.

Two arrays are used. A(1) is used as a 'stack' to hold data defining pre-calculated moves. A(2), (3) holds the number of the disc to be moved, A(4), (5) holds the number of the pile from which it is to be taken, and A(6), (7) holds the number of the destination pile. The array P(1) holds the number of discs on each pile.

Subroutine 1200 asks how many discs are required, and sets up the system accordingly. Up to 12 discs can be handled, but it should be noted that every extra disc doubles the time taken to perform the moves. All 12 will give you something interesting to look at for about 40 minutes.

The 'track pointer' SP is set to 1, the base line is drawn in, then subroutine 1800 draws the discs on pile 1, using subroutine 1600 to draw each disc. This subroutine is also called by subroutine 2000 to rub discs out and to erase them in a fresh place, as it works as OVER mode.

Suppose the initial stack entry is 4, 1, 3, meaning that four discs are to be moved from pile 1 to pile 3. Before the disc can be moved, the first three discs must be on

pile 1, so the move 3, 1, 3 is needed. To allow that, the first two discs must be on pile 1. To allow that, the first disc must be on pile 1.

Thomasson's are worked out by subroutine 2000, which creates new 'stack' entries from the previous stack entry. It does so by decomposing the disc number, copying the number of the source pile, and making the destination pile the way not provided in the previous move. Some of the pile numbers add up to 4, the destination pile can be found by subtracting the pile numbers in the previous entry from 6.

The first two moves are straightforward. Disc 1 goes on pile 1 and disc 2 on pile 2. We now need to move disc 3 to pile 3.

As the previous move did not involve disc 1, subroutine 2000 is called. This looks at the last move, decomposes the disc number, finds the destination pile (subroutine), and makes the space pile the one not used last time. Note that this modifies a lot of stack entries, rather than adding an entry.



As the new move involves disc 1, we carry it out, and then move disc 3 to pile 3. Subroutine 2000 then works out the moves needed to put the first two discs on to disc 3. And so on.

Most of the time taken to enter the discs is taken up by the drawing and erasing function. If you were faster across, you might try another way of doing this, perhaps by using block graphics, though that would probably limit the number of discs.

Even as intended, moves are not really quick to type, and if you want to see what is happening more clearly, you may like to put in a delay at the end of subroutine 2000.



```

1000 DIM TOWER$(30),DISC$(12)
1010 FOR I=1 TO 12:DISC$(I)=I:GOTO 1020
1020 GO SUB 1030
1030 GO SUB 1040
1040 GO TO 100
1050 REM *****TITLE
1060 PRINT AT 20,0,"THE TOWERS O
1070 GOTO 1
1080 PRINT AT 20,0,"THE TOWERS O
1090 GOTO 1
1100 PRINT AT 20,7,"HOW MANY DIS
1110 GOTO 1
1120 REM *****
1130 SP H:ID ON H:SD THEN PRINT AT
1140 G,TRV,50,5,"PUSH
1150 GO TO 1000
1160 LET P(1)=4:LET P(2)=0:LET
1170 P(3)=0
1180 LET N(1,1)=4:LET N(1,2)=0
1190 LET N(1,3)=1:LET N(1,4)=0
1200 PRINT AT 20,0,"
1210 GO SUB 1220:GOTO 2000:REM
1220 REM *****
1230 REM *****
1240 REM *****
1250 REM *****
1260 REM *****
1270 REM *****
1280 REM *****
1290 REM *****
1300 REM *****
1310 REM *****
1320 REM *****
1330 REM *****
1340 REM *****
1350 REM *****
1360 REM *****
1370 REM *****
1380 REM *****
1390 REM *****
1400 REM *****
1410 REM *****
1420 REM *****
1430 REM *****
1440 REM *****
1450 REM *****
1460 REM *****
1470 REM *****
1480 REM *****
1490 REM *****
1500 REM *****
1510 REM *****
1520 REM *****
1530 REM *****
1540 REM *****
1550 REM *****
1560 REM *****
1570 REM *****
1580 REM *****
1590 REM *****
1600 REM *****
1610 REM *****
1620 REM *****
1630 REM *****
1640 REM *****
1650 REM *****
1660 REM *****
1670 REM *****
1680 REM *****
1690 REM *****
1700 REM *****
1710 REM *****
1720 REM *****
1730 REM *****
1740 REM *****
1750 REM *****
1760 REM *****
1770 REM *****
1780 REM *****
1790 REM *****
1800 REM *****
1810 REM *****
1820 REM *****
1830 REM *****
1840 REM *****
1850 REM *****
1860 REM *****
1870 REM *****
1880 REM *****
1890 REM *****
1900 REM *****
1910 REM *****
1920 REM *****
1930 REM *****
1940 REM *****
1950 REM *****
1960 REM *****
1970 REM *****
1980 REM *****
1990 REM *****
2000 RETURN

```

Unlike most other popular home computers, the BBC micro does not have a CIRCLE command in its BASIC interpreter. However, with a little knowledge of trigonometry, it's very easy to produce circles, ellipses or even polygons, in a variety of plotting styles.

My first program shows the basic method used to produce a circle.

The program requests input for the radius and the number of sides for the shape. It then calculates an X,Y co-ordinate for each point around the circumference of the circle using SIN and COS functions.

Because computers work in radians, line 90 is used to convert degrees to radians.

Experiment with Program One using different values for radius and step. Note that a lower step value produces a more accurate circle, while a higher step value produces a less accurate circle but at a much faster speed.

The program uses a plot off function to plot individual dots

Make magic circles on your micro

The lack of a CIRCLE command is no barrier to drawing circles, ellipses or other shapes on your BBC, as Geoff Turner explains

around the circle. However, a draw function could be used to produce a continuous circumference.

Having mastered the basic technique, you can then enhance Program One to produce a variety of different shapes. Using

a value of 120 for the step would produce a three-sided shape or triangle, or a value of 72 would produce a pentagon.

Instead of using a fixed radius, we can use a length and width to produce elliptical shapes.

And using some of the array

plotting functions available on the Beas will produce a variety of different effects. Plot 10 can be used to produce filled-in circles, for example.

My second program uses several random values to produce an ever-changing pattern of different coloured shapes, all based on the method used in Program One.

Note that initially the X,Y co-ordinates are calculated and stored in an array. This speeds up the program considerably as there's no need to calculate the values for every shape plotted.

The program produces an on-screen demonstration of the Beas's excellent graphics facilities.

Program 2 — main variables

X(0),Y(0) X and Y co-ordinates

R for each digit

A & B generated 4,800 pattern

R size from 100

W length of shape

H a width of shape

N number of sides

Some of the shapes you can draw



Program 1

```
10 REM PROGRAM 1
20 REM CIRCLES
30 CLS
40 INPUT "RADIUS 100 TO 500 ",radius
50 INPUT "STEP FACTOR",step
60 MODE 2
70 FOR D=0 TO 360 STEP step
80 R=RND(D)
90 X=radius#SIN(R)
100 Y=radius#COS(R)
110 PLOT 69, X+600, Y+500
120 NEXT
```

Program 2

```
10 REM PROGRAM 2
20 REM RANDOM PATTERNS
30 REM #####
40 REM CALCULATE BY CO-ORDINATES
50 DIM X(261),Y(261)
60 FOR I=0 TO 360
70 R=RND(I)
80 X(I)=SIN(R)
90 Y(I)=COS(R)
100 NEXT
110 REM #####
120 REM DRAW RANDOM PATTERNS
```


Assembler Moth TI-99/4A £8

Edul Software, from Sanyo
Infinite, 10 Atlantic Road,
Stockport

This rather expensive program attempts the considerably useful task of replacing the well-used Assembler language programmer to machine involving operation between numbering system — specifically binary, decimal and hexadecimal — and also binary addresses and instructions.

However, although the documentation is good, a poor manual tend to obscure a little more knowledge on the part of the user than might normally be the case.

Over all *Mothers Comprehension* seems like a pleasant and the overall practical for use somewhat.

leaves a lot to be desired as times. It is probably that all of the characters could have been put forward equally easily using period and space, the program does not do this much to warrant its high price tag.

A drawback about programs with no explanation is given as well as the basic program, which may do a little way to reducing cost of the inevitable re-buys.

As it has been written in TI BASIC, it is possible to copy the program, least — probably somewhat in increments of three — and there are some other examples of usefulness out of the box that are available.

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



Copy Cat TI-99/4A £3.99

Devised Software, 10 Walk
Street, Haslemere, Wokingham,
Lancs

Copy Cat is a Russian type game but up to four players. It has two parts — the Russian language and the English version.

The screen displays for letters of four differently coloured sets, each is described from dot to line. The next set to change is shown appears to make its face "float up" and it now scurries. You have the option of playing with both sound and colour, or sound or colour alone.

In *Copy Cat*, the correct number of the dot making the word and/or changing colour must be input to register as possible. The time is added to the

time if referred to the still level.

For such successful response games are rare.

For the *Copy Cat* version, gains the best chance reply, but the time you also remember the response to which the next set is activated, is a simple reply format and that required to be typed and you eventually get a wrong.

I failed to feel enthusiastic about this computer version and find it hard to believe that the youngsters for whom it is intended would enjoy it.

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



Lost 48K Spectrum £3.95

Virgin Games, 44 Portobello
Road, W11

The aim is to obtain a map which will reveal the woods and mountains, and have to make walking with only five days food and water.

The story line presents information about the author and the *Virgin Games Group*.

Leading producer the *Teledy* *Robert Flynn*, whose credits include *Avatar* and *Star Wars*, we see in the intro.

A minor map always up to see instructions. But every though which you want to register that is additional.

Your progress is affected by the *LOST* instructions and the

possibly heavy weather which seems to affect the aim.

After every few minutes the map seems to show a small thing and a successful weather play. There show up the game screen. There show up the game screen. There show up the game screen.

Cold weather turns the land water white with snow, and when snow melts the water goes to blue. There is a small map which is the actual map. There is a small map which is the actual map. There is a small map which is the actual map.

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



Brain-twisting bytes

Our reviewers pitted their wits against a selection of programs for the thinking micro user

Searchword Dragon 32 £3.95

Dragonair Software, 16/17
Pond Lane, London

This program seems to have generated a lot of interest. Dragonair have produced a game you can play to go ahead, even if you are not a word expert. How you have the chance to do the same thing on screen.

The most attractive aspect of this program is the packaging, which demonstrates a lot better than the contents.

The entire game comprises six stages, giving you the chance to win and lose games, plus instructions how fully and make the letter grid.

One of the screen offers a

program of the letter grid and list of words to be a given group, that is fully produced the list of words to be used.

Over you have three years words, the computer sets out a new 10x10 letter grid and you have to find words which you know the word. The program is simple for the 10x10 grid followed by the directions.

The letter grid is produced by the program and which sets the words to be found. The words to be found are a grid of 10x10. This would really have to be very long as it is possible to find a

instructions	90%
playability	80%
value for money	70%



The Quest for the Holy Grail £2 K BBC £7.95

Brit. 18 Glassboro Street,
Elsworth Woodhouse, Leicester

"Do you wish to be a Knight?"
"Holy Grail" — King to you
— providing all the usual details.

"What is the Holy Grail?"
"What does a Knight receive?" (2)
to you?

The game played perfectly and played well against the computer to good effect. With over 100 locations there is quite a lot to discover and many benefits to everyone.

The first two chapters you are likely to run into on the first and the third chapter. Some chapters are literally, some not so — it is up to you to discover which.

The game can be saved to disk.

but details to the TAPL. King

action where saving a game. He may not be too to look at

and to have you must try to find

distances — just to see if there's

anything there — and on some you

kill this is not.

The adventure can be stopped

while before that, although several

adventure seems to be a game in

control area.

You can gain a few hundred

words to use and have you can

own. The game and type of

problems it poses are by now

fairly standard — not necessarily

problematic, but very enjoyable

for all ages.

★★★

instructions	90%
playability	80%
graphics	5%
value for money	60%



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The key replacement principle patented by AQF means that your own programs can use eight directional joystick movement by setting simple key coding BASIC.

Two joystick models are provided which share the same base, but use only one joystick of two player games. Several interfaces may be used on the same computer for multiple joystick applications.

The interface is programmed by a two digit code, which is fitted on a programing sheet supplied, and sets a window and flag function. The two numbers are then placed on a pair of links which are slipped into appropriately numbered slots on the interface.

Once configured this can be worked on a Quick Reference Programming Card for starting with the game. As the programming is not power dependent the interface retains the last configuration made and can be immediately used when next installed on.



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- Programmable design gives TOTAL software support.
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- Test direct program and instructions.

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- One pack of one Quick Reference Programming Card for start-up setting in your games requirements. The card allows you to make the configuration in an easy to read format with space to record the software title and company name.
- Video Cassette demonstrating program which is suitable for use on ZX81 or Spectrum for all right direction and fire use in real time. This is also a useful high resolution drawing program.
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Fruit Machine T1-99/4A £4.95

Charming Computing, 4 Wilshire Close, Watford, Herts

Fruit machine programs are like a job for anybody really capable of understanding a bit of code to grip and build the player's addiction.

They are so simple that the most casual gamer with a program as a perfect distraction can

They remove, also, but only moderately good graphics, no documentation, and a little on-screen instruction.

You need to be a beginner or a Heron to understand some of the screens. (Just for fun) usually means that you should probably start by watching 1, 2, and 3 for studying by reading between the lines. (Tech 1 2 3)

You start by choosing an initial value of up to 999 coins. Try entering 433 and it will be there as fast as you wish a happy 100 machine only accepts 100 coins? Why you won't add this to the top price is beyond me.

There is consistency of a Cash 23 here instead of pounds and fruit machines that the game won't appeal to you, and if you don't substitute a value of 100 coins to progress won't limit your income 800-900.

graphics	2%
playability	40%
graphics	45%
value for money	10%

★ ★

Super Fruits 32K BBC £8.95

48 tracks, Shire Hill Industrial Estate, Salford, Wiltshire, Bath

This game gives you the exact money to play fruit machines for as long as you like without having to feed the machine with money. (I assume, the most drawback is that you won't win any money from the machine, but you can't lose it all way, can you?)

The program is a good simulation of a fruit machine with all the usual features such as 'hold', 'single' and 'double or less'.

Graphics are the updating wheels and symbols, with very natural sounds. Sound effects are quite pleasant, with the ability to switch them off if required.

The controls are well placed and easy to use. But that last one

seems long where it appears that the keyboard/button never finished press to stop.

This has the effect that if you hold the screen key open for a while you get several actions of the keys. (I'll be the first with that complaint and the first machine will not seem to give you what the player program, the next day).

Although this is a well-developed program, it missed a few rather obvious ideas a short time. Finally, it looks like there must be a real machine. (It may well appeal to the younger age group.)

graphics	10%
playability	10%
graphics	95%
value for money	10%

★ ★ ★ ★

Cricket Captain 48K Spectrum £4.95

Alliance Computing, 77 Capelin Road, Aylesbury, Ch Bucks, Bucks

If you're not yet convinced that you can beat even the best batsmen in England, captain against the West Indies. (Just as it were) — you can still enjoy Cricket Captain.

Now the job is to choose a team rather than the list of wickets provided for one of your wickets.

Then you have to select the batsmen of each wicket, and the bowling and batting order. In the bowing and batting order, the bowers help by the list of all the batsmen and the list of all the batsmen.

Following these guidelines, the

game will be a high-quality simulation, representative of 20 simulation.

As the program is not great but very interesting and a very low price and that's a very low price.

Your work is hard to score and preventing to play the first and preventing to play the first and

ing the bowling captain's job. To play a computer game is to play a full-time job. (I assume) to play a computer game is to play a full-time job. (I assume) to play a computer game is to play a full-time job. (I assume)

Cricket Captain is a very enjoyable game and a fairly realistic simulation. (I 1 1)

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

★ ★ ★ ★

Don't exert yourself...

Why risk pulling a muscle when you can play these games by just twitching your fingers? Our reviewers report on five simulation tapes

Birdie Barrage 32K BBC £7.95

Charming Computing, 4 Central Parade, 16 Maris Hill, Salford, Wiltshire

I had assumed that this would be one of those games where you hit the ball onto a descending table, in order, in fact it is a programme independent of golf.

Each hole is a standard graphic with complete statistics, banks and the rough. You can choose from four woods, three irons and a sand wedge, though there is the ability to select an extra club if you wish.

The dynamics of the shot is simulated on a small screen which you see, allowing for the probability of the ball being in the hole. The strategy of the whole is covered by a comprehensive

rule manual for new 2000 keys.

The reason for this makes the ball user knows the first shot. (Mostly because the game, a new screen is shown for the first shot.)

A nice touch is that for the more and each hole has a goal.

All graphics are a standard line art, complete, and you don't see really that good to sound effects. All users it was difficult to see when the ball was in the hole.

All things for two players would be a useful improvement.

★ ★

graphics	80%
playability	75%
graphics	70%
value for money	70%

★ ★ ★ ★

Golf

48K Lynx £7.95

Com. Use D, The Malvern Leisure Road, Sreochporth, Here

This is an off hole golf course simulation. You have a full set of clubs, a ball and a hole. (I assume) you can select a club. The hole that you can currently on a hole is all in play.

The program's main drawback is its dynamics. It is quite difficult to use if you are not a golfer and don't know all of the terms and words of golf. (I assume) you can select a club.

Putting is on the ball and there is an on-line help of the green on the screen so it is like a golfing game. (I assume) it's quite difficult to play. (I assume) it's quite difficult to play. (I assume)

Always on the first screen unless you are very lucky.

The instructions are limited to the operation of the game and I don't know a very long knowledge of golf, but most of the rules and strategies can be worked out.

The graphics are good, with a nice screen simulation giving the graphical display on the top and you can change on the screen.

The tape takes a while to load but loads without problems on TAPES.

Overall, an interesting simulation of the golf game, but there's not much there for an ordinary golfer.

★ ★ ★

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

★ ★ ★ ★

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ONE MAN'S VIEW

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I consider the way of you have tried recently to buy an Electron computer.

The double page advert in a number of leading computer magazines, or others readers like themselves, is really available at every branch of W H Smith and Son's about 18 of May happen to have a credit card — and who doesn't these days? — then they can phone 09 209 0000 and order one direct.

Wasting one to carry out a task for a publisher, I decided to have a go and experience it myself for myself.

A promise, but totally unfulfilled, since answered my call and asked me to have my requirements 09 209 0000 in my hat for Acorn, a 17 way general, and a number of other 28-pin front end or I tested my needs and was asked to wait. Thirty seconds elapsed. The voice stated, following me that the Electron was not yet available, but would you telephone and advise. I promised that the advert I had read told me that all that required to be done was phone their number, hand over my credit card number, and an Electron would be in my way to me.



Would I wait please? Another thirty seconds passed. Would I please tell them the area in which I lived? Acorn, I suggested politely, I wanted the computer. Would I please wait? Thirty seconds again. The reply eventually was that there were Acorn agents in my area. Rather disappointed by now, I told the agent my full name on the other end of the line that I was particularly of three and gave her three names and addresses. Would I wait again, please? Yes, I had to, she said, but not yet at night. Twenty seconds this time. Indeed, yes, again very courteous Acorn, thank the heavens they were not working the Electron.

Could I therefore order by credit card? She asked me for my Acorn address. Then, no, they weren't taking credit card orders yet? Where then, I politely asked, could I get one? Would I wait again please? This time the answer is verbal or 30 seconds. They are available at selected branches of W H Smith and Son's Acorn agents.



No I was not talking to an answering machine on a pay-telephone 0920 0000. They're not for ever? Where W H Smith? I asked. She couldn't tell me. No, waiting for another 30 seconds later on my expense, while I waited for her to research the local history for the answer to my question, I remembered that perhaps our conversation might make a good story. Thank you, and I ended the matter.

No, Acorn were quite sure I could keep one — so OK Acorn, enough up. I've got my £100 ready and waiting, and an interested publisher at the other end of a more forthcoming telephone line.

Maybe they've been taking orders from a certain pair of the reader, a surely very much like it, about 7 or 7?

Brian Reynolds
Home computer consultant
Plymouth, Devon

• This space is for you to record all about the advert above, in printed characters, in best handwriting, or just to share your opinion or experiences. Send your contribution to Paul Lister, Home Computing Weekly, No. 14 Little Britain, London WC2R 2LL

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As for the Commodore 64, but now available for the 48K Spectrum, Tame T199/9A and Dragon £3.50

VIC-20

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This is it, the ultimate Fruit Machine for the VIC with nudge, hold and re-spin 100% machine code. "Overall Jackpot is a beautifully written simulation giving superb graphics, animation and use of colour. In fact, the program makes Commodore's Fruit Machine cartridge look unbelievably cheap and nasty." "Home Computing Weekly No. 20 15/7/83" £3.50

KRAZY SWARS

Accuracy and speed are required for this Shooting Gallery, superb use of colour and graphics in this new and challenging game from the author of Jackpot. 100% machine code, joystick or keyboard control. £3.50

FACTMANIA

Choose your own game from the following options — difficulty 1-3 (quad 1-3), size of maze 1-3, visible or invisible maze, million moving power pills, define your own key controls, any combination, if this is your type of game, then this is the one for you, for the 3K expanded VIC. £3.50

BUGSY (Joystick Only)

This is a Maze/field with a difference as you trap on the stones while collecting purple boxes which give your high time and points, they disappear from beneath your feet. DO NOT DESPAIR! "BUGSY" will randomly replace the stones but avoid bumping into bars or its maddening death! An original, competitive and challenging game. £3.50

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TI-99/4A PROGRAM

Race for your life

Get on your bike for a fast-moving two-player game. Mark Playle wrote *Laser Light Bike* for the unexpanded TI-99/4A

You are in a fast-moving duel to the death — it's you or him.

As you speed along your bike leaves a trail. Crash into it, or your opponent, and you lose.

Slowing off the grid automatically gives the jet to your opponent.

But out of race are with the jet!

Hint: *no playing!* Only press the keys when you want to change direction. If you hand down the jet it slows the game, although this is hardly noticeable.

How it works
000-010 set variables. For 140
010-020 instructions
030-040 instructions
050-060 set colors
070-080 set variables
090-100 clear screen
110-120 each loop to move blue bike
130-140 move blue bike
150-170 each loop to move red bike
180-200 instructions
210-220 draw red bike
230-240 explosion, program over
250-260 each loop for blue bike
270-280 instructions for red bike
290-300 display screen, end

Hint on controls
TI BASIC is fairly standard with few main exceptions. Single characters like *any* and *all* represent all graphics and sound are available, provided with CALL, detailed below.
CALL CLEAR clears screen.
CALL SCREEN defines screen colour.
CALL CHAR defines characters with a 14-character string. Space is right by right goal. Other machines will use a different method.

CALL CHAR placeholder for, font,number, back-groundcolour, colour, no character

CALL CHAR (row, column, character code, number of repeated places, character on screen at co-ordinates specified) and optionally repeat character horizontally

CALL VCHAR similar to **CHAR**, character vertically

CALL GOTO (row, column, variable number in a screen). **PETS** in other machines. Go to the ASCII code at the given address on the screen.

CALL SOUND (D.F.N) give sound of duration D, frequency F and volume V. Three sounds can be produced at once.

Make variables
00-05 set bike number scores. **06-10** colour of trail.
X, Y, XL, YL blue bike, and **X, Y, XL, YL** red bike.
R, RY, RL position of trail.
R1, R2 character code for blue, red bike.

```

300 SET SQUARE INSTRUMENTS
310 CALL CLEAR
320 CALL SCREEN(0)
330 SET R=184, RL=8
340 CALL CHAR(0,0,0,14,1)
350 SET RY=0
360 SET R1=0
370 SET R2=0
380 SET RY=0
390 SET RY=0
400 SET RY=0
410 SET RY=0
420 SET RY=0
430 SET RY=0
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990 SET RY=0

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1000 SET RY=0
1010 SET RY=0
1020 SET RY=0
1030 SET RY=0
1040 SET RY=0
1050 SET RY=0
1060 SET RY=0
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1670 SET RY=0
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1970 SET RY=0
1980 SET RY=0
1990 SET RY=0

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TI-99/4A PROGRAM

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BLIP
BEE

000
 HOUSE BLOWBY

100000

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Imagine you're a yellow ball trapped in a maze...

Cobbler 64 recreates the famous arcade game and includes all of the special touch as bonus items and disappearing walls.

The rules of games are well known, but if you aren't familiar with them I will explain them. You are the yellow round ball which has to move around the maze eating dots and power-ups while avoiding you to eat the awesome ghosts which chase you around the maze.

There are three mazes which you have to beat. The first maze that you are faced with is the second hardest of the three. With this maze you are not allowed to pass through the walls of the maze but unfortunately the ghost can.

The second maze is the hardest of the lot. This is because as before you can't pass through the walls, and as it added obstacles you can't see the walls either!

The third maze is the easiest of them all. With this maze you are allowed to go through the walls. Once you have completed this maze you are faced with the first maze again.

When you RUN the program the word **COBBLER** will appear on the screen, and a few moments later your yellow ball will appear and start to eat everything that's on the screen.

Now you can add to your collection of arcade-like classics with **Cobbler 64**. Richard Gibbs wrote it for the Commodore 64 with some unexpected features

```

1  REM ***** COBBLER *****
2  REM *****
3  REM *****
4  REM *****
5  REM *****
6  REM *****
7  REM *****
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192 REM *****
193 REM *****
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196 REM *****
197 REM *****
198 REM *****
199 REM *****
200 REM *****
    
```

How it works
 £9.99 inc. 400 magazine
 £25.00 direct order
 148-149 on 800 number
 528-778 mail drop
 528-778 direct from us right hand
 corner
 788-828 checks of all local laws have
 gone
 £24-1299 direct order
 £299-3299 second of first
 £399-4749 third order and character
 DATA
 1749-1849 4th
 2279-2379 5th order table

After that he will attempt to display the title and after he failed first attempt he will message if. When the titles are fully displayed you will be asked at what level you wish to play, 1 to 3, 1 being the easiest and 3 being the hardest. When you enter the level, use F1 and are the first button or space bar to begin.

When you play the game you choose the joystick in control or use the following keyboard controls:

CTRL-UP
 left arrow down
 key 1 up
 key 3 right

As a reward, Commodore control characters in the listing are explained in REMs above the lines in which they appear. The REMs can, of course, be omitted.

```

1000 REM *****
1001 REM *****
1002 REM *****
1003 REM *****
1004 REM *****
1005 REM *****
1006 REM *****
1007 REM *****
1008 REM *****
1009 REM *****
1010 REM *****
1011 REM *****
1012 REM *****
1013 REM *****
1014 REM *****
1015 REM *****
1016 REM *****
1017 REM *****
1018 REM *****
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1021 REM *****
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1025 REM *****
1026 REM *****
1027 REM *****
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1032 REM *****
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1037 REM *****
1038 REM *****
1039 REM *****
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1041 REM *****
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1111 REM *****
1112 REM *****
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1119 REM *****
1120 REM *****
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1123 REM *****
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1125 REM *****
1126 REM *****
1127 REM *****
1128 REM *****
1129 REM *****
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1186 REM *****
1187 REM *****
1188 REM *****
1189 REM *****
1190 REM *****
1191 REM *****
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1193 REM *****
1194 REM *****
1195 REM *****
1196 REM *****
1197 REM *****
1198 REM *****
1199 REM *****
1200 REM *****
    
```

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1201 REM *****
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1297 REM *****
1298 REM *****
1299 REM *****
1300 REM *****
    
```


LUNAR JETMAN - 1988 ZX Spectrum
BRIDGE OF SPOONS
LUNAR JETMAN - 1988 ZX Spectrum
 Arcade simulation
 Design: The ULTIMATE PLAY THE GAME

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ULTIMATE PLAY THE GAME
THE GAME

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TRANS-FORM



... a rocky 3D
 ... Arcade
 ... Game
 ... stands to
 ... variable
 ... high
 ... low
 ... all those extra
 ... from the
 ... people
 ... THE ULTIMATE PLAY THE
 ... DESIGNER

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Top Ten programs for the Spectrum

1	Alien Attack	Ultimate (7)
2	Lunar Jetman	Ultimate (2)
3	Art Attack	Quiksilver (2)
4	Jetpac	Ultimate (4)
5	Pyramid	Parsons (4)
6	Kang	Dawn (4)
7	Death Chase	Micro Magic (6)
8	Chaucered	Fidel (16)
9	Flag	Bug Byte (14)
10	Maric Miner	CGS (4)
	Poel	CGS (4)

Compiled by MCH Smith. Figures in brackets are last week's positions

Top Ten programs for the VIC-20

1	Jetpac	Ultimate (7)
2	Carvea Beacha	Imagine (2)
3	Aradia	Imagine (3)
4	Melody Walker	Imagine (4)
5	Endrunner	Ultimate (3)
6	Sky Hawk	Quiksilver (9)
7	Attack	Audogenic (15)
8	Kaktus	Audogenic (2)
9	Tomb of Drava	Audogenic (4)
10	Spazio	Audogenic (4)

Compiled by Webster. Figures in brackets are last week's positions

Top Ten programs for the Commodore 64

1	Frogger	Interceptor (1)
2	Aradia	Imagine (4)
3	Bombman	Interceptor (2)
4	Hover Game	Litsoft (4)
5	Master Mania	Audogenic (2)
6	Cray Kang	Interceptor (3)
7	Quack Thinking	Merrow (3)
8	Endrunner 64	Litsoft (4)
9	Hungry Horace	M House (7)
10	Purple Turtle	Quiksilver (2)

Compiled by Webster. Figures in brackets are last week's positions

Top Ten programs for the Dragon

1	Carthart goes Walkabout	Microdeal (7)
2	The King	Microdeal (2)
3	The Champion	Petsoft (4)
4	Talking Android Attack	Microdeal (3)
5	Petrigram Diary	Shards (2)
6	Dragonfly 2	Hewson (2)
7	Mixed Out	Quiksilver (2)
8	Dragon Trek	Rosenzweig (2)
9	Frogger	Microdeal (4)
10	Endrunner	Satanzweig (4)

Compiled by Webster. Figures in brackets are last week's positions

Top 30

1	Maric Miner	Bug Byte	Spectrum (2)
2	The Hobbit	M House	Spectrum (4)
3	Veritas	Legend	Spectrum (7)
4	Jetpac	Ultimate	Spectrum (4)
5	Hunchback	Cosco	Spectrum (4)
6	3D Art Attack	Quiksilver	Spectrum (4)
7	Kang	Cosco	Spectrum (2)
8	Lunar Jetman	Ultimate	Spectrum (2)
9	Zoozoo	Imagine	Spectrum (4)
10	The Hobbit	M House	CBM 64 (4)
11	Hunchback	Cosco	CBM 64 (4)
12	Hunchback	Superior	BBC (4)
13	Petsoft Patrol	Virgin	CBM 64 (4)
14	Horror game	Fidel	CGM4 (4)
15	Horror Attack	Dave	Spectrum (4)
16	Frogger	Microdeal	Dragon (4)
17	The King	Microdeal	Dragon (2)
18	Carthart in the Jungle	Microdeal	Dragon (2)
19	Alien Attack	Ultimate	Spectrum (2)
20	Satanzweig	Amiga	CGM4 (4)
21	Aradia	Imagine	VIC 20 (4)
22	Kang	Amiga	CGM4 (4)
23	Hunter Killer	Protek	Spectrum (4)
24	Wario Knight	BBC Soft	BBC (4)
25	The Hobbit	M House	Oric (4)
26	Chaucered Flag	Fidel	Spectrum (4)
27	Knif of Kaktus	Futura	Dragon (4)
28	Chaucered Flag	ABP	Spectrum (2)
29	Jetpac	Ultimate	VIC 20 (4)
30	Team Knight	Bug Byte	Spectrum

Compiled by PCS Distribution (25th Street) and sponsored by the Computer Trade Association. Chart is for retail sales in individual outlets in the UK and Northern Ireland for the fortnight ended January 18.

Top Ten programs for the ZX81

1	Endrunner	Quiksilver (4)
2	Invasion	Quiksilver (4)
3	Football Manager	Audogenic (4)
4	Chess	Smiler (2)
5	Satanzweig	Quiksilver (2)
6	Autobird	Quiksilver (2)
7	Maths Quiz	Smiler (2)
8	Space Rancher	Smiler (2)
9	Iron Game	Smiler (2)
10	Cray Kang	PCS (7)

Compiled by Webster. Figures in brackets are last week's positions

Sword of Brakel VIC-20 with SK + £5.99

Roedel Software, 271 Apple
Avenue, Menlo Park, CA 94025

Roedel has been taking a greater interest in adventure titles, and this is a good example of their range of games.

For the first time, if you're a member of the adventure or fantasy or graphical adventure club, then too, this game is one for you.

Basically, I think this is well written, solid game which contains a good atmosphere in spite of its graphics (although used to be 3.5" floppy).

Enough rambling, so what's the game. *Sword of Brakel* is of

the classical mode with a standard world-view atmosphere. However it will fit onto a VIC plus SK when there can be no doubt.

The plot is simple, find the sword and save the world.

In order to do it you must explore the scenario, solve a few problems and see a list of listed objects. There is enough text of explanation to give you many hints of both plotting, writing and general details.

The usual SAVER and LOAD features for saving a record of your progress are available and the game has a nice feel about it.

The best programming is for and there are no obvious bugs. **A-3**

graphics	70%
playability	80%
graphics	n/a
value for money	90%



The Hobbit 52K BBC £14.95

Mellonware House, 11 Trafalgar
Square, London WC2R

Five impressions of *The Hobbit* are good — a fat package with covers, pronunciation guide and a copy of Tolkien's *Hobbit* book.

The actual game takes you through the bulk of computerising with the computer, giving the vocabulary, rules of input and general play changes, but won't give you any clues. The reading of the book.

Sadly this version is restricted by the BBC's, every 32k of memory, and whilst the book and manual are in graphical display, which seems a great pity, but, does what the manual says, and to non-avid users will find that they enjoy the game anyway.

As well as a save game feature, the program has a program mode in which the current stage can be fed in a greater — very good for finding your way about, so you can refer back to previous programs.

The program is regarded on both sides, first as well, as the stage can also enable it always load. The tape reader is, as usual.

These points make a lot sense, even for a program like this. For *The Hobbit* will give you advanced fans many hours of brain-racking fun. **B-3**

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



Runner on Trellon TI-99/4A £5.95

Lotus, 4 Middlesex Road,
Windsor, Bucks SL9 6UD

This is a good graphics, yet not an adventure game. You are the runner and your opponent is the wolf. Great graphics which are shown when it various places on the landscape.

Designed to imitate your program, are designed to be used, you can find the logic of the program and to improve on your own.

Free and free designed to help you improve you, but your opponent is located to you reflect the game.

How many will £600 in the form, reward offers and more.

various which can help you, on your machine.

You are then shown a map of the depicting the position of the runner, the opponent and the terrain.

Play. This, designed after a few seconds, and from that on you must play to win the game.

As for how doing the game, it is not too difficult, though provided, you have enough strength, you can find it hard to come across on the way but be the opponent, in whether are the opponent, which everything has changed position. **B-3**

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



Venture into an adventure

Our reviewers tell you what to expect from these adventure games — without giving too much away

House of Death 48K Oric £9.99

Samco, J Oak Moss, Market
Square, Brix, Cambs

A nice adventure game from Samco by the author of *Star* (see page 24).

The story is to play in the old House of Deceit where there were once made. Various programs have been left behind and the player is now accused by a sinister and dangerous creature.

If you're not familiar with the plot, might find the various hidden items, but in the course of searching the house you are quickly in a maze of mazes and by the end of various of mazes.

In addition, it might occur — a charming clock kept track of

time — it is not a good idea to be old!

Typically the game starts sound, with the opportunity of saving your progress (unprotected) at the end of the game. The author has a nice sense of humour and I found every very funny.

There are no graphics in this game, but an extraordinary picture and I found the text of the game a little surprising. It has much information available to those at any and time. **B-3**

graphics	80%
playability	70%
graphics	n/a
value for money	80%



The Man From Granny C64-64 £6.95

Neuma, 4 Victoria Road,
Sunderland, TD-12 7HJ

In this adventure you are a poor agent whose job is to find out and destroy a foreign agent.

The foreign agent has been taken to *Granny* from her in a newspaper that I found at the game itself. **B-3**

The game starts off in a typical American town — lots of cities and suburbs. From here you may go into a forest, however, 30000, price 10.

There are various problems to solve and you are programmed, and several, and finally escape.

I shall say no more — don't want to give too much away.

well!

The game has very good and appears over-optimistic of the player and shows in a more and more of every command included which makes the game distinctive from all other adventures.

Although it's a text only adventure and has a graphics I found it addictive and enjoyable to play. A good idea game it must have (but an average text) graphics game.

The instructions are very good — you learn what you are expected to play the game. I find this was a drawback of the program. **B-3**

graphics	80%
value of text	80%
playability	80%
value for money	80%



Bring your friends to book with your Spectrum

Turn your computer into a giant address book and keep your friends in order. David Nowotnik explains how it works

If you only want to keep a few names and addresses of friends on file, then an address book will serve that purpose adequately.

However, if the number runs into tens, or even hundreds, then you could get into an awful mess with a book.

This is when a home computer will help you, and if you have a ZX Spectrum or ZX81 then you can use my Address Book program to create and store a file of names and addresses, and use the power of the computer to extract the information you want.



How it works

79-79F sets up data variables
79A-79B main menu
800-870 SAVE the program and data on tape
880-1100 check for a program sub-routine
1000-1100 enter details of a new record
2000-2140 enter search pointer
2150-2270 search routine
3000-3150 update from a record located in the search routine
3160-3200 routine to amend a record

When you use the program for the first time, start it with RUN. This will create a blank file, and initialise the program ready for use. It is a simple program to use, there are just three options in the main menu.

Main variables

401 the name which holds the file
402 the array holding the list (names)
4 number of records
97 all local variables

```

00 0000 Address Book
00 0005 My home computer
00 0010 1040, 1000
40 0000
50 0000 Friends the title
60 0000
70 0000 00000, 100
80 0000
90 0000 Field names
100 0000
110 0000 0000,01
120 0000 00111 = "Mr/Ms/Ms"
130 0000 00111 = "Mr/Ms/Ms"
140 0000 00111 = "Mr/Ms/Ms"
150 0000 00111 = "Mr/Ms/Ms"
160 0000 00111 = "Mr/Ms/Ms"
170 0000 00111 = "Mr/Ms/Ms"
180 0000 00111 = "Mr/Ms/Ms"
190 0000
200 0000 Name
210 0000
220 0000
230 0000
240 0000
250 0000
260 0000
270 0000 100 = "ADDRESS BOOK"
280 0000 01 = "00000000000000000000"
290 0000 01 = "00000000000000000000"
300 0000 01 = "00000000000000000000"
310 0000 01 = "00000000000000000000"
320 0000 01 = "00000000000000000000"
330 0000 01 = "00000000000000000000"
340 0000 01 = "00000000000000000000"
350 0000 01 = "00000000000000000000"
360 0000 01 = "00000000000000000000"
370 0000 01 = "00000000000000000000"
380 0000 01 = "00000000000000000000"
390 0000 01 = "00000000000000000000"

```

Option 1 allows you to make a new entry into the file. You should enter surname, forename, street (including house number), district, town, county, and telephone number to the prompts on the screen. If you want to leave any item blank, simply press ENTER to move onto the next item. And if you make a mistake, you can use option 2 to correct it.

The second option in the main menu allows you to search through your file for any specified item. You have to enter which field (1-4) to examine, 1 for forename, etc., and the search word. If a match is found, then the entire record is shown on the screen.

Given a record displayed, you have three choices. You can continue with the search (press N), obtain a copy of that record on the ZX printer (press C), or amend the record (press A). The latter is used if you have made a mistake in entry, or the details have changed, such as a change of address.

The final option allows you to SAVE the program and data on tape. This you must do if you have made any changes or additions to the file, before you switch off.

Hints on conversion to ZX81

The program as written will work on the Spectrum, a slight change is required for use on the ZX81. These changes are:
404 POINT AT 30, 1, "TOTAL"
704 NAME AND PRESS ANY KEY
804 NAME = "ADDRESS"
864 COTU 300

Notice it would be a simple matter to change one of the fields to Country, for example - to Month of birth. This you could check when birthday was approaching. You could not, however, search data field for the full date.

If you have enough memory you can change the number of records you can store. At present the program limits you to 30. For more change the number. Note the required number in lines 70, 140 and 1200.

SPECTRUM PROGRAM

0000 GET TIME
0001 GET ADDR-01 ADDR NO TO 000
0002 GET ADDR-02 ADDR NO TO 000
0003 GET ADDR-03 ADDR NO TO 000
0004 GET ADDR-04 ADDR NO TO 000
0005 GET ADDR-05 ADDR NO TO 000
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Family Games

WATERMIDGE: (Oh Me! Me! Agony! Oh Yes! Suffer!) Time to Super defeat versus with later. It levels of difficulty sound sophisticated. As reviewed in World of

CLUB: Addictive dog game (but needed can't live amount of skill and judgement — price for parties just 100 players) — Sure look the man can beat the lady!

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Tel: (0927) 372941

U.S. SCENE

The Valley's nerds are on the way out

It takes a great deal of the work by aggressive pay observation for which it did not claim credit. But with which it comes.

It has become increasingly clear during the past year or so that the Silicon Valley, if not the entire microcomputer industry, is holding firm well to the west. If not entirely gone, the days of the enterprised have been spectacular when funds are constantly abundant.

As to what sort of person is going to occupy the north's former positions of power, this too is clear. It will be year three business executives from virtually any other industry as long as that industry has nothing directly to do with money.

Expansion of industry is a goal, but credit or borrowed capital is not. It is clear that the new leaders are not who they are in terms of the bottom line.

I suppose if the industry becomes more "business" that this year demand to happen sometime, and yet I wonder if becoming serious is all that much of a virtue. Although they may have locked their minds and business sense, at least those people were executives. And if there is one characteristic that business people are not usually famous for it is innovation.

There isn't doubt what the industry will lose as a "business" if what is gone is professionalism and efficiency may be even established in the lack of some applications. When firms headed the companies, the trend was for most responsive administrators that could get to work and understand the business of their customers and their.

As the search for a new way to make the Valley, I found the "top line" increasing between the time when approval is required to work on a new application and the time when that approval is obtained. American companies that have not learned the advantage of the "top" management style followed by the American which means they may formerly associate companies may be managed to death. Major American of other people value the contribution of the new before it is too late.

Otherwise, it is not as if we are sitting around in another year or so and wondering, as we have already started to wonder about other aspects of American industry, what went wrong.



It'll be a while with a promotion of some of the best hardware (highly recommended) in the country.

I do more often supply, program, and hardware purchasing by best order, and I get a lot of promotion and cost savings in it. I wish the first deserves a special mention.

I see by their list of the they are now calling themselves the "new" computer and order firm in the world, and I can only believe it. They will take foreign orders and will accept the usual credit cards. They deliver now in excellent. There also do not let it, something is out of stock they can do, and will not estimate in delivery date if they are not sure they can meet it.

They handle peripherals, supplies, hardware, and software for every major personal computer and lots of software and some peripherals for home computers.

Let I keep you in suspense for too long, the name of the firm is called Casey Software (formerly Computer Exchange), P.O. Box 27086, Portland, Oregon, (503) 241-0300 or (503) 247-1289.

The last number is toll-free but only the customers U.S. (sorry about that).

If you wish to them, I am sure they will send you a catalog and order direct free of charge. Here's wish you the effort.

See you next week

Bob Lee
Fairfield, California

Apostrophe 48K Spectrum £7.95

Verdax Research, 21 Wilks Road, Cambridge CB1 2AQ

This is not intended to be a teaching program for children as it contains only a few hints on the use of the apostrophe.

It contains three instructions and contains only 18 hints, examples of use. Without instructions can be used by the user as an option.

You distinguish a blanked to drop a "word", the apostrophe, into the correct place in the sentence. If the process is completed often enough, you get the "reward" of playing a randomised word with game.

If you feel strong enough, you can show the correct answer. A

certificate of success is printed by the ZX Printer if attached.

This will usually normally be linked with children of 11 years and older. Will they really be attracted by "game hints" (words), keyboard and help topics?

Though some use of made of large characters and even a few defined apostrophes, when the program are printed, as in the normal Spectrum character set and the apostrophe is all the fun on the Spectrum's character screen.

instructions	10%
randomised	90%
display	40%
value for money	50%



The key to learning?

More and more educational software is coming on to the market. To help you decide where to spend your money, our reviewers have tried out five of the latest tapes

Mr T's Alphabet Comes 83K BBC £13.95

Edware Software, 77 Broadwalk Street, London W1V 2EP

This package of two games is aimed at the three to six year olds who are learning to read and is meant to be used before silent and learning to read.

Like several other educational software, the program doesn't cover an area comprehensively or even well. Rather, it provides a taste of the area in the hope they do learn more.

The program are of excellent quality. In this case it's simply that without (poor) instructions help, which is not a problem in this case as we use them?

Let's have a closer look at it.

British, and aims to demonstrate the seven special movements for each of the lower case letters of the alphabet.

This is done very well, and should lead to good letter writing habits. The 100 character set could allow a great deal of difficulty later.

The other program is Mr T's Letter Factory, which aims to teach letter recognition and reading.

This is an amazingly advanced program, but if this option has only a limited use.

The whole package would have been much more attractive if printed at a lower level.

instructions	40%
randomised	90%
display	50%
value for money	50%



Wild Words Spectrum £7.95

Edware Software, Longmead House, Broad Walk, Harlow, Essex

It is a word game and a spelling game. The user is presented with a word and must choose a letter to complete the word. The word is then displayed and the user is told if it is correct or not.

After a long time, the user is presented with a word and must choose a letter to complete the word. The word is then displayed and the user is told if it is correct or not.

From a magazine there's nothing to do with the word.

To make the fun more interesting it is done in a fun way. The user is told the word and the user is told the word. The user is told the word and the user is told the word.

What the user is told is the word and the user is told the word. The user is told the word and the user is told the word.

After a long time, the user is presented with a word and must choose a letter to complete the word. The word is then displayed and the user is told if it is correct or not.

instructions	90%
randomised	100%
display	100%
value for money	100%



Mr T's Measuring Comes 83K BBC £13.95

Edware Software, 77 Broadwalk St, London W1V 2EP

The little children I've seen have left a considerably high standard. Look on the picture provided on the packaging and description.

The first game covers measurement of length. It is a simple game where the user is told the length of the object and the user is told the length of the object.

The program is of good, with a number of ways to measure length. The second game covers measurement on the level of

Challenging Games. Aimed at a top level, it is a challenge to the user to measure a given area.

The second game covers measurement of length. It is a simple game where the user is told the length of the object and the user is told the length of the object.

Both programs provide a lot of information needed to play the game. The user is told the length of the object and the user is told the length of the object.

The program is of good, with a number of ways to measure length. The second game covers measurement on the level of

instructions	100%
randomised	100%
display	90%
value for money	90%



Robot Runner Spectrum £7.95

Edware Software, Longmead House, Broad Walk, Harlow, Essex

Robot Runner is a challenging game of speed and skill. It is designed to give children of six years and above practice in the two to four letter words.

The object of the game is to help Robot Runner to escape from the maze. The user is told the length of the object and the user is told the length of the object.

Choosing these words helps the user to escape from the maze. The user is told the length of the object and the user is told the length of the object.

number way. And there's a catch. On the computer world, it's about looking for the letters and words that are needed. The user is told the length of the object and the user is told the length of the object.

To reach the treasure from the last machine you may have to guess Robot Runner's path. It is a simple game where the user is told the length of the object and the user is told the length of the object.

A nice thought and original game with superb graphics and sound effects. Robot Runner should give hours of entertainment. My only wish was that it was a bit longer.

instructions	90%
randomised	100%
display	100%
value for money	100%



LETTERS

Why's the VIC left out?

I have just one message to offer to you being that VIC 20 will not be reviewed. I agree with others that it is a waste of space, but wondering where they have gone.

Over the past few months I have seen only a handful of VIC reviews because of the means concerned.

It is a fact that just as many people own VIC 20 as they do Spectrums. I realize that there is a lot more software available for the Spectrum than there is for the VIC, but this doesn't mean that there isn't any at all.

I can tell you the location for most software for VIC 20 computers, and because of your personal interest in terms of Amstrad (Spectrum) and Mains (Commodore), I decided to list them.

Apart from the one price list, I think that most computers in market value for money, and will work the price list.

Gary Thomas, Ashby, Leicestershire

We've an extensive collection of micro-reading material for VIC — you'll say that we are still coming pieces of progress today. In this department popular authors like what we review is a reflection of what software companies want, and what reviewers seem to be the state that many companies who used to produce software for the VIC are now concentrating on the Commodore 64. Thousands of 2817 owners are being lured away from their VIC Spectrums. All we can say is that software companies that produce VIC 20 programs are sending this, and looking at those reviews.

Seeing red...

I was disappointed with Denise Cox (p.78) in the 100th issue of *The Games 2 Spectrums*.

On page 84 (border) I was given a 144 Spectrum. This wasn't the original one bought. The first one, which may have sold out before going on hand to be returned because it didn't load properly.

The second machine had to be returned when it packed up, obviously, only a short session on it was and giving me computer to buy another.

The third was the same way as the second. I should give you here that my computer was never left on for very long, but was only hardly used.

My fourth Spectrum was returned when the keyboard started to fall off when the

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



computer got hot. Also the colour (red) looking black and white to colour rather than only to colour me.

Selection number five was great and one day I read your first warning in *FILE* and *PRODIGY*. Clearly to help of the people who the 2817 used to do a permanent damage. After that everything that was typed (black) into one day disappeared to another page after being included in for half a day.

All my responses were given on a board which allowed an lack of restriction.

Thank you for your was a feature, but for major damage. Last issue, you did to show me I had to do that, and with my own, took a great deal for better reliability. I mean, I have money on the VIC 20.

Just job please a reliable Spectrum, long on to it. You to get a nice well spoken machine.

W. Hughes, Abert, York

A little knowledge...

As a *Teletext* owner I can open a frustrating one hour up to the *Teletext* High Street anything for an hour to be used.

Clearly the fight between the two sides has been narrowed down to the VIC, because the Commodore with handles of children and adults happily "reads on" in every article there is.

While it is great to see so many people's interest in micro-reading, there is still a great lack of constrained facts staff involved.

More progress about the 80 can with that alone, can still wonder really embarrassed with Commodore's only "reading" for only being a personal reader and therefore not having details about for the's name, software?

High Street (London) very essential full page

advertisements, probably to be at the time of year) but only that staff employed will usually from the box with little knowledge when asked a seemingly quite reasonable question.

As a *Teletext* user I should provide the explanation to "Next Office had crashed off 20 software from last Thursday" — an obviously true fact.

One letter from *Teletext* (p. 10) was very useful to know the most under companies the 80 software — it looks as though that the 80 software will be able to continue to buy for the 71 — so yes, they will get the papers.

Well, just as what a pity I think it is that the 80 is so new — in the hardware is so much better than any other computer. Amstrad's 2817, I appreciate people's tips and excellent professional front-end software which I and the rest of my family have all enjoyed using.

The new BASIC is perhaps the most powerful, but also can't go over with a lot of available work.

Finally, I would like to answer Alan Greenwood's *TE* 10.10. 28 to say that my own *Teletext* record of the date 11 onwards to 25, 1980 was for a only 12 — probably a dated advertisement.

Thanks for a great month.

John Jones, Swanton, Essex

We asked Henry Gould, marketing manager at Commodore, whether the 80 was in fact coming later than 1980. He said "Absolutely not. I don't remember seeing any press about the writing of the date. On the contrary, if we are serious to keep our marketing to 2817 software so that people will be encouraged to buy the machine. We hope that despite the *Teletext* staff will continue for some time, as the date isn't a good one and very unreliable proof at 2817. So certainly writing very well, and we'll be continuing to sell our software." It was indeed a pity.

Norwegian wouldn't

Do you really mean that I shall destroy those areas of your sensitive magazine at other signs would it be that, too?

Yes, yes — I am not willing to destroy my Commodore 64 to get a manual, either, though it do not concern British Systems, Oslo, Norway.

★ You and our *Teletext* 70 show that of it is not possible one gets plenty from the world's software press.

Back to the arcades

Well, they say the old ones are the best ones. See what our reviewers thought of these

Squash a Frog CBM 74 £7.95

Address: 118 West Street, Sheffield S1 4ET

All the usual Frogger features are here. You have to cross over the stream four times to get the traffic in the river back.

On reaching the river bank you have to keep crossing as you'll be caught by a snake. To make things even more difficult you have to keep across the river on the back of snakes or logs.

If you manage to get five frogs on the screen then you progress to the next level of difficulty. Levels are a fairly long wait, but the games — and the game is a cross between the eight years' old Frogger and the old program which is a

The screen display includes the terrain, cars, loggers, to the number of turtles, river left and level of play. Inevitably needed effects are used to enhance the scene.

I thought the upper graphics were great, good but not as good as the best Frogger variants. The screen was a little too dark for me but my son enjoyed it being hard to see without too much light.

With state for information, it's recommended Squash a Frog is given five stars from our reviewers company, Alpha 1. C

entertainment
availability
graphics
value for money

90%
90%
75%
95%



Snopman CBM 64 £5

Screen Software, The Douglas House, Broad Street, Weymouth

So how good is the program? Well, well, better than this is a

long time and a small screen which means there's a

few more things you can do about how they can only be

the program is a score as much as you want to know from

the program and then you can

the program is a score as much as you want to know from

the program and then you can

the program is a score as much as you want to know from

the program and then you can

total experience, and the overall design is of a good standard. Moreover, it's simple and good at the graphics side to represent on the screen and it's not unusual to have only one

the user's understanding who the game is. It's a good idea to have a good idea of the game and then you can

the program is a score as much as you want to know from

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the program is a score as much as you want to know from

the program and then you can

the program is a score as much as you want to know from

the program and then you can

entertainment
availability
graphics
value for money

90%
90%
75%
95%



Mr Frog TI-99/4A (Extended BASIC) £7

SP Software, 1100 Bayview Software, 10 Alameda Road, Stockton, Ca. 95210

Mr Frog is quite remarkable in that it does in the way of the original Frogger but I've never seen, and among the most impressive.

Furthermore, when you come to play the game itself you are

A small note: graphics are the

When this screen is first if you

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It's more likely that the lower

Exterminator Spectrum £5.95

Starwood, London House 217/219 King St, London W1

Exterminator is a horror (the

You are a little man in the

There are all different types of

There is a small but in the

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Including the game's C screen

The program itself is well,

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graphics
value for money

90%
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95%



entertainment
availability
graphics
value for money

90%
90%
75%
95%



Gearing up for games

Our reviewers report back after test-driving a selection of new road-racing simulations

Deathchase Spectrum £6.95

Microgames, 224-226 Lancaster Rd., London SW11 1LZ

This is a close drive of a race car on a 3D display and controlling it is a most serious job. And navigators will probably find it unhelpful.

At first you can control speed but you must drive the movement of the wheels through the board — your only chance to do this is by using the arrow keys.

There are eight levels of speed, each with three more than the last. The last level is the most difficult and you must be in the last place to be

presented as the winner. You have around ten seconds, which may seem odd, but this is because of keyboard lag.

The game is presented in good and attractive situations. The race car is forward to show you your own position. The race cars behind are in quite realistic positions.

The presentation is unusual and you can see the car's position on the track as you go. It is quite realistic, even by keyboard.

As I said, it is hard to be in the last place, possibly because of the way the car is controlled. It is a

presentation	95%
playability	100%
graphics	100%
value for money	100%



Road Racer Spectrum £6.95

Thorn EMI, Upper East Manners Lane, London N20H

If you are planning to spend the winter evenings in your seat, Road Racer is a most serious job. It is a close drive of a race car on a 3D display and controlling it is a most serious job. And navigators will probably find it unhelpful.

The game may be played with the keyboard.

I found the game a little more difficult when I got someone else to "steer" me while I

played on the steering. It is a most serious job and you must be in the last place to be presented as the winner.

The graphics are very good and the presentation is attractive.

As I said, it is hard to be in the last place, possibly because of the way the car is controlled. It is a most serious job and you must be in the last place to be presented as the winner.

The game may be played with the keyboard.

I found the game a little more difficult when I got someone else to "steer" me while I

presentation	95%
playability	100%
graphics	100%
value for money	100%



Monaco 32K BBC £7.95

AtGames, 178 West Street, Westfield St SE1

Monaco is a highly original and attractive game. It is a most serious job and you must be in the last place to be presented as the winner.

The graphics are very good and the presentation is attractive.

As I said, it is hard to be in the last place, possibly because of the way the car is controlled. It is a most serious job and you must be in the last place to be presented as the winner.

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presentation	95%
playability	100%
graphics	100%
value for money	100%



Rider 48K Spectrum £5.95

Three Games, 27-29 Finsbury Road, London EC2A

This is a close drive of a race car on a 3D display and controlling it is a most serious job. And navigators will probably find it unhelpful.

At first you can control speed but you must drive the movement of the wheels through the board — your only chance to do this is by using the arrow keys.

There are eight levels of speed, each with three more than the last. The last level is the most difficult and you must be in the last place to be

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presentation	95%
playability	100%
graphics	100%
value for money	100%



Speed Duel 48K Spectrum £5.95

AtGames, 178 West Street, Westfield St SE1

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The graphics are very good and the presentation is attractive.

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presentation	95%
playability	100%
graphics	100%
value for money	100%





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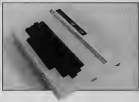
1100 RETURN
1110
1120 SET UP VARIABLES.
1130
1140 RETURN
1150 PL=1245
1160 CLG=
1170 FOR S=1 TO 5
1180 C184=
1190 SERT=
1200 FOR S=1 TO 20
1210 S=SERV
1220 SERT=
1230 FOR S=1 TO 7
1240 S=SERV
1250 FOR S=1 TO 5
1260 S=SERV
1270 SERT=
1280 RETURN
1290 SET UP WINDOW DATA.
1300
1310 FOR S=1 TO 20
1320 S=SERV
1330 IF S=1 THEN S=1230
1340 CALL S=SERV
1350 S=SERV
1360 S=SERV
1370 S=SERV
1380 S=SERV
1390 S=SERV
1400 S=SERV
1410 S=SERV
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2000 S=SERV

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2010 PRINT "100, PLACE YOUR COURSER ON PREVIOUS";
2020 PRINT "450, P. 1";
2030 GOTO 1040
2040 CLG=
2050 PRINT "10, AT AT ANY TIME YOU USE PART'S";
2060 PRINT "100, YOU CAN'T COMPLETE PART 1";
2070 PRINT "101, YOU CAN'T USE COURSER TO BUY";
2080 PRINT "102, BY MESSAGE 1, 1";
2090 GOTO 1040
2100 RETURN
2110
2120 DATA 10,1,10,1,10,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1

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