Home Computing WEEKLY

An Argus Specialist Publication

Britain's leading weekly magazine for software reviews

No. 54
MARCH 20-26, 1984

40p

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SILVER SOFT
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Software reviews for:
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programs to type in for VIC-20, Commodore 64 and Atari

AND
charts, news, your letters...



Software price rise causes stir

Imagine has caused twin stirs in the software industry — first by slashing prices and now raising them.

All its present games, including best sellers like Zzoom, Stonkers and Wacky Waiters, come down in price by £1.55 to £3.95 from Monday.

Imagine's next two arcade-style games, Cosmic Cruiser and BC Bill, will also retail at £3.95.

But future releases will cost more than £15.

Imagine operations director Bruce Everiss said: They are going to be expensive and worth it. We know what the kids want. They buy Valhalla don't they?"

The first two at the new higher prices will be called

Continued on page 5

Nine tracks for speed

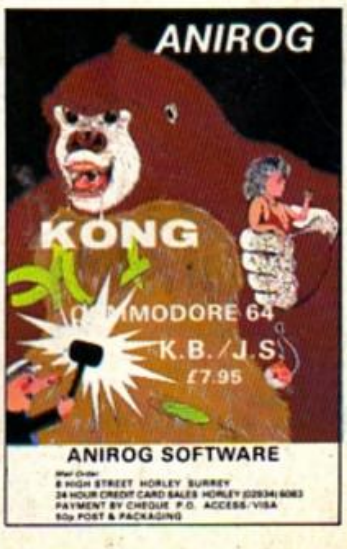
Disc speed for half the price is claimed for a new data storage system using cartridges with 12ft loops of tape.

Called Phloopy, it is designed to appeal to home computer users who cannot afford disc systems.

Mike Lucas, managing director of makers Phi Mag Systems, said: "There is such a huge gap between the slow speed tape recorders and the £300 or £400 you would have to

Continued on page 5





On a hostile planet deep in space
an earth patrol is marooned.
Only one person can save it.



TROOPA TRUCK

The galaxy's most lovable battle wagon.

Narzon Heatseekers from the back. LasaSlamma Tanks in front. HeliChargas from above.

A friendly mission to Zon has become a desperate fight for survival.

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The ticket to Zon is £5.99 (RRP inc. VAT), and the journey starts at Boots, WH Smith, Rumbelows, or any intergalactic computer games shop.

Your Commodore 64 will love it to bits.



"Bits" he says. That's not the idea at all. But send the coupon for my catalogue anyway.

NAME

ADDRESS

Rabbit Software Ltd., The Warren (Unit 11), Forward Drive, Wealdstone, Middlesex HA3 8NU.

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Briefly

Atari-style joysticks can be used on the Electron with a new plug-in interface cartridge from FBC Systems. It costs £24.95 and the company says it has been talking to software houses about compatible software.
FBC Systems, 10 Main Centre, Derby DE1 2PE

● ● ●

Sir Clive Sinclair has signed a deal allowing assembly and distribution of Spectrums and ZX81s in South Korea. Sinclair Research will supply components to Samsung Electronics and the first products are expected on sale later this year.
Sinclair Research, Camberley, Surrey

● ● ●

Aquarius User is a new monthly magazine for owners of the £50 micro, edited by the ex-editor of Which Micro? Colin Barker. Subscription is £12 a year and the publishers plan to encourage newsagent sale as well.
Aquarius User, Computer Marketplace, 20 Orange St, London WC2H 7ED

● ● ●

Acorn has bought 100 pages on Micronet 800 to provide subscribers with information on its products, prices and personnel.
Micronet 800, Telemap, 155 Farringdon Rd, London EC1R 3AD

● ● ●

Four eductional games in five European languages are on a new program marketed by Soft-Shop for the Commodore 64, 48K Spectrum and Oric/Atmos. Four Games for Children covers addition, subtraction, spelling numbers and the alphabet and costs £9.95.
SoftShop International, Unit 301, 16 Brune St, London E1 7NJ

● ● ●

Your Commodore 64 can hold a conversation and even write programs for you, according to Sunshine, which has just published Artificial Intelligence on the Commodore 64. The book costs £6.95 and was written by father-and-son team Keith and Steven Brain.
Sunshine, 12/13 Little Newport St, London WC2R 3LD

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SILVER SOFT

Find the words and you could win a share of £1,000-worth of great Silversoft games in this week's competition.









Programs for all these computers are in this week's issue.

GOLD COLLECTION ■ GOLD COLLECTION ■ GOLD COLLECTION ■ GOLD COLLECTION ■

The Quill

48K Spectrum

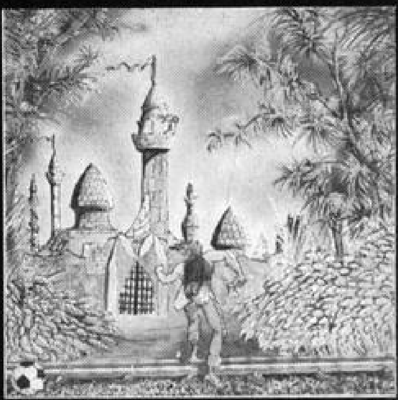


£14.95

The Quill is a major new utility written in machine code which allows even the novice programmer to produce high-speed machine code adventures of superior quality to many available at the moment without any knowledge of machine code whatsoever.

Using a menu selection system you may create well over 200 locations, describe them and connect routes between them. You may then fill them with objects and problems of your choice. Having tested your adventure you may alter and experiment with any section with the greatest of ease. A part formed adventure may be saved to tape for later completion. When you have done so The Quill will allow you to produce a copy of your adventure which will run independently of the main Quill editor, so that you may give copies away to your friends. The Quill is provided with a detailed tutorial manual which covers every aspect of its use in writing adventures.

From The Golden Nib Of The Quill Comes a Gourmet Feast for Hungry Adventurers Volume 1 of the GOLD COLLECTION



Magic Castle

Rescue the Princess from the Magic Castle but beware of Vampires and Booby Traps.



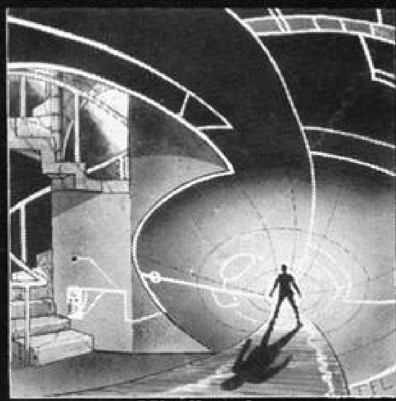
Devil's Island

Escape from the infamous prison maybe impossible, but what alternative have you?



Spyplane

Can you survive and complete your mission high in the sky over enemy territory?



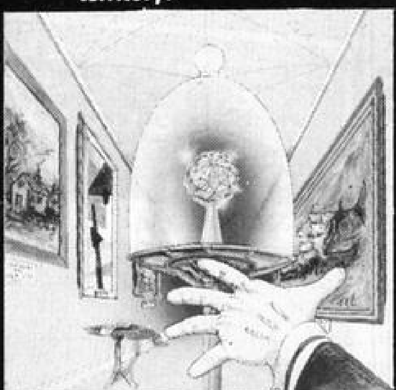
Mindbender

Only you alone can save the world from the terrible power of the Mindbender.



Barsak The Dwarf

Help Barsak recover the treasures of his ancestors from the underworld of mythology.



Diamond Trail

Where in this city of death and intrigue is the stolen Sinclive Diamond?

A Superb collection of adventures for the 48K Spectrum written with the Quill.

From the fertile imaginations of many authors, we have selected this fine volume of adventures for you to collect. Each adventure is complete in itself and is presented in the distictive livery of the series to grace your software shelf as you build up the collection.

The adventures are priced at only £5.95 each.



Africa Gardens

What is the secret of the deserted Hotel and where are all the guests?.

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Price rise

From front page

Bandersnatch and Cyclapse, for the Spectrum and the Commodore 64.

Although still on cassette, they will be boxed along with other items, like maps and detailed playing instructions.

Mr Everiss said Imagine believed software sold as cassettes alone had reached its limit and more now had to be offered to customers.

A by-product is that piracy would be less likely because the other items in the boxes would be essential to use the games.

Mr Everiss said Imagine had also developed a system making its products nearly impossible to copy.

He agreed that the price cuts were to clear the decks and said that, at £3.95, the software was a bargain.

The company did not know exactly how much the future releases — due out in about three months — would cost, but it was spending £50,000 on marketing.

Virgin Games boss Nick Alexander, who is also chairman of the Guild of Software Houses, said when he heard the news: "I don't understand at all. What's the logic behind that?

"I'm totally amused and bemused by Imagine's twisting and turning. First they drop their prices and the next minute they are making them too high.

"While I applaud their move away from lower prices, I think they have over-reacted in the opposite direction. They will find it very hard, no matter what the extras, to sell games at £15."

Rod Cousens, managing director of Quicksilva, said his company did not plan to move from its pricing policy which puts a Spectrum game at £6.95.

The exceptions would be programs like its Games Designer and Ultisynth, a synthesiser for the Commodore 64.

Bob Simpson, head of PCS Distribution, believes the prices will be about £15.50 and £19.50. He said: "Imagine are claiming these programs are completely innovative. If that's the case it's marvellous and good for the industry."

He said they would have to offer at least the value of the packs from Phoenix Software, where an arcade game and an adventure are boxed in a video-sized case for £9.95.

Imagine, 5 Sir Thomas St, Liverpool L1 6BW

Nine tracks

From front page

pay for the cheapest floppy disc systems."

Phloopy costs £114 and the interface, which runs up to eight drives, is £29.90. Tape cartridges cost £3-£3.50 depending on quantity.

Up to LOOK can be stored, says Phi Mag, and accessed in three to four seconds. Transfer rate is 10K per second, around 200 times faster than cassettes.

At present the system works only on the BBC computer, but Phi Mag plans to make it available for other popular home micros.

Phi Mag says the speed and reliability are due to a nine-track recording head — recording one byte across the quarter-inch width of the tape — and an error-checking system controlled by an on-board processor.

Phloopy has its own Loop Filing System, using the standard BBC filing system, BASIC commands and its own commands, prefixed by an asterisk.

The continuous loop of tape is driven at 15 inches per second and, says Phi Mag, touches the cartridge wall only occasionally, so tape lubricant is not needed.

Programs or text files from cassette can be transferred.

Mr Lucas said his company was talking to software companies about supplying software on the new cartridges.

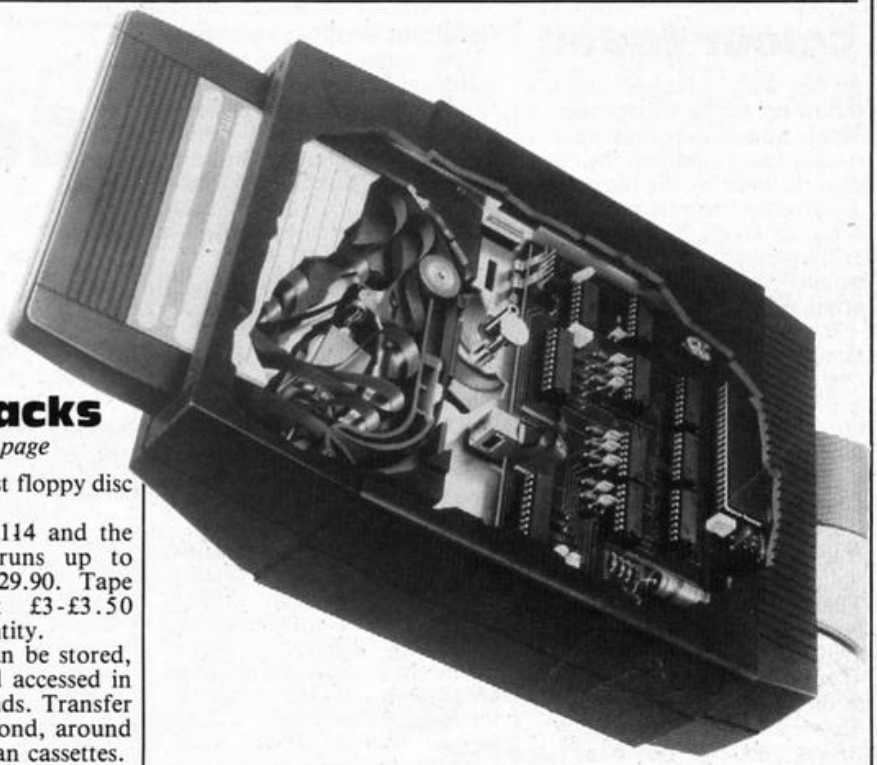
Fitting the system means inserting plugs into two other sockets and cutting two resistors.

Once installed, the Phloopy system plugs into the BBC's disc port and a second plug goes into the power output socket.

Phi Mag says the installation should not take more than 20 minutes.

The company says that, with production under way at its Falmouth plant, mail order sales will start within two months.

Phi Mag Systems, Tregoniggie Industrial Estate, Falmouth, Cornwall TR11 4RY



Cut-away view of the Phloopy system shows the 12ft tape loop and, at rear, the error-checking processor.

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 2,000 words. Don't worry about your writing ability — just try to keep to the style in HCW. Articles most likely to be published will help our readers made 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 Liptrot, Home Computing Weekly, No.1 Golden Square, London W1R 3AB

NEWS

Colour coded

Jet Set Willy, Matthew Smith's follow-up to the chart-topping Manic Miner, runs only when a colour code, found on the inlay card, is input by the player.

Software Projects says this is a bid to lessen piracy. Jet Set Willy, which has a competition detailed on the inlay, was originally due out in December.

It runs on the 48K Spectrum along with the company's other new games, Tribble Trouble and Orion. Dinky Doo, new for the Commodore 64, plays a tune while loading.

Software Projects, Bear Brand Complex, Allerton Rd, Woolton, Liverpool L25 7SF

● ● ●

The inaugural meeting of the Society of Software Authors, affiliated to the Computer Trade Association, will be held at the Studio Theatre, Kenneth More Theatre, Oakfield Rd, Ilford, Essex, on May 5, starting at 1pm. Subscription: £10 per year.

Dorene Cox, acting treasurer, Society of Software Authors, 7 Meadway Ct, Whalebone Lane South, Dagenham, Essex

● ● ●

Turbo, an extended BASIC for the Commodore 64 at £14.95, is said to offer 45 instructions to make the computer easier to use.

Aztec, 18 Gregory Springs La, Mirfield, W. Yorks WF14 8LE

● ● ●

Logo, the educational programming language, has been brought out for the Spectrum by Kuma and for the Atari. The Spectrum version is on tape for £9.95 and Atari's is on cartridge at £59.99, including two 200-page manuals.

Kuma, Unit 12, Horseshoe Pk, Horseshoe Rd, Pangbourne, Berks RG8 7JW.
Atari, Railway Terr, Slough, Berks SL2 5BZ

Longmans is adding two books to its series on using home computers: The BBC Micro Guide and, due out in three weeks, The Electron Micro Guide. Both are by Grahame Blackwell, director of the Ivybridge Educational Computing Project, South Devon, and cost £2.95.

Longman, Burnt Mill, Harlow, Essex CM20 2JE

● ● ●

Kenilworth Software is planning to bring out a magazine on tape for users of the TI-99/4A in May/June.

Kenilworth Software, 9 Dencer Dr, Knights Meadow, Kenilworth, Warks CV8 2QR

● ● ●

Forthcoming shows: Microfair, April 28, Alexandra Palace, North London; 5th Annual Commodore Computer Show, June 7-9, Novotel London (formerly Cunard International Hotel), Hammersmith; Personal Computer Games Easter Show, April 20-22, Solihull Conference Centre, Homer Rd, Solihull; What Micro? Dr Barnardos Show, July 14-15, Battersea Pk, London.

● ● ●

Virgin Games' Nick Alexander has just returned from Hungary where he had talks with Andromeda, the software house that produced Chinese Juggler, about importing new games.

Virgin, 61-63 Portobello Rd, London W11 3DD

● ● ●

After the game of the book, the book of the game of the book. Melbourne House has brought our A Guide to Playing The Hobbit. Priced at £3.95, it outlines strategies and tactics and some, but not all, solutions. Melbourne House also publishes the game tape for the 48K Spectrum, Commodore 64, Oric and BBC.

Melbourne House, Castle Yard House, Castle Yard, Richmond, Surrey TW10 6TF

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VISA

ONE MAN'S VIEW

Get it right, Sir Clive

Every two years or so that special time comes round again when — in classic Sinclair style — Sir Clive and his crew unleash their latest and greatest home computer.

Waiting for it is a mob of anticipating and impatient computer freaks like me who will buy anything with the wonderfuly angular Sinclair logo on the side.

Will the QL meet our expectations? Perhaps.

It certainly sounds good, but so do a lot of other things when we first read about them in the hastily-written and hazy first impression reports. The reviews rave about a computer that nobody, including the writer, knows a lot about.

There are mysterious and conflicting reports of chip names, memory capacity and cost until, finally, the official literature arrives. Happy would-be customers tear open the envelopes and scratch their heads in confusion when they find, for example, that it costs £100 more than they had heard.

Thankfully, that initial period is over for the QL and the solid facts have settled down to a basic list. And a very good list it is too: 128K RAM (96 usable after 32K for screen display is subtracted), eight colours, several text and graphics modes, twin built-in Microdrives, lots of interfaces, a seemingly excellent BASIC controlled by a Rolls-Royce of processors, an interesting shape and a big expansion programme.

And it's cheap. Or rather, for argument's sake, it's inexpensive. It really is a lot less than it should be.

The catch? there doesn't appear to be one. But perhaps everyone is looking in the wrong direction for the fatal error. If anything does eventually, or initially, go wrong it won't be the computer. Odds on it will be the company.

For too long we have let it all go by with computer companies: the production problems, recalls, apologies, re-delivery, the months of waiting. If our friend Sir Clive is reading I hope he bows his head in shame.

I'm ashamed to say that I have had two ZX81s and three of the 16K RAM packs for it, finally giving up after the third packed up. This time round I've really done myself proud, not stopping at three Spectrums. Oh no, I've had eight. No, this is not a typing error — I said eight. I wonder how many QLs I'll get.

Now, patience is one of my better virtues and I know that things like this must happen all the time. But it had better not happen again. I want to have faith in your company, Sir Clive, but you have let me down in the past. Your last chance will arrive soon when I order my QL. Be warned: there are others like me and it's a dangerous cut-throat market.

Please get it right.

John Kilby
Luton

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

NEW FROM THE GODS

Thor
Games from the Gods



FOR ANY SPECTRUM µSPEECH

Mega Fruit by Bob Hitching
This is the ultimate fruit machine, with all the features of the real Arcade machines, such as Nudge, Hold, Gamble etc.



FOR THE UNEXPANDED VIC 20 and the CBM 64

3D Silicon Fish by Chris Stamp
Sillo has to collect Silicon and return to Earth before the Krllyon destroys him. Will he make it and collect his reward? Only you can tell.



FOR THE BBC 'B'

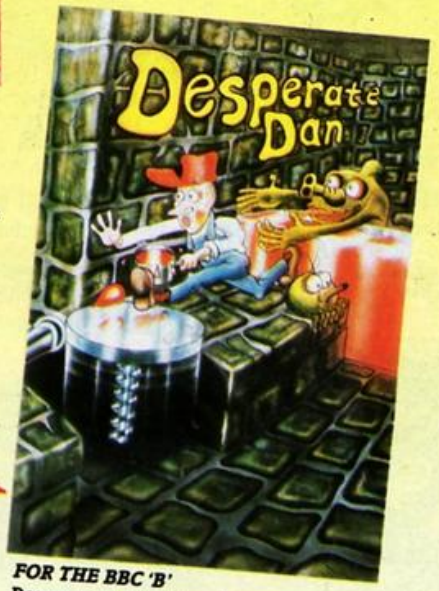
Pyramid Painter by Chas Smith
Can you help Bert the painter finish off the pyramids before the balls or Thin Man finishes him?



FOR ANY SPECTRUM µSPEECH

Spiders Web by Peter Milne
Micky is a greedy little spider. He traps lots of Flies and Wasps on his web and then stores them to eat later but it's tough for Micky, as the Flies bite back.

ALL PROGRAMS ONLY
£5.95
INCLUDING V.A.T.
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& PACKING BY RETURN



FOR THE BBC 'B'

Desperate Dan by Reiner Bjerkeli
Deep down in Dan's dungeon are the ghastly monsters, he keeps them at bay with liquid dartanium. This liquid is very sweet and is liked by several rodents. Dan is desperate for help to keep the creatures at bay. Can you help?

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- ☐ Pyramid Painter BBC B
- ☐ Desperate Dan BBC B

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Spectrum and ZX81 users: win great games from SILVER SOFT

Silversoft is one of our longest established software houses — and its range of best-sellers proves it.

Now you have the chance to win a prize package of Silversoft games for your Spectrum or ZX81.

Each of our 84 winners will receive software worth about £12. That's two cassettes for the Spectrum or three for the ZX81.

Your prizes will be selected from the Silversoft range by joint owners Dougie Bern and André Posumentov.

All you have to do is to find the Silversoft titles in our word square.

If you're a winner with either model of the **Spectrum** your prizes will be drawn from this list:

Zorbiter	**Ground Attack**
Muncher	**Cyber-Rats**
Slippery Sid	**Brain Damage**
Exterminator	**Armageddon**
Mission Impossible	

And if you have the **48K Spectrum** these titles could be yours too:

Starship Enterprise	**Sam Spade**
Freez Bees	**Robot Riot**

Winners with a **ZX81 plus 16K RAM pack** will each receive three of the following:

Invaders	**Asteroids**
Muncher	**Alien Dropout**

When the entries are judged no distinction will be made between owners of either computer.

Entries close at first post on Friday April 6.

How to enter

Examine the word square carefully and try to find all the Silversoft software titles all of them, plus more, are in the two lists from which most of the prizes will be selected.

Mark the titles you find by ringing them with a ballpoint pen or marking them with a semi-opaque felt-tip pen.

Complete the coupon fully and clearly — if you are a winner it will be used as a label — and send the word square with the coupon to us.

You must mark on the back of the envelope the number of software titles you found.

Make sure you write both the model of your computer and its memory, including RAM pack, on the coupon.

Please do not include anything else in the envelope.

You may enter as many times as you wish provided each entry is on the official coupon and word square and in a separate envelope. Incomplete entries cannot be considered.

Closing date is Friday April 6 at first post.

The senders of the first 84 entries opened at random, regardless of computer owned, will win the prizes.

The prizes will arrive from Silversoft within 28 days of the publication of the issue containing the names of the winners and the solution.

The rules

The closing date is first post on Friday April 6, 1984 and the prizes will be allocated according to the How to enter section.

Entries which do not follow the guidance given cannot be considered.

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

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



There's £1,000-worth of tapes waiting for the winners in this week's competition. How many Silversoft titles can you find in our word square?

Silversoft competition

Entry Coupon

Name _____

Address _____

_____

_____ **post code** _____

Number of titles found _____

Computer owned (Spectrum or ZX81, with memory): _____

_____

Complete clearly and fully — if you are a prizewinner this will act as a label. Post to Silversoft Competition, Home Computing Weekly, No.1 Golden Square, London W1R 3AB. Closing date: first post, Friday April 6. Follow carefully the How to Enter section, including writing the number of titles found on the back of your envelope.

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

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Collect the rubbish... and sounds you can make

A great game and a collection of useful sound routines, both for the VIC-20, by Terry Bartlett and Antonia Jones. The programs are from their book, Winning Games on the VIC-20, just published by Ellis Horwood

Bugs

You take on the rôle of chief garbage collector for the central processing unit.

The object is to rid the CPU of all the rubbish while at the same time avoiding the "program pulses" that are scattered all around you.

Apart from the program pulses, you also have to watch out for the slippery floor because as soon as you start moving it is impossible to stop, except by clinging to the walls of the CPU.

This game requires a joystick and runs on the unexpanded VIC-20

```
 900 REM HCW VERSION WITH REMS
 999 REM [CLR]
 1000 PRINT"]":POKE36879,8
 1005 REM [GRN][CRSR DOWN][3*CRSR RIGHT][YEL][GRN]
 1010 PRINT"█Q██)>))) ▔BUGS █)))))"
 1020 P=PEEK(52)-2:POKE52,P:POKE56,P:CLR:FORI=7168TO7679:POKEI,PEEK(I+25600):NEX
T
 1030 POKE36869,255
 1035 REM [YEL]
 1040 A=0:FORJ=828TO912:READX:POKEJ,X:A=A+X:NEXT:READX:IFA<>XTHENPRINT"▔DATA ERR
OR":END
 1050 FORC=7432TO7527:READA:POKEC,A:NEXT
 1055 REM [WHT][CRSR DOWN][2*CRSR RIGHT][CRSR DOWN]
 1060 PRINT"█Q██INSTRUCTIONS...Y+N█"
 1070 GETA$:IFA$<>"Y"ANDA$<>"N"THEN1070
 1080 IFA$="N"THEN1130
 1085 REM [YEL][2*CRSR UP]
 1090 PRINT"▔██YOU ARE CHIEF GARBAGE COLLECTOR...
 1095 REM [CRSR DOWN][CYN]
 1100 PRINT"█AND YOUR JOB IS TO GETRID OF ALL THE GARBAGEWHICH LOOK LIKE-◣***"
 1105 REM [CRSR DOWN][YEL][5*CRSR RIGHT][WHT]
 1110 PRINT"█▔BUT AVOID PROGRAM█████PULSES WHICH LOOK LIKETHIS-█+++"
 1115 REM [CRSR DOWN][YEL][2*CRSR RIGHT][CRSR DOWN][WHT][CRSR DOWN]
 1120 PRINT"█▔IF YOU HIT ANY PULSE██MORE THAN 5 TIMES.....██INSTANT PROGRAM CRAS
H"
 1130 REM  ---START----
 1140 PRINT"PRESS ANY KEY TO PLAY";
 1150 POKE646,INT(RND(1)*8)
 1155 REM [CRSR UP]
 1160 GETA$:IFA$=""THENPRINT"]":GOTO1140
 1165 REM[CLR]
 1170 SYS828:PRINT"]"
 1180 REM ---VARIABLES--
 1190 A=PEEK(36866)AND128:SC=4*A+64*(PEEK(36869)AND112):C=30720
 1200 S1=36876:S2=S1+1:V=S2+1:M=SC+252:Y=0
 1210 SE=0
 1220 REM-SET-UP-SCREEN-
 1230 FORT=1TO50:GA=SC+INT(RND(1)*433+67):IFPEEK(GA)<>32THENT=T-1
 1240 POKEGA+C,3:POKEGA,42:NEXT
 1250 FORT=1TO40:BY=SC+INT(RND(1)*438+67):IFPEEK(BY)<>32THENT=T-1
 1260 POKEBY+C,1:POKEBY,43:NEXT
 1270 FORB=SC+44TOSC+65:POKEB+C,5:POKEB+C+440,5:POKEB,40:POKEB+440,40:NEXT
 1280 FORB=SC+66TOSC+462STEP22:POKEB+C,5:POKEB+C+21,5:POKEB,40:POKEB+21,40:NEXT
 1290 POKEM,32:POKEV,10
 1295 REM[HOME][YEL]
 1300 PRINT"█▔!#$%"TAB(11)"&'!#$%"
 1310 GOSUB1480
 1320 REM  ----LOOP-----
 1330 POKES1-2,FR
 1340 POKES1,0:CO=7:CH=41:FR=140
 1350 IFPEEK(841)=0THENY=1
 1360 IFPEEK(842)=0THENY=2
 1370 IFPEEK(843)=0THENY=3
 1380 IFPEEK(844)=0THENY=4
 1390 ONYGOSUB1530,1550,1570,1590
 1400 IFPEEK(M)=42THENSE=SE+10:GOSUB1480:POKES1,240
 1410 IFPEEK(M)=43THENPOKEOP+C,1:POKEOP,43:GOSUB1460:CR=CR+1:IFCR=5THEN1610
 1420 IFRND(1)>.5THENCO=5:CH=44:FR=160
 1430 OP=M:POKEM+C,CO:POKEM,CH
 1440 GOTO1320
 1450 REM-CHECK-ROUTINE-
 1460 FORF=1TO50STEP5:POKEV,10:POKES1,150+F:NEXT
```

Sound effects

Here are some special effects which you might care to use in your own programs.

We have put them all together into one demonstration program, which runs on the VIC-20 with 3K of extra RAM.

If you have a 16K RAM pack, the following commands entered in direct mode immediately after power up will set up the VIC to RUN a program designed for a VIC or a VIC plus 3K:

```
POKE8192,0:POKE44,:
  NEW
POKE36866,150:
  POKE36869,240:
  POKE48,30
```

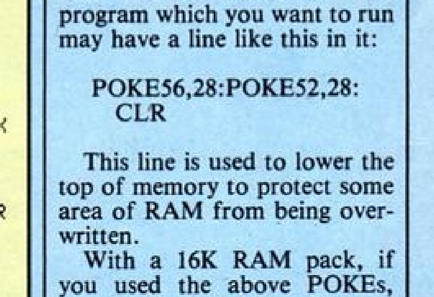
Clear the screen and you are almost ready to go, only one last hurdle remains. The program which you want to run may have a line like this in it:

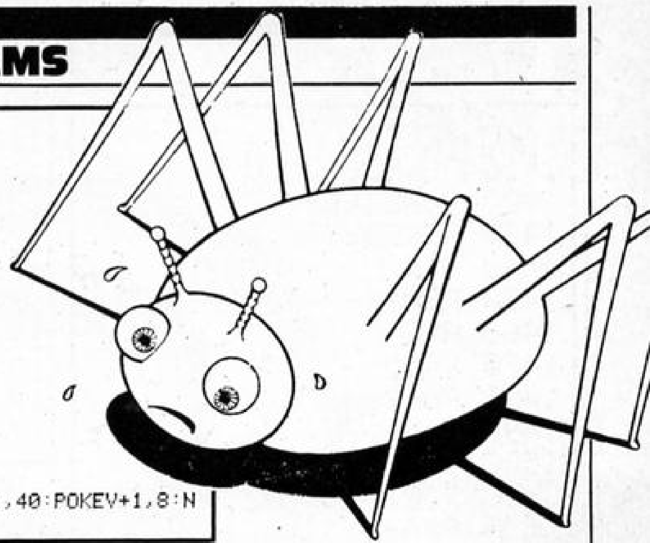
```
POKE56,28:POKE52,28:
  CLR
```

This line is used to lower the top of memory to protect some area of RAM from being over-written.

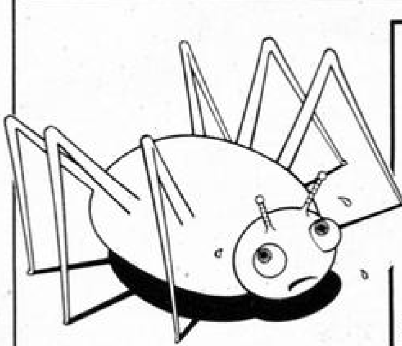
With a 16K RAM pack, if you used the above POKEs, you don't need to lower the top of memory — so delete the line from the program. Otherwise you will get an OUT OF MEMORY error as soon as you try to RUN.

● Winning Games on the VIC-20, £5.95, is published by Ellis Horwood and distributed by John Wiley & Sons, of Chichester. A tape of all the programs in the book is £9.95 and book and tape together cost £11.95.

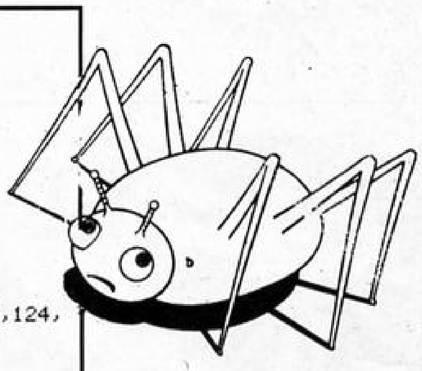




```
1470 RETURN
1480 REM -----SCORE-----
1490 IFSE>HITHENHI=SE
1495 REM [HOME][WHT][5*CRSR RIGHT][HOME]
1500 PRINT"[illegible]";SE:PRINT"[illegible]"SPC(17);HI
1510 RETURN
1520 REM --BUG-MOVE--
1530 M=M-22:POKEM+22,32:IFPEEK(M)=40THENM=M+22:Y=2
1540 RETURN
1550 M=M+22:POKEM-22,32:IFPEEK(M)=40THENM=M-22:Y=1
1560 RETURN
1570 M=M-1:POKEM+1,32:IFPEEK(M)=40THENM=M+1:Y=4
1580 RETURN
1590 M=M+1:POKEM-1,32:IFPEEK(M)=40THENM=M-1:Y=3
1600 RETURN
1610 REM --END-GAME--
1620 POKES1,0:POKES2,0
1630 POKEV,15:FORT=1TO50:POKES2,240:POKEV+1,32:FORK=1TO5:POKEV+1,40:POKEV+1,8:N
EXTK,T
```



```
1635 REM[YEL][CLR][CRSR DOWN][4*CRSR RIGHT]
1640 PRINT"[illegible]PROGRAM[illegible]CRASH"
1645 REM[GRN][CRSR DOWN][3*CRSR RIGHT]
1650 PRINT"[illegible]GARBAGE OVERLOAD
1655 REM[CRSR DOWN][4*CRSR RIGHT][CYN][WHT][CYN][WHT][CYN][WHT][CYN]
1660 PRINT"[illegible]***=+[illegible]****=+[illegible]***=+[illegible]*"
1670 POKEV,0:POKES2,0
1675 REM[PUR][3*CRSR DOWN][4*CRSR RIGHT][CRSR DOWN]
1680 FORT=1TO2000:NEXT:PRINT"[illegible]TO PLAY AGAIN[illegible]"
1685 REM[5*CRSR RIGHT]
1690 PRINT"[illegible]PRESS A KEY";
1695 REM[CRSR UP]
1700 GETA$:POKEV+1,0:POKE646,INT(RND(1)*8):IFA$=""THENPRINT"[illegible]":POKEV+1,2:GOTO16
90
```



```
1705 REM [CLR]
1710 CR=0:SE=0:PRINT"[illegible]":POKEV+1,8:GOTO1200
1720 REM---M/C-DATA----
1730 DATA120,169,78,141,20,3,169,3,141,21,3,88
1740 DATA96,0,0,0,0,0,169,0,141,19,145,169,127,141
1750 DATA34,145,173,17,145,41,4,141,73,3,173
1760 DATA17,145,41,8,141,74,3,173,17,145,41,16,141
1770 DATA75,3,173,32,145,41,128,141,76,3,173
1780 DATA17,145,41,32,141,77,3,169,255,141,34,145
1790 DATA169,128,141,19,145,76,191,234,0,0,0,0.7167
1800 REM---CHAR-DATA---
1810 DATA251,130,130,250,10,10,251,0,0,0,0,0,0,0,0,0,239,8,8,8,8,8,239,0
1820 DATA190,162,162,190,164,162,162,0
1830 DATA248,128,130,224,130,128,248,0,138,136,138,250,138,138,138,0,0,0,0,0,124,
0,0,0,0
1840 DATA255,255,255,255,255,255,255,255
1850 DATA68,40,124,84,124,40,68,0
1860 DATA16,56,84,214,84,84,84,124,4,8,16,56,8,16,32,64
1870 DATA130,68,124,84,124,68,130,0
```

```
1000 REM ***************
1010 REM *             *
1020 REM *SOUND EFFECTS*
1030 REM *  PROGRAMS   *
1040 REM *             *
1050 REM ***************
1060 REM---PHOTON ATTACK
1070 POKE36878,15
1080 FORL=1TO20
1090 FORF=255TO255-INT(RND(1)*128)STEP-2
1100 POKE36876,F
1110 POKE36877,F
1120 NEXTF
1130 POKE36877,0
1140 NEXTL
1150 POKE36876,0
1160 POKE36878,0
1170 CLR
1180 REM-----UFO LANDING
1190 POKE36878,15
```

```
1200 FORF=130TO250STEP20
1210 FORT=1TOF*7
1220 FORJ=TTOFSTEP-5
1230 IFJ>255THEN1280
1240 POKE36876,J
1250 NEXTJ
1260 NEXTT
1270 NEXTF
1280 POKE36876,0
1290 POKE36878,0
1300 CLR
1310 REM--------LONE UFO
1320 POKE36878,15
1330 FORT=10TO1STEP-1
1340 FORJ=1TOT
1350 FORF=1TOJ*5
1360 POKE36876,200+F
1370 POKE36874,200-F
1380 NEXTF
1390 NEXTJ
```

```
1400 NEXTT
1410 POKE36876,0
1420 POKE36874,0
1430 POKE36878,0
1440 CLR
1450 REM----------SHRILL
1460 A=0
1470 V=15
1480 POKE36878,V
1490 V=V-.75
1500 IFV<0THENV=0
1510 FORT=234TO254STEP2
1520 A=A+1
1530 IFA=3THENT=T-4:A=0
1540 POKE36876,T-14
1550 POKE36875,T
1560 NEXTT
1570 POKE36876,0
1580 POKE36875,0
1590 IFV>0THEN1480
1600 POKE36878,0
1610 CLR
1620 REM------RED ALERT
1630 POKE36878,15
1640 FORT=1TO20
1650 POKE36876,242
1660 POKE36875,161
```

```
1670 POKE36874,162
1680 FORL=1TO100
1690 NEXTL
1700 POKE36876,0
1710 POKE36875,0
1720 POKE36874,0
1730 FORL=1TO100
1740 NEXTL
1750 NEXTT
1760 POKE36878,0
```




```
1690 NEXTL
1700 POKE36876,0
1710 POKE36875,0
1720 POKE36874,0
1730 FORL=1TO100
1740 NEXTL
1750 NEXTT
```

```
1760 POKE36878,0
1770 CLR
1780 REM-----HELICOPTER
1790 POKE36878,15
1800 FORT=1TO250
1810 POKE36877,254
1820 POKE36874,130
1830 FORL=1TO20
1840 NEXTL
1850 POKE36874,0
1860 POKE36877,0
1870 NEXTT
1880 POKE36877,0
1890 POKE36878,0
1900 CLR
1910 REM--------FLANGER
1920 POKE36878,15
1930 FORT=1TO500
1940 POKE36876,131
1950 POKE36875,130
1960 POKE36874,130
1970 NEXTT
1980 POKE36876,0
1990 POKE36875,0
2000 POKE36874,0
2010 POKE36878,0
```



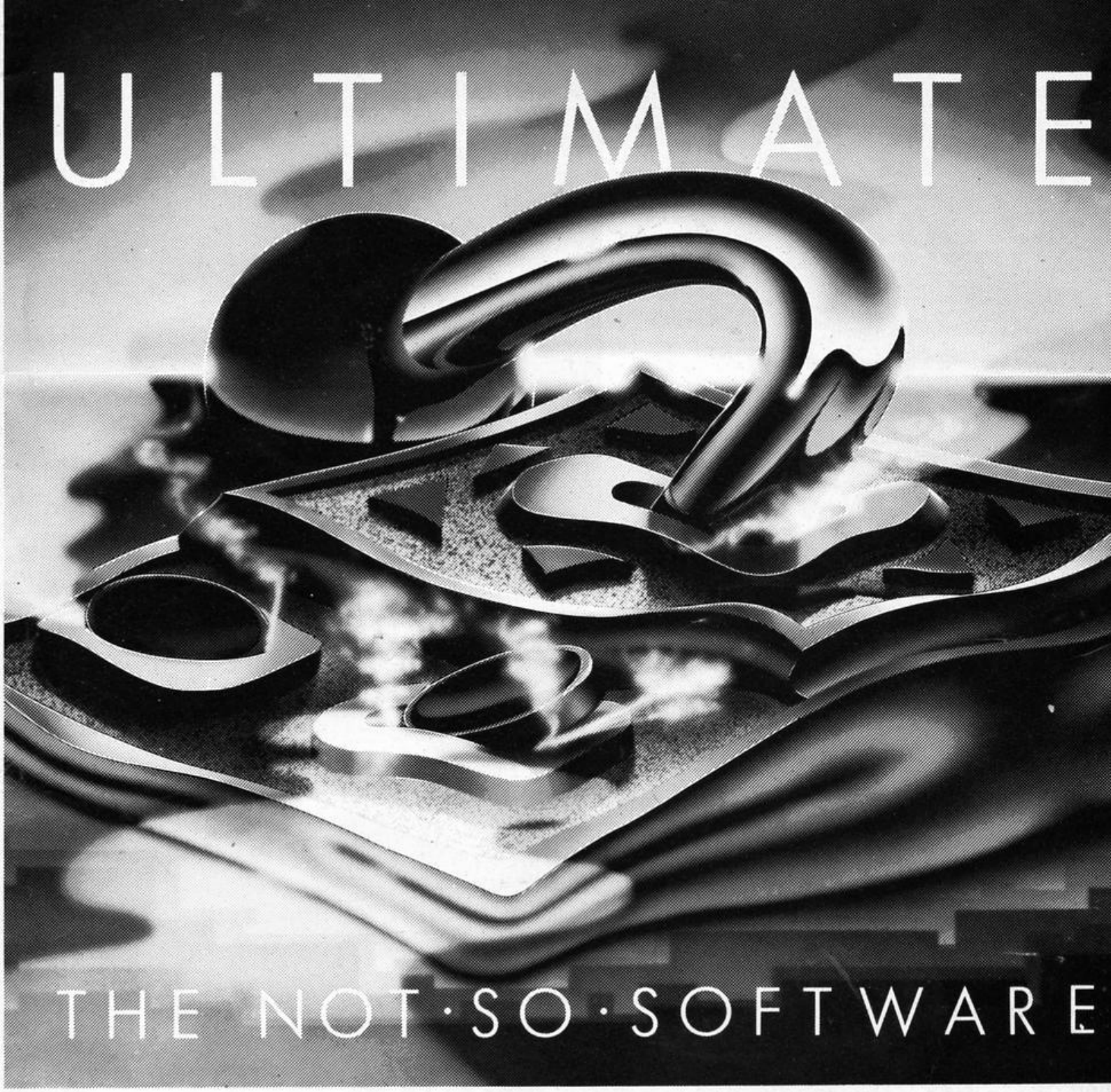

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Trail of destruction?

Whether it's bombs, oil wells, nuclear reactors, or plain old sabotage, can you stop a disaster in this bunch of games?

Airstrike 2 Atari £9.95

English Software, Box 43, Manchester M16 3AD

Airstrike 2 follows the usual Airstrike pattern — that of a horizontally scrolled cavern filled with fuel dumps and nasties, through which the player navigates his Mark X fighter demolishing as much of the opposition as he can en route.

Although the Mark X is well-armed with missiles and bombs, it has a lot to contend with. Enemy mines and missiles are plentiful; and with limited fighter ordnance, fuel and munitions dumps are essential targets for replenishing on-board supplies.

You are given the option when starting of pressing the "T" key for combined missile and bomb discharge capability — otherwise, the instructions say, the space bar must be pressed to release your bomb-load. I found the program defaulted to the "T" option in any event.

A one- or two-player game, Airstrike 2 is a good example of its kind. The graphics are nicely detailed and well complemented by colour. If you haven't tired of the idea, Airstrike 2 should satisfy your appetite for quite a while.

T.A.

instructions	70%
playability	85%
graphics	90%
value for money	80%

★ ★ ★ ★

Reactor Spectrum £7.95

Gemini, 18a Littleham Rd, Exmouth, Devon EX8 2QG

Reactor has an alarming bug — the first part of the program crashes on loading. However the next part will run correctly to reveal a challenging arcade-type game in which you have the daunting task of keeping a nuclear reactor under control.

Power, radiation and the number of metals increase when one of the neutrons which bounce around the reactor collides with a metal. You can reduce radiation by knocking a metal so it hits the discharge unit and leaves the reactor.

With less metal it is easier to control the reactor and keep the radiation down but the power level may be too low to complete the second stage.

If you survive long enough you move onto the second stage where your control unit leaves a trail of concrete blocks, used for filling the reactor to trap the active metals. And so on...

Reactor is an absorbing game that shows few signs of being a one-minute wonder. **S.E.**

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

★ ★ ★ ★

Bombastic! Atari £9.95

English Software, Box 43, Manchester M60 3AD

This is essentially a two-player game although the computer can play ag'in you and give you a mean run for your money.

Both players have mobile missile launchers stationed within two vertical lines. Between these two bases anti-matter bombs appear out of the blackness of centre screen and drift at random. They are the target objectives. At first translucent, they take on colour as missile shots are absorbed within. The concussion of impact will cause the device to veer in a different direction.

Normally bombs rebound off each other and missile silos — but when enough missiles hit on-target a critical stage will have been reached. After several colour variations the bomb will flare intermittently.

Should it then touch a silo boundary it will explode creating a breach in your defences. If with successive attacks the gap is large enough for a device to detonate against the adjacent wall, all is over.

So the idea of the game is to use missile impact and split-second timing to drive anti-matter bombs through your opponent's outer boundary to the inner.

T.A.

instructions	60%
playability	95%
graphics	75%
value for money	95%

★ ★ ★ ★

Devastation & Sabotage TI-994A £4.99

Solid Software, 35 Melville Rd, Bispham, Blackpool FY2 9JF

Devastation is another version of the popular bomber arcade game in which you have to destroy a city by dropping bombs on it, in order to land your crippled aircraft. In this version, as well as bombs you have a number of forward firing missiles and you also have the ability to climb should you get into trouble. This facility can only be used a limited amount of times, however, as there is a shortage of fuel. The game may be played at any one of five skill levels, and in spite of it being another version of an old game I found it very entertaining.

Sabotage, again, is a variation on an old theme. You are presented with an oil field containing several wells owned by a villainous profiteer who is holding the world to ransom with his exorbitant prices. Your job is to destroy the wells with explosives, but each well must be blown up in numerical order and you are not allowed to cross back over the fuse wire you have laid.

Graphics and colour are very good and the two games of Devastation and Sabotage together at the price shown are well worth a look at. **D.B.**

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

★ ★ ★ ★

Gusher CBM 64 £9.95

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

The blurb and instructions on the packaging had led me to believe that this was an entirely original game, so it was quite a surprise to find, on loading it, that it is merely a computer version of an old board game. Not that it's an exact copy — most of the features that made the board game worth playing have been left out.

It's a game for two to four players. You have to produce oil, transport it by lorry or pipeline to a refinery, and then export it by ship; the first person to reach the export target is the winner. The decision-making required, and the opportunities to sabotage one's opponents, have been minimised so success is almost entirely a matter of luck.

The map on which the game takes place is quite attractive, but this does little to compensate for the basic dullness of the game. In fact, it's so boring that I couldn't persuade anyone to play it with me. I did play it right through once, just in case there was an exciting win sequence at the end — there wasn't — but I don't think I'll ever play it again. **M.N.**

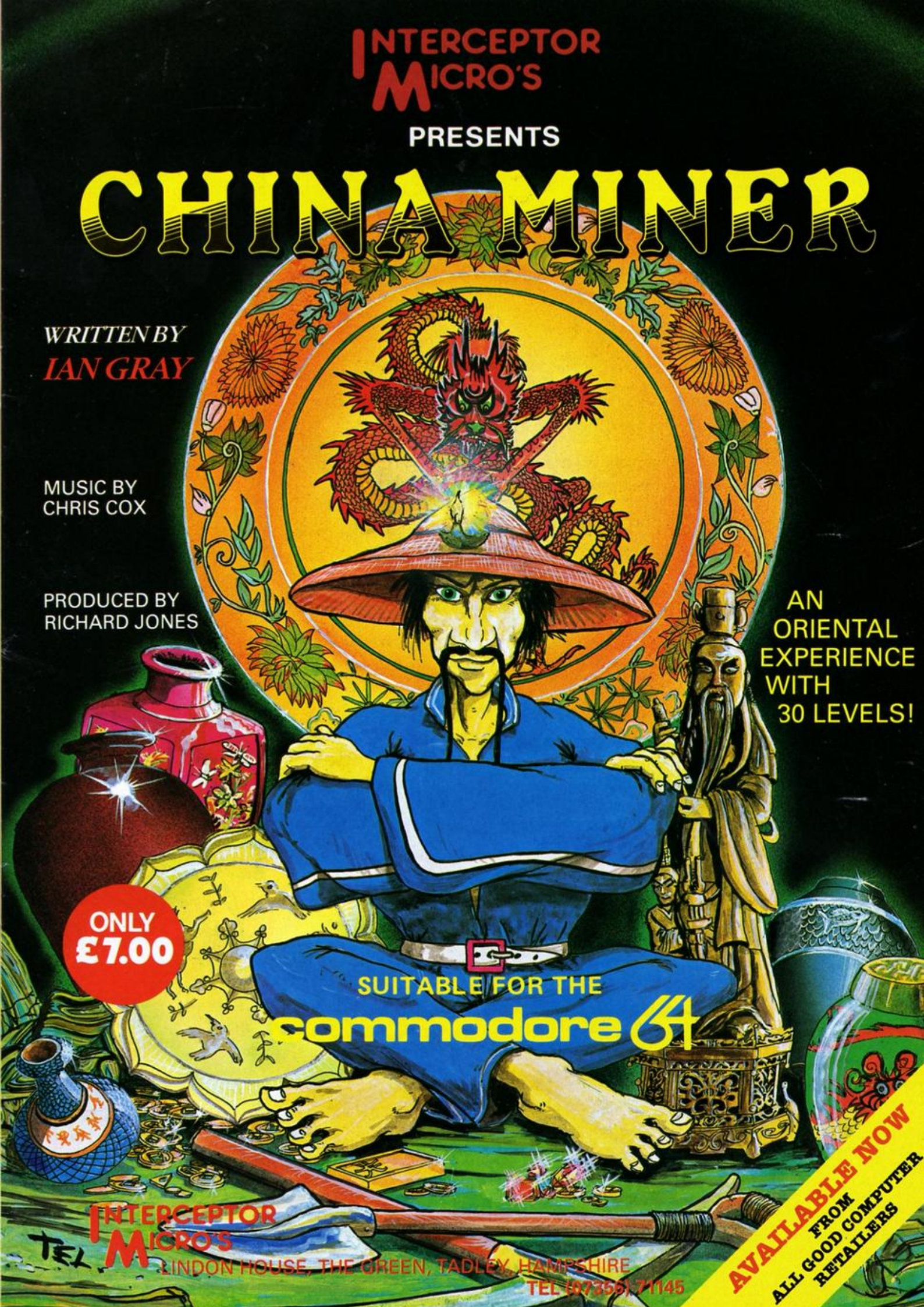
instructions	20%
playability	50%
graphics	60%
value for money	15%

★

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```
  1 PRINT AT 4,7;"PRESS ANY KEY FOR";AT 6,7;"A DAY AT THE RACES";AT 8,7;"By A.G
.Bird.1984."
  2 PAUSE 0
  3 PAPER 4: CLS : PRINT AT 4,10;"PLEASE WAIT"
  5 GO SUB 9000
 10 POKE 23609,255: CLS
 15 LET money=20: LET race=0
 20 LET a$=" A C": LET b$=" DEF": LET c$=" GHI"
 25 PAPER 7: CLS : PRINT AT 1,18;"You have £";money
 30 IF money=0 THEN GO TO 9900
 32 LET race=race+1
 34 RANDOMIZE
 38 IF race=10 THEN GO TO 9950
 40 LET c1=INT (RND*3)
 42 LET c2=INT (RND*3)
 44 LET c3=INT (RND*3)
 50 IF c1=2 THEN LET c1=7
 52 IF c2=2 THEN LET c2=7
 54 IF c3=2 AND RND>.5 THEN LET c3=7
 60 LET sad=INT (RND*3)+4
 65 IF sad=4 THEN LET sad=2
 70 BORDER 4: FOR f=10 TO 21: PRINT AT f,0; PAPER 4;"
    ": NEXT f
 75 PLOT 0,96: DRAW 36,36: DRAW 183,0: DRAW 36,-36
 76 PLOT 0,96: DRAW 0,16: DRAW 36,24: PLOT 255,96: DRAW 0,16: DRAW -36,24
 77 PLOT 36,132: DRAW 0,16: DRAW 183,0: DRAW 0,-16
 78 PRINT AT 4,5; INK 1; PAPER 6;"  A DAY AT THE RACES  "
 80 FOR f=6 TO 9: FOR d=4 TO 14: PRINT AT f,d; INK 2;"J";AT f,d+13;"J": NEXT d:
NEXT f
 85 PRINT INK 2;AT 7,3;"J";AT 7,28;"J";AT 8,2;"JJ";AT 8,28;"JJ";AT 9,1;"JJJ";AT
9,28;"JJJ"
 90 FOR f=0 TO 31: PRINT AT 10,f; INK 1; PAPER 7;"K";AT 21,f;"K": NEXT f
 95 IF race=9 THEN PRINT AT 21,11; FLASH 1;"LAST RACE"
100 PRINT AT 12,0; INK c1; PAPER 4;a$;AT 13,0;b$;AT 12,2; INK sad;"B"
110 PRINT AT 15,0; INK c2; PAPER 4;a$;AT 16,0;b$;AT 15,2; INK sad+1;"B"
120 PRINT AT 18,0; OVER 1; INK c3; PAPER 4;a$;AT 19,0;b$;AT 18,2; INK sad;"B"
150 LET n=INT (RND*18)+1
160 FOR f=12 TO 18 STEP 3: PRINT AT f,6;(f/3)-3;: GO SUB (8000+n+((f/4)-3)): PR
INT n$: PRINT AT f,27;"/1": NEXT f
170 GO SUB 7000
172 FOR f=0 TO 1: FOR g=1 TO 16: PRINT AT f,g;" ": NEXT g: NEXT f: PAUSE 25
175 FOR f=12 TO 18 STEP 3: FOR g=6 TO 29: PRINT AT f,g; PAPER 4;" ": NEXT g: NE
XT f
180 LET a=0: LET b=0: LET c=0
200 PRINT AT 12,a; INK c1; PAPER 4;a$;AT 13,a;b$;AT 12,a+2; INK sad;"B"
205 BEEP .006,-15
210 PRINT AT 15,b; INK c2; PAPER 4;a$;AT 16,b;b$;AT 15,b+2; INK sad+1;"B"
220 PRINT AT 18,c; INK c3; PAPER 4;a$;AT 19,c;b$;AT 18,c+2; INK sad;"B"
230 LET a=a+RND*1: LET b=b+RND*1: LET c=c+RND*1
240 IF a>27 THEN PRINT AT 12,27; PAPER 4;" ";AT 13,27;" ": LET a=28
250 PRINT AT 12,a; INK c1; PAPER 4;a$;AT 13,a;c$;AT 12,a+2; INK sad;"B"
255 IF a=28 THEN GO TO 1000
```

How risk at the race

Fed up with zapping aliens, A.G. Bird created A Day at the Races for the Spectrum



much will you

Fancy a day at the races? Try my program and starting with £20, you could win thousands of pounds... or you may be walking home.

I have tried to create something quite different from zapping aliens and escaping from mazes, both of which in my opinion have been almost totally exhausted.

Anyway, this game is a non-violent and realistic day out at the races.

It has proved fairly addictive in my family.

All the instructions are in the program.

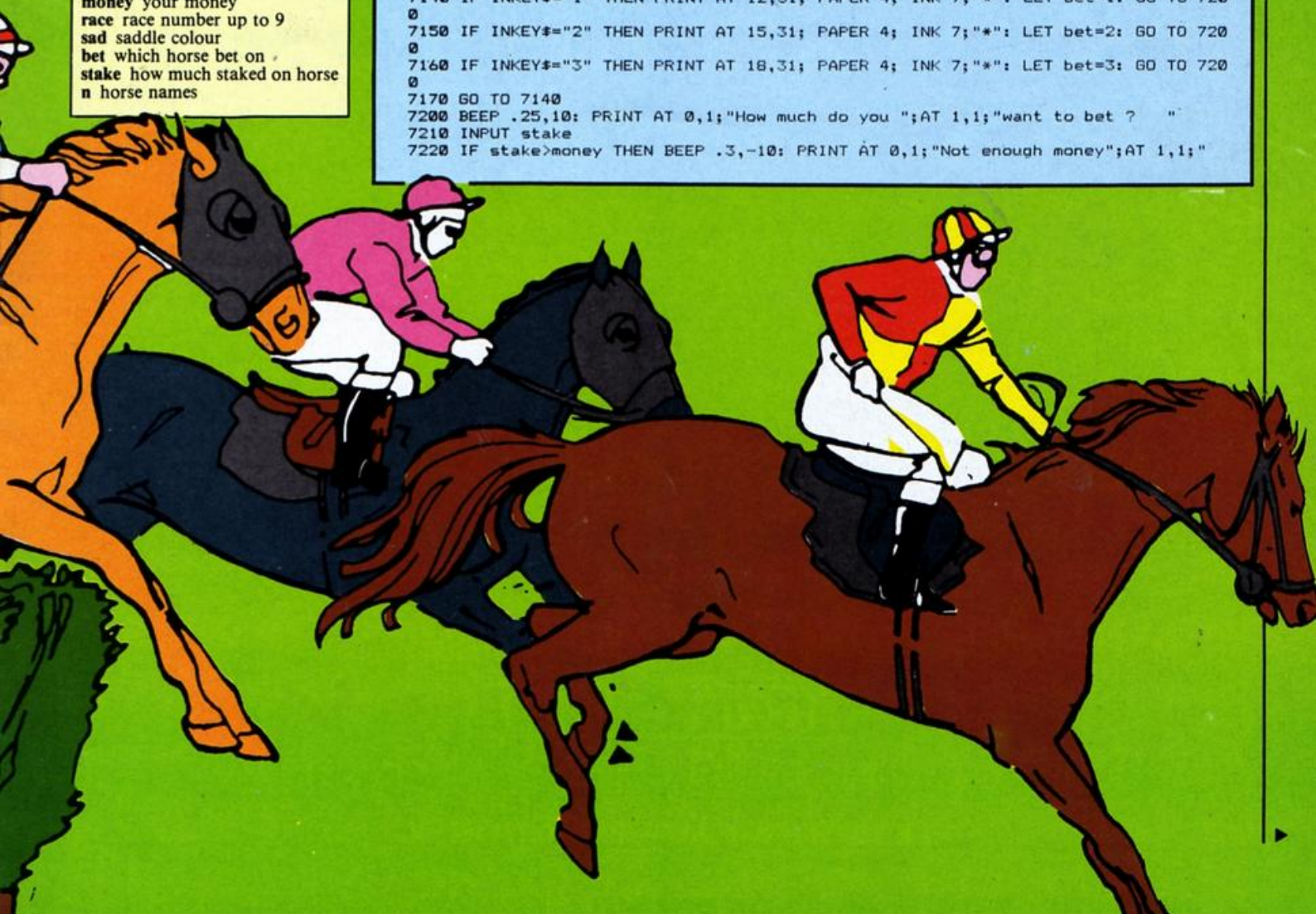
s?

Note: capital letters in the PRINT statements should, unless text, be entered in GRAPHICS mode.

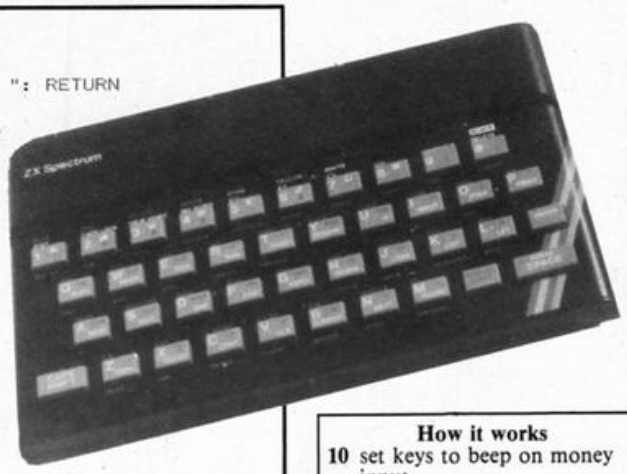
Variables

C1,C2,C3 horse colours
a,b,c horizontal position of horse
odd 1, odd 2, odd 3 random odds
money your money
race race number up to 9
sad saddle colour
bet which horse bet on
stake how much staked on horse
n horse names

```
 260 IF b>27 THEN PRINT AT 15,27; PAPER 4;" ";AT 16,27;" ": LET b=28
 265 BEEP .013,-14
 270 PRINT AT 15,b; INK c2; PAPER 4;a$;AT 16,b;c$;AT 15,b+2; INK sad+1;"B"
 275 IF b=28 THEN GO TO 1050
 280 IF c>27 THEN PRINT AT 18,27; PAPER 4;" ";AT 19,27;" ": LET c=28
 290 PRINT AT 18,c; INK c3; PAPER 4;a$;AT 19,c;c$;AT 18,c+2; INK sad;"B"
 295 IF c=28 THEN GO TO 1100
 300 BEEP .006,-15
 350 LET a=a+RND: LET b=b+RND: LET c=c+RND: GO TO 200
1000 FOR g=1 TO 10: PRINT AT 13,g;" THE WINNER ! ! !": BEEP .01,40: BEEP .01,30+
g: NEXT g: BEEP .5,20
1010 IF bet=1 THEN LET money=money+(stake+(stake*odd1))
1020 PRINT AT 1,28;money
1030 GO TO 25
1050 FOR g=1 TO 10: PRINT AT 16,g;" THE WINNER ! ! !": BEEP .01,40: BEEP .01,30+
g: NEXT g: BEEP .5,15
1060 IF bet=2 THEN LET money=money+(stake+(stake*odd2))
1070 PRINT AT 1,28;money
1080 GO TO 25
1100 FOR g=1 TO 10: PRINT AT 19,g;" THE WINNER ! ! !": BEEP .01,40: BEEP .01,30+
g: NEXT g: BEEP .5,10
1110 IF bet=3 THEN LET money=money+(stake+(stake*odd3))
1120 PRINT AT 1,28;money
1130 GO TO 25
7000 LET odd1=INT (RND*5)+2
7010 LET odd2=INT (RND*5)+2
7020 LET odd3=INT (RND*5)+2
7022 IF odd1=6 THEN LET odd1=7
7024 IF odd2=4 AND RND>.5 THEN LET odd2=8
7026 IF odd3=5 AND RND>.6 THEN LET odd3=9
7030 PRINT AT 12,26;odd1;AT 15,26;odd2;AT 18,26;odd3
7100 PRINT AT 0,1;"Do you wish to";AT 1,1;"place a bet y/n?"
7110 IF INKEY$="y" OR INKEY$="Y" THEN BEEP .25,10: GO TO 7130
7120 IF INKEY$="n" OR INKEY$="N" THEN BEEP .25,10: LET bet=0: GO TO 172
7125 GO TO 7110
7130 PRINT AT 0,1;"Which horse    ";AT 1,1;"1, 2, or 3 ?     "
7140 IF INKEY$="1" THEN PRINT AT 12,31; PAPER 4; INK 7;"*": LET bet=1: GO TO 720
0
7150 IF INKEY$="2" THEN PRINT AT 15,31; PAPER 4; INK 7;"*": LET bet=2: GO TO 720
0
7160 IF INKEY$="3" THEN PRINT AT 18,31; PAPER 4; INK 7;"*": LET bet=3: GO TO 720
0
7170 GO TO 7140
7200 BEEP .25,10: PRINT AT 0,1;"How much do you ";AT 1,1;"want to bet ?    "
7210 INPUT stake
7220 IF stake>money THEN BEEP .3,-10: PRINT AT 0,1;"Not enough money";AT 1,1;"
```



```
 Try again   ": GO TO 7210
7230 LET money=money-stake
7240 PRINT AT 1,28;"    ";AT 1,28;money
7250 PRINT AT 0,1;"                ";AT 1,1;"                ": RETURN
8001 LET n$=" SATURDAYS BOY ": RETURN
8002 LET n$=" SAINT PATRICK ": RETURN
8003 LET n$=" DIETOVER ": RETURN
8004 LET n$=" QUEEN & COUNTRY ": RETURN
8005 LET n$=" MR POPPY ": RETURN
8006 LET n$=" PINKYS BARN ": RETURN
8007 LET n$=" CHIMNEY SWEEP ": RETURN
8008 LET n$=" MICRO-CHIP ": RETURN
8009 LET n$=" TAXI FARE ": RETURN
8010 LET n$=" PURPLE JIM ": RETURN
8011 LET n$=" ALADDIN ": RETURN
8012 LET n$=" TEXAS BORN ": RETURN
8013 LET n$=" BRICK A BRACK ": RETURN
8014 LET n$=" JAM AND BREAD ": RETURN
8015 LET n$=" FIFTY GUINEAS ": RETURN
8016 LET n$=" WONDERFUL WILF ": RETURN
8017 LET n$=" BOB A JOB ": RETURN
8018 LET n$=" RACE EM ALL ": RETURN
8019 LET n$=" LONDON BRIDGE ": RETURN
8020 LET n$=" MOON MAN ": RETURN
8999 STOP
9000 FOR f=1 TO 11: FOR n=0 TO 7: READ a: POKE USR CHR$ (143+f)+n,a: NEXT n: NEX
T f
9010 DATA 0,0,0,0,0,0,31,127,0,0,0,0,1,255,255,255,160,160,112,216,252,254,239,1
94
9020 DATA 159,159,152,40,40,40,72,144,255,255,0,0,0,0,1,0,192,192,160,80,72,68,1
32,8
9030 DATA 159,159,152,20,10,9,9,5,255,255,1,2,20,25,2,4,192,128,128,128,128,0,0,
0
9040 DATA 24,60,126,86,126,36,60,66,0,255,102,102,102,255,102,102
9050 RETURN
9900 FOR f=40 TO -10 STEP -2: BEEP .01,f: BEEP .01,f+10: NEXT f
9910 PAPER 5: CLS : PRINT AT 1,0;" You have run out of money you   will now have
 to walk home.    "
9920 GO TO 9970
9950 FOR f=40 TO -10 STEP -2: BEEP .01,f: BEEP .01,f+10: NEXT f
9960 PAPER 5: CLS : PRINT AT 1,0;" That was the last race of the   day. You have
 £";money
9970 PRINT AT 20,2;"Press any key to play again"
9980 PAUSE 0: GO TO 10
```



How it works

10 set keys to beep on money input
15 zeroes race, sets up £20 in bank
20 describes horse parts
32-38 count races
40-54 set colours of horses
60-65 set colours of saddles
70-120 draw scene and horses
150-160 print random horse names
180-350 main race loop
1000 indicates winner
1010-1130 works out winnings
7000-7030 prints odds
7100-7250 question user on which horsee etc.
8001-8020 horse names: these can, of course, be changed
9000-9050 graphics
9900-9970 final message

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A question of copies

Piracy, Piracy... how can we stop it? You've probably heard this question a few times, but isn't the most sensible answer to reduce the price of the games?

Most good games cost around £6 with the best at around £12. How can you expect someone to pay such an amount for one game?

I go to a school where the computer density is very high and so is the piracy of games. But why do people purchase this kind of software?

It must be possible to sell all these good games at present on the market with a smaller price tag. After all, it only costs the software houses about 60p to market one game. This excludes royalties and profits which then bring the price up to about £10.

Before I go I'll leave you who have copies of games with a question: If the price of a game was reduced, would you buy the copied version or the original?

Samrendu Singh, aged 12, Dartford

It's horses for courses

I would like to point out to Mr Mathews (Will we speak BASIC? HCW 51) that, although the rationalisation of computer languages into one standard language is in essence a good idea, it is in fact a totally impractical suggestion.

No single language — especially the slow interpreted BASIC — could possibly cater for the specialist applications required of it.

Every language has its own good points and its own particular problems, from the low-level but fast and very useful assembler to the most modern of the very high level artificial intelligence languages (Prolog, Lisp etc) and the high-level semi-compiled languages, like Pascal.

Try writing effective and efficient artificial intelligence programs in BASIC, of all languages!

Each also has its own specialist applications in its own field of industry, commerce or whatever: Cobol for business and data processing, Fortran for scientific and mathematical problem solving.

Try writing a Simpson's Rule application program in Cobol or, conversely, a data processing program in Fortran.

Obviously, each language has a certain amount of flexibility. But for each application the most effective and appropriate language for that application should be chosen.

I would point out that the original intended application for BASIC was as a simple high level language for beginners to learn about programming.

This application is now filled by yet another language, better qualified to do this than BASIC: Logo.

Even though BASIC is slowly moving away from its roots, it would be a totally inappropriate language to inflict upon professional programmers, especially when BASIC itself has diversified into so many dialects spread over such a wide range of incompatible machines.

Most other languages are far closer between machines than BASIC.

G.R.G. Ulill, Arbroath, Angus



Magazines must act over piracy

Computer games software is the dynamic success story of the current economic recession and is an area where, for a change, Britain has a tangible lead over competing countries.

The games software industry is a part of the emerging leisure technology industry and our lead in games will be reflected in other areas of technology as they emerge, given a chance.

The boom in games software has created jobs, not only directly but in printing, duplicating, advertising and in the magazine industry. As leisure technology progresses it could become a major source of employment.

All this is being jeopardised by the selfish activities of members of the public who are copying games instead of buying them. This is theft. We are not talking about isolated instances, we are talking about "user groups" running mini production lines at their evening meetings and stealing as many as 2,000 copies of successful individual titles at one go.

Conservative estimates regard seven copies for each legitimate product as being a realistic overall picture of the marketplace.

This is risking the livelihoods of everyone in the industry, including the magazines. The games companies have far less to spend on advertising space and if the epidemic continues will have less still. This is the reality of the situation.

The media is a powerful force yet in this instance is doing little or nothing to use this power. Some magazines even carry small advertisements for blatant copies. Some magazines have actually carried editorial condoning the thieves. They are cutting off their nosees to spite their faces.

The time has come for all computer magazines to follow a concerted campaign to stop piracy. Editorial must campaign for law changes creating harsher penalties. The copying clubs must be exposed. Advertising executives must filter out the pirates' adverts. Piracy must become unpopular.

It is no good expecting the software companies to solve the problem, they have not the organisation or power — it is the media that has. Any magazine that does not act is not facing up to reality.

David Lawson, Mark Butler, Bruce Everiss, Ian Hetherington, directors, Imagine Software, Liverpool.

New record

I am writing with reference to Stephen Butcher's letter (HCW 49) about Microdrive order forms.

I have to take over his world record due to the fact that I have now received eight forms.

J. McKellar Main, Retford, Notts

Beaten him?

I'm writing to see if anyone has got 100 per cent on the Spectrum version of The Hobbit. My highest score is 92.5 per cent and if anyone has managed to get better than my score could they inform HCW?

Phil Hoyle, Rhiendahlen, Germany

Leap, and b three for yo

Here's a bonus — three ga They're all Andrew

Meteor Race

Your challenge in this game is to survive while bombing targets.

The game screen is split into two sections: the top half has meteors to avoid and the bottom has a landscape.

Your ship will appear in the centre of the screen and then the screen will scroll from right to left, achieved by using constantly updated strings.'

The landscape section has targets to bomb and to survive you must keep hitting the pods, which increase your power by at least 51 units.

The missiles score points only. You lose units of power for each shot, so don't be too trigger happy!

Before starting you will be asked to choose a difficulty level and this controls your power consumption.

You've lost if you run out of power or crash.

You score 10 points for hitting a pod and 15 points for each missile.

The controls are:

X up
down arrow down
up arrow up

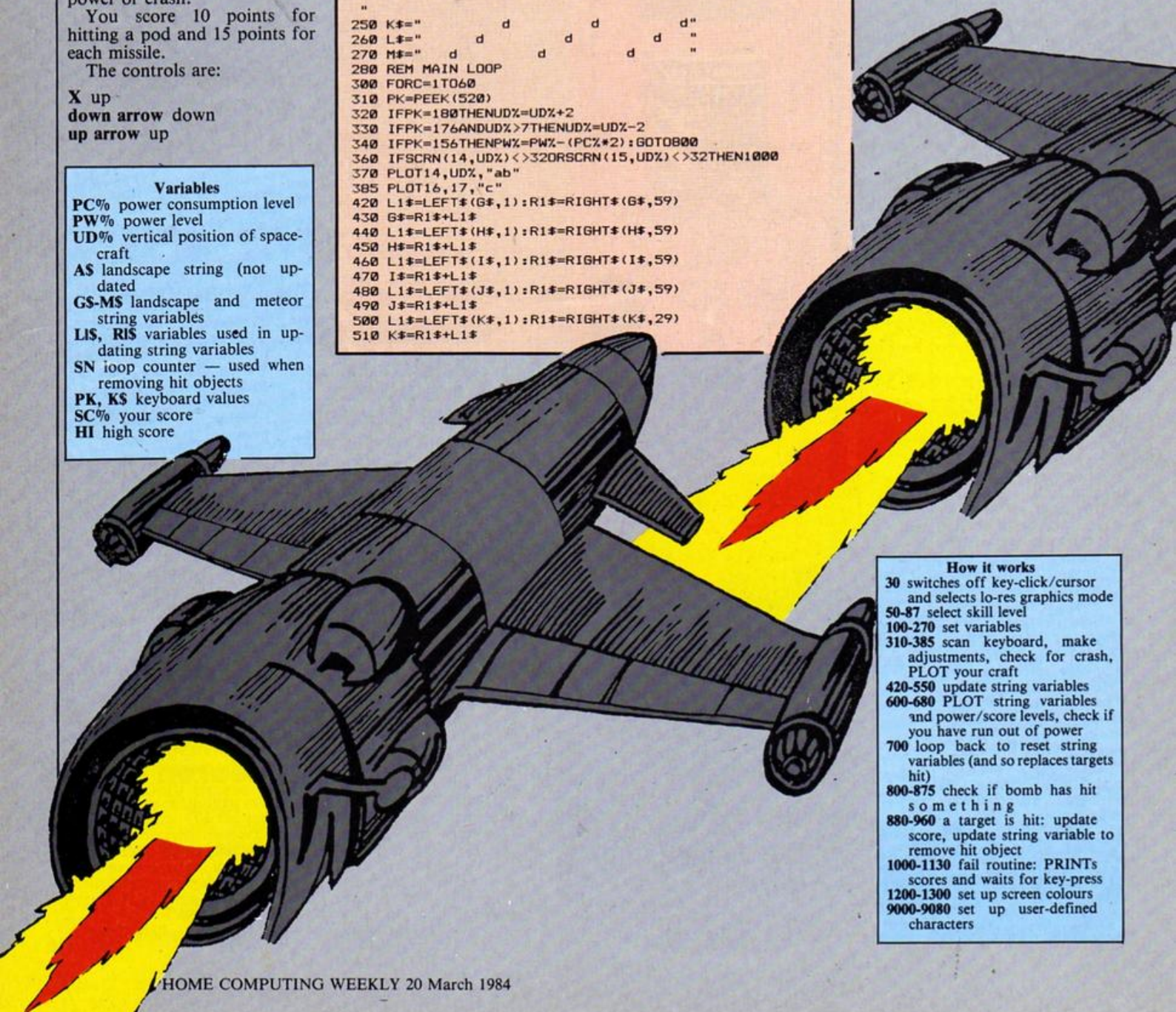
Variables

PC% power consumption level
PW% power level
UD% vertical position of space-craft
A$ landscape string (not up-dated
G$-M$ landscape and meteor string variables
LI$, RI$ variables used in up-dating string variables
SN ioop counter — used when removing hit objects
PK, K$ keyboard values
SC% your score
HI high score

Listing for Meteor Race

```
10 REM
20 REM BY A.P.GARDNER
30 PRINTCHR$(17);CHR$(6):LORES0
40 GOSUB9000
45 SC%=0
47 REM CHOOSE DIFICULTY
50 CLS
60 PRINT:PRINT"WHAT POWER CONSUMPTION (1-7)"
65 PRINT:INPUT"7 BEING HARDEST";PC%
70 IFPC%<1THENPC%=1
80 IFPC%>10THENPC%=10
85 PC%=PC%+3
87 CLS
90 GOSUB1200
95 REM SET VARIABLES
100 PW%=500:UD%=7
120 WAIT100
150 A$="ccccccccccccccccccccccccccccccccccccc"
170 FORN=22TO17STEP-1
180 PLOT1,N,A$
190 NEXTN
210 G$=" ccccc f  cccccccc  gccccccccccccccccccccccccc
cc   fg ccc
 "
220 H$=" f ccc    fccccccc    g ccccccccccccccccccf cc
c        g
 "
230 I$="   gc       ccccc      g   fccg cccccc    g   c
c
 "
240 J$="              cc                  ccc

 "
250 K$="          d          d          d"
260 L$="      d          d          d    "
270 M$="   d          d          d       "
280 REM MAIN LOOP
300 FORC=1TO60
310 PK=PEEK(520)
320 IFPK=180THENUD%=UD%+2
330 IFPK=176ANDUD%>7THENUD%=UD%-2
340 IFPK=156THENPW%=PW%-(PC%*2):GOTO800
360 IFSCRN(14,UD%)<>32ORSCRN(15,UD%)<>32THEN1000
370 PLOT14,UD%,"ab"
385 PLOT16,17,"c"
420 L1$=LEFT$(G$,1):R1$=RIGHT$(G$,59)
430 G$=R1$+L1$
440 L1$=LEFT$(H$,1):R1$=RIGHT$(H$,59)
450 H$=R1$+L1$
460 L1$=LEFT$(I$,1):R1$=RIGHT$(I$,59)
470 I$=R1$+L1$
480 L1$=LEFT$(J$,1):R1$=RIGHT$(J$,59)
490 J$=R1$+L1$
500 L1$=LEFT$(K$,1):R1$=RIGHT$(K$,29)
510 K$=R1$+L1$
```

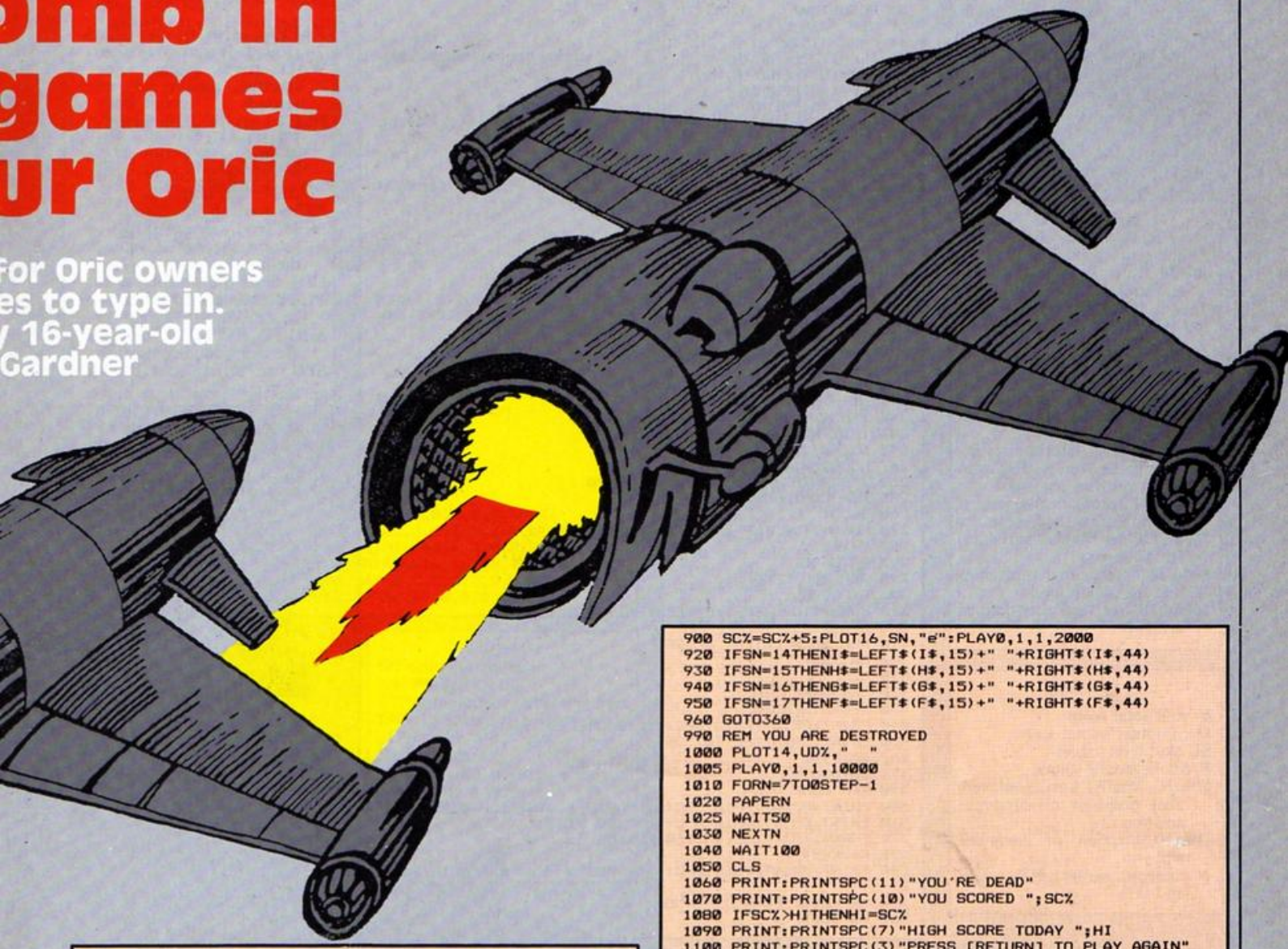


How it works

30 switches off key-click/cursor and selects lo-res graphics mode
50-87 select skill level
100-270 set variables
310-385 scan keyboard, make adjustments, check for crash, PLOT your craft
420-550 update string variables
600-680 PLOT string variables and power/score levels, check if you have run out of power
700 loop back to reset string variables (and so replaces targets hit)
800-875 check if bomb has hit something
880-960 a target is hit: update score, update string variable to remove hit object
1000-1130 fail routine: PRINTs scores and waits for key-press
1200-1300 set up screen colours
9000-9080 set up user-defined characters

battle omb in games ur Oric

For Oric owners es to type in. y 16-year-old Gardner



```
520 L1$=LEFT$(L$,1):R1$=RIGHT$(L$,29)
530 L$=R1$+L1$
540 L1$=LEFT$(M$,1):R1$=RIGHT$(M$,29)
550 M$=R1$+L1$
600 PLOT1,16,LEFT$(G$,37)
610 PLOT1,15,LEFT$(H$,37)
620 PLOT1,14,LEFT$(I$,37)
630 PLOT1,13,LEFT$(J$,37)
640 PLOT1,11,K$
650 PLOT1,9,L$
660 PLOT1,7,M$
665 PLOT11,2,"SCORE "+STR$(SC%)
670 PW%=PW%-PC%
675 IFPW%<0THENPLOT12,12,"OUT OF FUEL":GOTO1000
680 PLOT10,24,"POWER "+STR$(PW%)+"   "
690 NEXTC
700 GOTO210
790 REM CHECK FOR HIT
800 FORSN=(UD%+1)TO17
810 IFSCRN(16,SN)<>32THEN850
820 NEXTSN
850 IFSCRN(16,SN)<>99THEN880
860 PLOT16,SN,"e"
870 PLAY0,1,1,2000
875 GOTO360
877 REM SOMETHING IS HIT
880 SC%=SC%+10
890 IFSCRN(16,SN)=102THENPW%=PW%+65:PLOT16,SN,"e":PLAY0
,1,2,1000:GO
TO920
```

```
900 SC%=SC%+5:PLOT16,SN,"e":PLAY0,1,1,2000
920 IFSN=14THENI$=LEFT$(I$,15)+" "+RIGHT$(I$,44)
930 IFSN=15THENH$=LEFT$(H$,15)+" "+RIGHT$(H$,44)
940 IFSN=16THENG$=LEFT$(G$,15)+" "+RIGHT$(G$,44)
950 IFSN=17THENF$=LEFT$(F$,15)+" "+RIGHT$(F$,44)
960 GOTO360
990 REM YOU ARE DESTROYED
1000 PLOT14,UD%,"  "
1005 PLAY0,1,1,10000
1010 FORN=7TO0STEP-1
1020 PAPERN
1025 WAIT50
1030 NEXTN
1040 WAIT100
1050 CLS
1060 PRINT:PRINTSPC(11)"YOU'RE DEAD"
1070 PRINT:PRINTSPC(10)"YOU SCORED ";SC%
1080 IFSC%>HITHENHI=SC%
1090 PRINT:PRINTSPC(7)"HIGH SCORE TODAY ";HI
1100 PRINT:PRINTSPC(3)"PRESS [RETURN] TO PLAY AGAIN"
```

```
1110 K$=KEY$
1120 IFK$<>""THENIFASC(K$)=13THEN45
1130 GOTO1110
1190 REM SET UP SCREEN COLOURS
1200 PAPER0:INK3
1210 PLOT0,2,6
1220 FORN=7TO11
1230 PLOT0,N,1
1240 NEXTN
1250 FORN=13TO22
1260 PLOT0,N,2
1270 NEXTN
1280 PLOT1,24,6
1300 RETURN
8990 REM USER DEFINED GRAPHICS
9000 FORP=(46080+(97*8))TO(46080+(103*8)+7)
9010 READUS:POKEP,US:NEXTP:RETURN
9020 DATA0,0,48,63,63,3,0,0
9030 DATA0,0,24,36,63,32,0,0
9040 DATA63,63,63,63,63,63,63,63
9050 DATA0,30,31,63,63,63,24,0
9060 DATA18,9,36,18,9,36,18,9
9070 DATA30,18,18,18,18,12,18,33
9080 DATA12,12,12,30,12,12,30,30
```

Swerve

You're pitted against the computer in a battle of skill.

You and the computer start at opposite sides of the screen, moving towards each other. Both of you leave a wall behind you and your wall is solid.

You must avoid the walls and smaller obstacles and not leave the game boundary.

The loser is the first to crash five times.

You control your direction with the cursor keys.

How it works

30 switches off key-click/cursor and sets screen colours
60-130 scan keyboard, make adjustments, check for collision, PLOT player's square
140-190 adjust computer's position, PLOTs square, checks for an obstacle
200-250 changes computer's direction, checks for collision
260-320 crash routines for you and computer
400-470 PRINT latest scores
500-560 game over, PRINT who won, wait for key-press
5000-5040 automatically adjust position of you and computer
7000-7130 set some variables, PLOT screen
8000-8070 set other variables and select skill level
9000-9110 set up user-defined graphics

Variables

Y your total score
O computer's total score
SL skill level values
P/K$ keyboard values
H%(N), V%(N) horizontal, vertical positions of computer and you
D%(N) direction of computer and you
N controls arrays H%, V% and D%

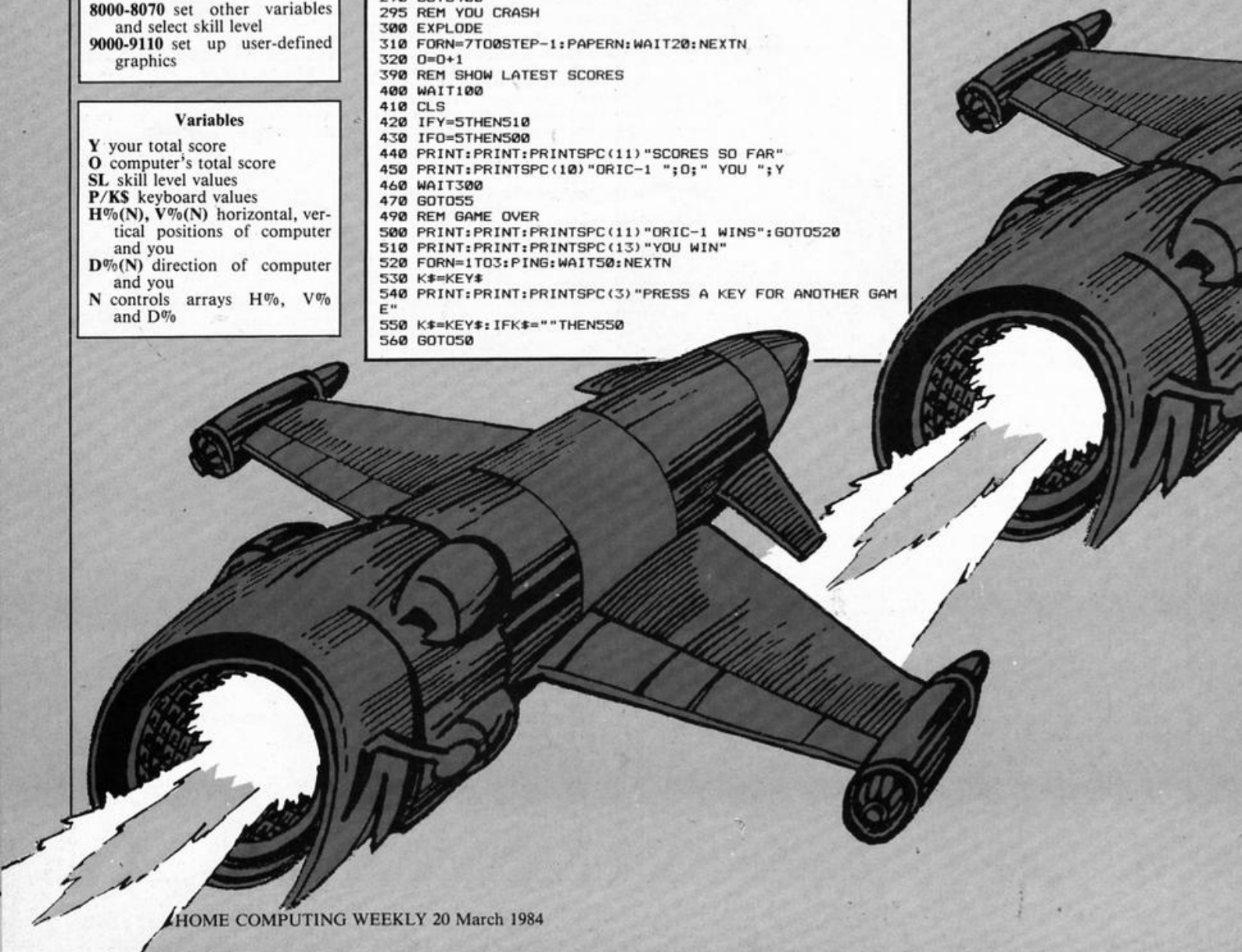
Listing for Swerve

```
10 REM SWERVE
20 REM BY A.P.GARDNER
30 PRINTCHR$(17);CHR$(6):PAPER0:INK3
40 GOSUB9000
50 GOSUB8000
55 GOSUB7000
57 REM MAIN LOOP
60 P=PEEK(520):N=0
70 IFP=172THEND%(N)=1
80 IFP=180THEND%(N)=2
90 IFP=188THEND%(N)=3
100 IFP=156THEND%(N)=4
110 GOSUB5000
120 IFSCRN(H%(N),V%(N))<>32THEN300
130 PLOTH%(N),V%(N),"a"
140 N=1
150 GOSUB5000
160 IFSCRN(H%(N),V%(N))<>32THEN200
170 PLOTH%(N),V%(N),"b"
180 H1%=H%(N):V1%=V%(N)
190 GOTO60
195 REM ADJUST COMPUTER'S DIRECTION
200 F=INT(RND(1)*2):H%(N)=H1%:V%(N)=V1%
210 IFF=0THEND%(N)=D%(N)-1
220 IFF=1THEND%(N)=D%(N)+1
223 IFD%(N)<1THEND%(N)=4
226 IFD%(N)>4THEND%(N)=1
230 GOSUB5000
240 IFSCRN(H%(N),V%(N))=32THEN170
241 H%(N)=H1%:V%(N)=V1%
243 IFD%(N)=3THEND%(N)=1:GOTO247
244 IFD%(N)=4THEND%(N)=2:GOTO247
245 D%(N)=D%(N)+2
247 GOSUB5000
250 IFSCRN(H%(N),V%(N))=32THEN170
255 REM COMPUTER CRASH
260 SHOOT
270 FORN=7TO0STEP-1:PAPERN:WAIT20:NEXTN
280 Y=Y+1
290 GOTO400
295 REM YOU CRASH
300 EXPLODE
310 FORN=7TO0STEP-1:PAPERN:WAIT20:NEXTN
320 O=O+1
390 REM SHOW LATEST SCORES
400 WAIT100
410 CLS
420 IFY=5THEN510
430 IFO=5THEN500
440 PRINT:PRINT:PRINTSPC(11)"SCORES SO FAR"
450 PRINT:PRINTSPC(10)"ORIC-1 ";O;" YOU ";Y
460 WAIT300
470 GOTO55
490 REM GAME OVER
500 PRINT:PRINT:PRINTSPC(11)"ORIC-1 WINS":GOTO520
510 PRINT:PRINT:PRINTSPC(13)"YOU WIN"
520 FORN=1TO3:PING:WAIT50:NEXTN
530 K$=KEY$
540 PRINT:PRINT:PRINTSPC(3)"PRESS A KEY FOR ANOTHER GAM
E"
550 K$=KEY$:IFK$=""THEN550
560 GOTO50
```

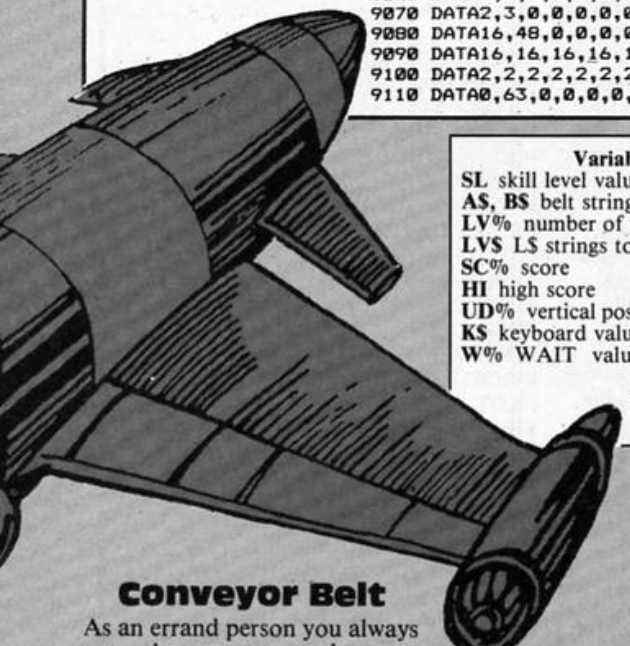
Hints on conversion

These games could be fairly easily converted to most computers with Microsoft BASIC. POKE and CHR$ statements can be removed.

PAPER, INK control background, foreground colours
WAIT creates a pause for a specified number of milliseconds
PLOT x,y is equivalent to PRINT @. x is the horizontal position and y the vertical. PLOTing a number sets a colour attribute
KEY$ scans the keyboard
SCRN (x,y), (screen PEEK) returns the ASCII value for the position given
CLS clears the screen
PLAY creates a sound and can be deleted or replaced.
SHOOT, EXPLODE and **PING** are Oric sound commands
SPC can be replaced by TAB or removed



```
4990 REM ADJUSTMENTS TO DIRECTION
5000 IFD%(N)=1THENH%(N)=H%(N)-1
5010 IFD%(N)=2THENV%(N)=V%(N)+1
5020 IFD%(N)=3THENH%(N)=H%(N)+1
5030 IFD%(N)=4THENV%(N)=V%(N)-1
5040 RETURN
6990 REM SCREEN
7000 H%(0)=13:V%(0)=13:D%(0)=3
7010 H%(1)=25:V%(1)=13:D%(1)=1:INK0
7020 PLOT1,0,"cddddddddddddddddddddddddddddddddddddde"
7030 FORN=1TO25
7040 PLOT1,N,"i                                    h"
7050 NEXTN
7060 PLOT1,26,"fjjjjjjjjjjjjjjjjjjjjjjjjjjjjjjjjjjjg"
7070 FORN=1TOSL
7080 A=INT(RND(1)*35)+2
7090 B=INT(RND(1)*24)+1
7100 IFB=13THENIFA>12ANDA<26THEN7080
7110 PLOTA,B,"O"
7120 NEXTN:INK3
7130 RETURN
7990 REM VARIABLES, CHOOSE SKILL LEVEL
8000 Y=0:O=0
8010 CLS
8020 PRINT:PRINTSPC(5)"WHAT SKILL LEVEL (1-30)"
8030 PRINT:INPUT"    1 BEING THE EASIEST";SL
8040 IFSL<1THENSL=1
8050 IFSL>30THENSL=30
8060 CLS:WAIT100
8070 RETURN
8990 REM USER DEFINED GRAPHICS
9000 FORP=(46080+(97*8))TO(46080+(106*8)+7)
9010 READU:POKEP,U:NEXTP:RETURN
9020 DATA63,63,63,63,63,63,63,63
9030 DATA63,33,45,45,45,33,63
9040 DATA0,0,0,0,0,0,3,2
9050 DATA0,0,0,0,0,0,63,0
9060 DATA0,0,0,0,0,0,48,16
9070 DATA2,3,0,0,0,0,0,0
9080 DATA16,48,0,0,0,0,0,0
9090 DATA16,16,16,16,16,16,16,16
9100 DATA2,2,2,2,2,2,2,2
9110 DATA0,63,0,0,0,0,0,0
```



Variables

SL skill level value
A$, B$ belt strings
LV% number of remaining lives
**LV$** L$ strings to display lives
SC% score
HI high score
UD% vertical position of person
K$ keyboard value
W% WAIT value — controls speed
C$ stores belt edges

Conveyor Belt

As an errand person you always get the worst and most dangerous jobs.

The evil wizard has given you a message to take to the manager of the mines. To do this you must cross two lines of conveyor belts which carry lumps of ore.

You must leap from belt to belt without hitting the ore — if you do you're knocked into the machine workings and that can be painful.

The wizard has also cast a spell which makes you start again after you've crossed.

Luckily, you have three lives and you can adjust the level of difficulty.

You move forward by pressing any key and gain five points for every line of belts crossed.

How it works

30 switches off key-click/cursor and selects lo-res graphics mode
60-100 select skill level and make adjustments
107-110 set other variables
130-140 scan keyboard
150-200 adjust belt strings and PLOT them on screen
210-280 check for hit, PLOT person, PLOT latest score
300-384 fail routine, updates lives total and checks for end of game
390-460 end of game, PRINT scores, waits for key
500-550 you've crossed, update score
650-750 set up screen and colours
9000-9050 set up user-defined graphics

Listing for Conveyor Belt

```
20 REM BY A.P.GARDNER
30 PRINTCHR$(17);CHR$(6):LORES0
35 PAPER0:INK3
40 GOSUB9000
50 CLS
60 PRINT:PRINT:INPUT"WHAT SKILL LEVEL (1-4)";SL
63 IFSL<1THENSL=1
67 IFSL>4THENSL=4
70 IFSL=1THENA$="      ccd       d       cd       cdc"

80 IFSL=2THENA$="     ccd      d      cd      cd     c"
90 IFSL=3THENA$="    ccd     d     cd     cdcc    cdd"
100 IFSL=4THENA$="   ccd    d    cd    cdcc   c    cdd"

105 LV$=" aa"
107 C$="----------------------------------------"
110 SC%=0:UD%=25:B$=RIGHT$(A$,34)+LEFT$(A$,2):LV%=3:L$=
LEFT$(LV$,LV
%):W%=1
115 IFSL>1THENW%=SL*5
120 GOSUB650
130 K$=KEY$
140 IFK$<>""THENUD%=UD%-2
150 R$=RIGHT$(A$,35):L$=LEFT$(A$,1)
160 A$=R$+L$
170 R$=RIGHT$(B$,1):L$=LEFT$(B$,35)
180 B$=R$+L$
190 PLOT1,7,A$:PLOT1,9,B$:PLOT1,11,A$:PLOT1,13,B$
200 PLOT1,17,A$:PLOT1,19,B$:PLOT1,21,A$:PLOT1,23,B$
210 PLOT18,25," ":PLOT18,15," "
220 IFSCRN(18,UD%)<>32THEN300
230 PLOT18,UD%,"a"
240 IFUD%<7THEN500
250 PLOT7,1,STR$(SC%):PLOT7,2,STR$(SC%)
260 IFSC%>HITHENHI=SC%
270 PLOT23,1,STR$(HI):PLOT23,2,STR$(HI)
275 WAITW%
280 GOTO130
290 REM YOU'RE HIT
300 PLOT18,UD%,CHR$(126)
310 PLAY0,1,1,500
315 IFUD%<17THENSC%=SC%+5
320 WAIT50
330 PLOT18,UD%,"b"
340 PLAY0,1,1,5000
350 PAPER7:WAIT50
360 PAPER1:WAIT50
370 PAPER0:WAIT100
380 PLOT18,UD%," "
381 LV%=LV%-1
382 L$=LEFT$(LV$,LV%)+" "
383 PLOT34,1,L$:PLOT34,2,L$
384 IFLV%>0THENUD%=25:K$=KEY$:GOTO150
390 CLS
400 PRINT:PRINTSPC(11)"YOU'RE DEAD"
410 PRINT:PRINTSPC(10)"YOU SCORED ";SC%
415 IFSC%>HITHENHI=SC%
420 PRINT:PRINTSPC(10)"HIGH SCORE ";HI
430 PRINT:PRINTSPC(3)"PRESS [RETURN] TO PLAY AGAIN"
440 K$=KEY$
450 IFK$<>""THENIFASC(K$)=13THENGOTO50
460 GOTO440
490 REM YOU'VE CROSSED!
500 FORN=1TO3:PLAY0,1,2,100:WAIT50:NEXTN
520 PLOT18,UD%," "
530 UD%=25:SC%=SC%+10
540 PLOT18,UD%,"a"
550 GOTO130
640 REM SCREEN
650 CLS
660 POKE48081,10:POKE48121,10
670 PLOT2,1,"SCORE":PLOT2,2,"SCORE"
680 PLOT29,1,"LIVES":PLOT29,2,"LIVES"
681 PLOT34,1,L$:PLOT34,2,L$
682 PLOT15,1,"HI-SCORE":PLOT15,2,"HI-SCORE"
685 PLOT1,1,2:PLOT1,2,2
690 PLOT1,7,A$:PLOT1,9,B$:PLOT1,11,A$:PLOT1,13,B$
695 PLOT1,6,C$:PLOT1,8,C$:PLOT1,10,C$:PLOT1,12,C$:PLOT1
,14,C$
700 PLOT1,17,A$:PLOT1,19,B$:PLOT1,21,A$:PLOT1,23,B$
705 PLOT1,16,C$:PLOT1,18,C$:PLOT1,20,C$:PLOT1,22,C$:PLO
T1,24,C$
710 PLOT18,25,"a"
720 FORN=7TO23STEP2
730 PLOT0,N,1
735 NEXTN
740 PLOT0,5,2:PLOT0,15,2:PLOT0,25,2
750 RETURN
8990 REM USER DEFINED GRAPHICS
9000 FORP=(46080+(97*8))TO(46080+(100*8)+7)
9010 READUS:POKEP,US:NEXTP:RETURN
9020 DATA31,17,31,4,31,4,10,17
9030 DATA33,0,0,12,12,0,0,33
9040 DATA0,12,14,30,30,28,8,0
9050 DATA0,0,4,12,12,0,0,0
```

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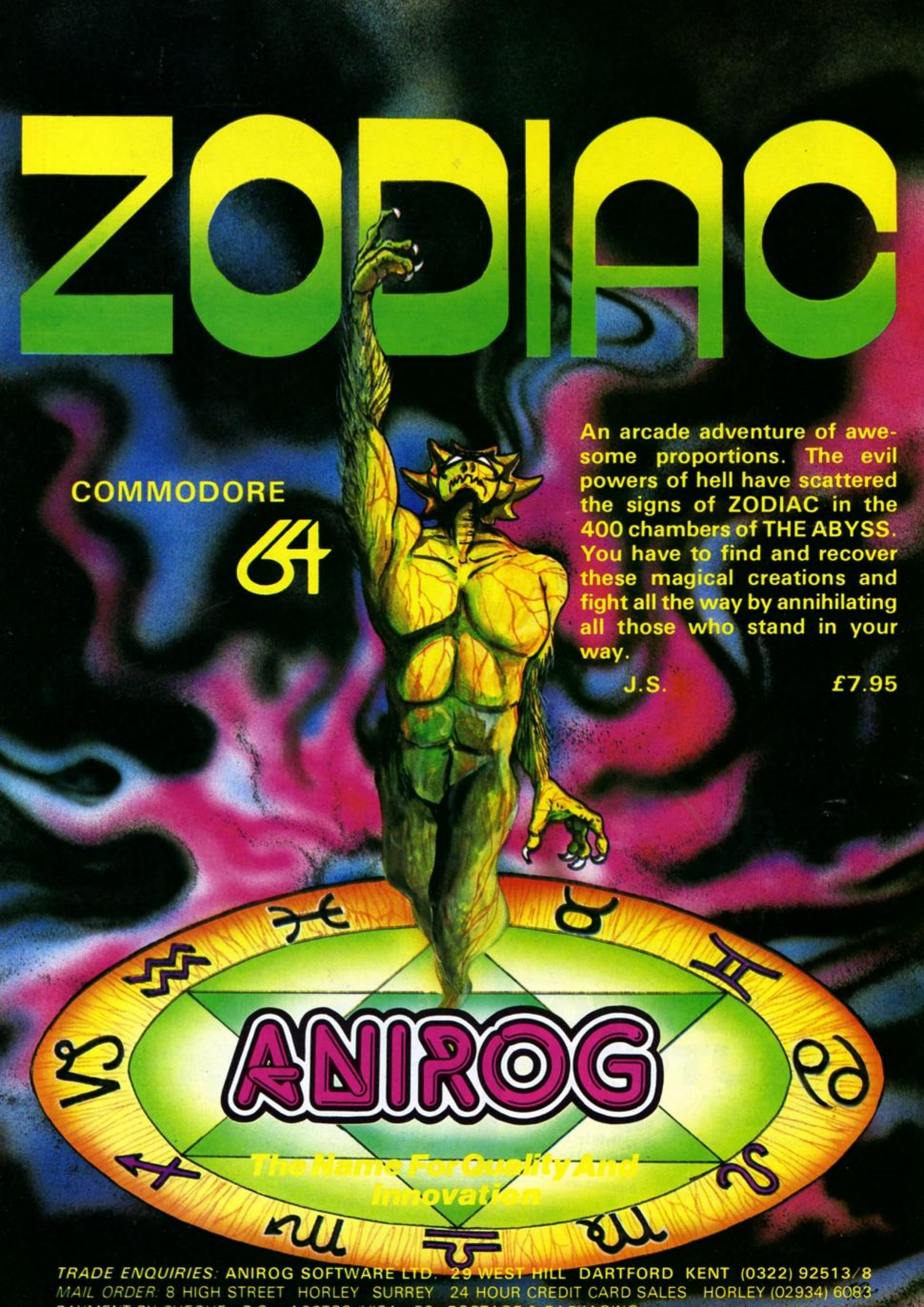
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Top Ten programs for the Commodore 64

1	Manic Miner	Software Projects (2)
2	Buga Boo (The Flea)	Quicksilva (3)
3	Chinese Juggler	Ocean (1)
4	Mr Wimpy	Ocean (5)
5	Magawarz	Paramount (6)
6	Hobbit 64	M.House (—)
7	Hungry Horace	M.House (10)
8	Falcon Patrol	Virgin (8)
9	Hover Bovver	Llamasoft (—)
10	Hunchback	Ocean (—)

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

Top Ten programs for the Dragon 32

1	Hungry Horace	Mel House (1)
2	UGH!	Softek (4)
3	SAS	Peaksoft (—)
4	Skramble	Microdeal (10)
5	Space Shuttle Simulator	Microdeal (—)
6	Up Periscope	Beyond (6)
7	Devil Assault	Microdeal (7)
8	Eight Ball	Microdeal (2)
9	The King	Microdeal (—)
10	Transylvanian Tower	Richard Shepherd (—)

Top Ten programs for the VIC-20

1	Computer Wars	Thorn EMI (1)
2	Wizard and the Princess	M. House (3)
3	Crazy Kong	Interceptor (—)
4	Bewitched	Imagine (—)
5	Paratrooper	Rabbit (5)
6	Gridrunner	Llamasoft (8)
7	M.L.B.A.T.E.T.	Llamasoft (2)
8	Arcadia	Imagine (6)
9	Wacky Waiters	Imagine (9)
10	Jet Pac	Ultimate (10)

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

Top Ten programs for the ZX81

1	Flight Simulation	Sinclair (1)
2	Chess 1K	Sinclair (—)
3	Football Manager	Addictive (5)
4	Invaders	Quicksilva (3)
5	Defenders	Quicksilva (2)
6	Fantasy Games	Sinclair (—)
7	Chess	Sinclair (—)
8	Krazy Kong	PSS (4)
9	Hopper	PSS (6)
10	ZX D.B.	Bug-Byte (—)
&	Sabotage	Sinclair (—)

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Top 30

1	Manic Miner	Software Projects	Spectrum (1)
2	Hunchback	Ocean	Spectrum (2)
3	3D Ant Attack	Quicksilva	Spectrum (3)
4	Atic Atac	Ultimate	Spectrum (6)
5	Hunchback	Ocean	CBM 64 (10)
6	The Hobbit	M.House	Spectrum (5)
7	Bear Bovver	Artic	Spectrum (22)
8	Lunar Jetman	Ultimate	Spectrum (7)
9	Chinese Juggler	Ocean	CBM 64 (27)
10	Chuckie Egg	A & F	Spectrum (11)
11	Buga Boo (The Flea)	Quicksilva	Spectrum (23)
12	Eskimo Eddie	Ocean	Spectrum (25)
13	Frogger	Microdeal	Dragon (15)
14	Snooker	Visions	VIC-20 (28)
15	The King	Microdeal	Dragon (14)
16	Falcon Patrol	Virgin	CBM 64 (12)
17	Hobbit	M.House	CBM 64 (13)
18	Jet Set Willie	Software Projects	Spectrum (—)
19	Chequered Flag	Psion	Spectrum (19)
20	Cuthbert in the Jungle	Microdeal	Dragon (21)
21	Hunchback	Superior	BBC (20)
22	Pedro	Imagine	Dragon (29)
23	Zzoom	Imagine	Spectrum (17)
24	Harrier Attack	Durrell	Spectrum (9)
25	Penetrator	M.House	Spectrum (19)
26	Colossus Chess	CDS	CBM 64 (30)
27	Crazy Kong	Interceptor	CBM 64 (24)
28	Quasar	Voyager	CBM 64 (—)
29	Arcadia	Imagine	VIC-20 (22)
30	Crashman	New Generation	Spectrum (—)

Compiled by PCS Distribution (0254 691211) from a sample of 40 dealers in the U.K. and Northern Ireland. Chart is for sales in the fortnight ended March 9.

Top Ten programs for the Spectrum

1	Chequered Flag	Psion (1)
2	Atic Atac	Ultimate (2)
3	Ant Attack	Quicksilva (6)
4	Scuba Dive	Durrell (7)
5	Hunchback	Ocean (—)
6	Lunar Jetman	Ultimate (4)
7	Alchemist	Imagine (—)
8	Cyrus-IS-Chess	Intelligence (5)
9	Hobbit	Psion (—)
10	Super Spy	Richard Shepherd (—)

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



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General knowledge to outer space

Something for everyone in this mixed bag of programs

Captain Sticky's Gold Atari £9.95

English Software, Box 43, Manchester M16 3AD

Captain Sticky loves chewing gum. Trouble is it costs money. That's where you come in — or should I say go under.

The Captain finances his supply of gum by stealing gold from a seabed mine. As his latest crew member you will joystick yourself down to the mine and send the gold back topside automatically, by attaching a ship's hawser to the find. You make your own way back to the ship for a refil of air.

No, it isn't as easy as that. There is a limited air supply. Harmful sea-creatures lurk in the depths. A helicopter occasionally flies overhead dropping depth charges. There are even seabed missile launchers to cater for. Your harpoon gun will be found useful although I found it bit slow on the draw.

The graphics in Captain Sticky are very good indeed. Such is the detail, the sky darkens when clouds obscure the sun above the sea. There are five lives available for the one or two players, and many skill levels to chose from.

If arcade games are your forte you will enjoy Captain Sticky. If not, you could find the game soon becomes repetitive. Needs joystick. **T.A.**

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

★ ★ ★ ★

Centimunch 48K Spectrum £5.95

TNT, Melton House, Lindal, Ulverston, Cumbria

A rather superior worm game. The food is distributed in a 3D maze; the more you eat, the longer you become and the harder it gets! Eat the random bees and acquire a higher score, but avoid the stinging spider. Consume all the food on one level to gain access to the gate which leads to the next month's garden which is more complex.

All the features we have come to know and love are here; High Score, Hall of Fame, and sound effects, together with a demo mode.

The graphics are of a super standard, well up to that of the arcade,and once the bug bites, you will be well and truly infected with the enthusiasm.

A number of skill levels are available from beginner to dare-devil. I have to admit I had to concentrate really hard to reach the third page using the cursor keys. The program doesn't claim to be joystick compatible, but it ought to be for really high scores.

Just one point of aggravation! Of the few words to appear on the screen, one is mis-spelled and this really looks bad. Please use a dictionary, progrmmers! **D.M.**

instructions	95%
playability	85%
graphics	95%
value for money	100%

★ ★ ★ ★ ★

Hyperblast! 32K Atari £9.95

A slick version of that old favourite, Galaxians.

The one or two players can choose from three levels of difficulty: slow, fast and very fast. There are 10 screen presentations each with a different swarm of alien beings bent on your destruction. Your spaceship, armed with three missile batteries, resides at the baseline of screen display and is moved left or right by joystick control. Unfortunately there is no repeat-fire facility when pressing the stick button.

The instructions tell us that the spaceship's centre missile is fired first, followed by two outer wing missiles. I found this happened only occasionally — mostly the centre missile alone would fire off. It was also possible for my ship to receive a direct hit but not blow up. Hyperblast's graphics are agreeable, with the action set against a scrolling starry universe, speckled with colour.

I should point out that this game is a fairly standard version of the invader type, so if something similar lies in your software library you may want to look elsewhere. On the other hand, if you enjoy downing aliens by the barrel-load, Hyperblast is for you. Joystick needed. **T.A.**

instructions	60%
playability	75%
graphics	85%
value for money	80%

★ ★ ★ ★

Arcturus 48K Spectrum £6.95

Visions, 1 Selgate Mews, Studland Street, London W6

This game consists of attempting to get four crosses in a row in any plane. As the inlay card puts it, you can play man v man, man v computer, or computer v computer. There are plenty of instructions, both on the inlay card and on the screen, but an unfortunate choice of paper and ink makes for hard work reading the screen set. As a preliminary there are over 20 screens of rules and explanations. Once you have got through the main defences, and into the game proper, the first thing you must do is give your name. After that a bewildering array of options are open to you, skill level, seconds per move, or minutes per game and so on. One of the more useful options is the ability to turn off the sound. If all this sounds as though I am knocking the game I'm not. The game is Tic-Tac-Toe whatever embellishments this particular author has chosen to add.

If you like this sort of game then this is the best version I have seen so far. **B.B.**

	100%
instructions	85%
playability	100%
graphics	75%
value for money	

★ ★ ★ ★

Quizmaster — Sports and Games 48K Oric £5.95

R & R, 34 Bowton Rd, Tuffley, Gloucester GL4 0LE

Quizmaster is a test of both your general knowledge and specialist sports knowledge. You select which subject you prefer at the start and questions are then posed for you, together with 4 possible answers. If you choose correctly your score is increased but if you are wrong then the answer is revealed and you move on to the next question.

I reckon there are about 120 questions in each category and the degree of difficulty is such that most members of a family have a chance of getting the right answer. Of course 4 options displayed means you might only be guessing — but who knows?

I experienced a few little quirks on loading, but this seems not uncommon with very long BASIC programs such as this.

In any program of this nature there is always a question mark over its lasting value but provided the questions are generated in a random fashion then there are enough here to keep you occupied for some enjoyable hours. **P.S.W.**

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

★ ★ ★ ★

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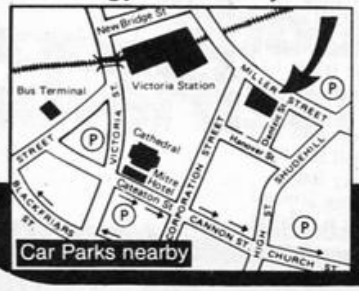
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Adventure and action for the CBM 64

From bugs to giants, our reviewers put a selection of the latest games programs through their paces

Hideous Bill and The Gi-gants £7.95

Virgin, 61-63 Portobello Rd, London W11 3DD

A Pacman-type game, but much more entertaining. There are three levels. On the first you dash around the maze stamping on ant eggs persued by giant ants. You can collect three spears within the maze which will defend you for a limited time. If you clear the screen you find yourself on the next level. This time you have no defences but you can collect a lever that opens or closes a trap door. When you clear this maze you have to hop behind the trap door yourself to collect a can of strengthening beans that take you to the third level where you meet the heroine, Greta, who is trapped.

This game has been very well designed. The instructions on the card are clear, but you also get a screen of instructions before each level.

I enjoyed playing this game. The speed was not impossibly fast, yet with only three lives it required some skill to get to the third level. All in all, a well thought out and presented package. **L.C.**

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

★ ★ ★ ★

Armaggeddon £9.95

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

There is something very odd about playing board games on a computer. It may be useful to have a computer to play against in the absence of a human opponent, but when, as in this case, the computer does not play itself but merely supervises the game, the whole exercise seems rather pointless.

This version is quite well presented, with a colourful and clear map of the world to play on. Cursor control is a bit tricky, whether you use the keyboard or a joystick, but otherwise the game is easy enough to play. The biggest snag, though, is that it is very slow. Each attack is accompanied by a flashing picture of a battlefield, which is quite attractive the first time you see it but becomes very annoying when it appears for the fiftieth time.

The other snag is the instructions, which seem to presume a good knowledge of the board game on which this is based. But if you already have the board game then I really can't imagine you wanting to buy this, and if you don't — well, the original version is both cheaper and better. **M.N.**

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

★ ★

Banana Drama £9.95

Visions, 1 Selgate Mews, Studland Street, London W6

Have you ever fancied running your own country? Well, here's your chance with the added advantage that if you make a mess of it and end up being overthrown in a revolution, you can just wind back the clock and start all over again. Actually, being overthrown seems to be inevitable in this particular simulation. The challenge is just to see how long you can survive and how much money you can salt away in your Swiss bank account before disaster strikes.

This is a game rather than an authentic simulation; the scenario doesn't bear much resemblence to reality, and nor do the decisions you are asked to make. Your options at each stage are distinctly limited, and there are no opportunities to change your mind.

There are some graphics and rather repetitive sound effects to enliven the proceedings, but I didn't find the game very entertaining. Making selections from a seemingly endless succession of menus, however tastefully decorated thay may be, really doesn't offer much in the way of excitement or mental stimulation. **M.N.**

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

★ ★

Sting 64 £7.95

Quicksilva, 13 Palmerston Rd, Southampton SO1 1LL

This program is aptly named. I don't like it and think it is poor value.

It is based on defending hives from attack. At the first level you control a swarm of bees to repel invading bees that are attacking three hives. When a hive gets overtaken you move to the next screen which requires you to defend an individual hive — and so on.

The game creates some interesting graphics displays, but to my mind falls down on giving the players much opportunity to show their skill. When I first played it I was troubled by an apparent lack of control via the joystick. However this is intentional. If the joystick is not moved the defending bees swarm around in a random manner. In practice the effect is loss of control by the player. As an experiment, I let the game play by itself and it scored 374 against my 532.

As a final put-off I had loading trouble, which nowadays is very rare so, having reviewed it, I would not be inclined to play it again. **L.C.**

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

★ ★

Booga-Boo (The Flea)

Quicksilva, 13 Palmerston Rd, Southampton SO1 1LL

The instructions that come with the cassete were rather sparse and I did not know what to expect when the game was loaded. However, the wait during the loading time was well worth it. I found this game very addictive and enjoyable.

The setting is a very large cavern containing all sorts of ledges and perches. You, the flea, start off at the bottom and have to jump from one ledge to another to work your way to the top. The cavern is so large that you can only see a portion on the screen but you can scroll left and right to look for further ledges.

While you are jumping around you have to avoid a flying dragon that persues you. You also have to be careful that you don't jump into, or fall into, insect eating plants.

The graphics are brilliant and in this fantasy land the screen is rich in colour. Throughout the game a very catchy tune is played, but if you find it distracting you can switch off the music. Altogether a game to be highly recommended, even if it does need joysticks. **L.C.**

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

★ ★ ★ ★ ★

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Looking for some good games?

Classic or original, arcade-type or adventure, our reviewers give the once-over to a new batch of games

Pasta Blasta 48K Oric

Arcadia, Freepost, Swansea SA3 4ZZ

Fancy a truly outrageous shoot out in an Italian restaurant? If you do make sure you wear your old T-shirt because your sauce squirter will be working overtime. Robbers are trying to steal your ravioli tins and you must stop them, and their Pac People buddies, from ruining the industry.

The game is compatible with the P.A.S.E. joystick but keyboard control is also quite straightforward. Very good use of sound and colour combine to make the effect quite spectacular. There is scope for a wide range of skill levels and the hall of fame is very nicely done, with many entries possible.

Arcadia says this is part of a trilogy. If the next two live up to this standard then the fun should be maintained at a high pitch.

Apart from what I believe is an original idea Arcadia has put together an addictive program that will appeal to just about every games player. From simple fun to cut — throat competition, Pasta Blasta should fill your needs, if not your stomach, quite nicely. **P.S.W.**

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

★ ★ ★ ★ ★

Invaders Oric £5.50

Arcadia, Freepost, Swansea SA3 4ZZ

There's not a lot left to say about the classic space invaders game. It's still an attractive game and quite fun, so Arcadia has reproduced the old favourite for the Oric.

It's simple and fairly unspectacular. There are three types of invaders in five colours and the occasional mystery ship will cruise across the top of your screen. As ever, the object is to destroy everything in sight without suffering too much yourself. You can hide behind bunkers, and careful use of these is the key to succes.

No hall of fame is provided and the game rolls on relentlessly until you are finally wiped out. There are no winners here. All you can hope for is plenty of dead invaders.

Colour and sound are adequately employed and the tape loaded OK on most occasions. The price is somewhat lower than other Oric arcade games, which is to its advantage, and this could be a good starter for new Oric owners. There are a lot of better games available now but space invaders is an historic piece of programming and every home should have one. **P.S.W.**

instructions	80%
playability	70%
graphics	55%
value for money	60%

★ ★ ★

Waydor 48K Oric £7.50

IMS, 143-145 Uxbridge Rd, London W13 9AV

Another adventure game, but different from most others presently available in that it includes plenty of illustrations. In fact every location, and I have found at least two dozen, is illustrated colourfully using Oric's hi-res display. These appear instantly whenever you enter a new place, and are representative if not highly artistic.

It is set in and around a castle. Enough clues are presented to allow you to solve the problems and collect the treasures required. I suspect that a complete solution is probably not too difficult but since I have not completed it yet I might be deluding myself.

The adventure is written entirely in machine code which provides the fast and memory saving method needed to allow such liberal use of graphics. It also makes it much harder to cheat.

You either love or hate adventures, and a lot of the success of a game depends on the width of its vocabulary. Waydor uses a reasonably large collection of words, but you may have to try quite a few combinations before achieving your aim. This can be frustrating, but persevere — you will be surprised. **P.S.W.**

instructions	65%
playability	85%
graphics	80%
value for money	90%

★ ★ ★ ★

Chariot Race VIC-20 £6.95

Micro-Antics, Littlehome, Hawthorne La, Codsall, Wolverhampton

Imagine yourself looking down upon a Ben Hur chariot race. If you have never seen the film it doesn't matter — playing this is far more exciting. If two players decide to play then you play against each other and the computer, otherwise it's just one player against the computer.

Racing around a circuit, you control the speed and sideways movement of your chariot, within limits. For instance, if you go too slow you invoke the wrath of the crowd and find yourself dodging fireballs! While you are trying to force your opponent off the track the computer is trying to do the same to you, and usually succeeds. One ploy is to race ahead and then slow down, or back into your opponent, but this is not easy to master. Scoring is a wee bit complicated. One of the factors taken into account is the number of laps completed, and if you can complete the 20 laps you have indeed had an epic battle.

Graphics movement is smooth, response to the key press quite positive and sound reasonable. All in all very playable, and might become addictive. **B.B.**

instructions	100%
playability	90%
graphics	90%
value for money	98%

★ ★ ★ ★ ★

Brain Pain VIC-20 £5.95

Micro-Antics, Littlehome, Hawthorne La, Codsall, Wolverhampton

To be able to read this review, you will have over many years seen and remembered the words used. Memory forms an important part of reading and this game demonstrates a well used method for stimulating the recollection process.

The game is called Brain Pain, supposedly because the thought generated while playing could cause headaches. It is, in effect, a simulation of the old game of Pelmanism or pairs.

The screen is divided into 35 squares. using a joystick or the keyboad you move about exposing the designs behind the squares and finding the matched pairs. Up to five can play at a time — a strong point in favour of the game. The positions of the designs are different for each game.

In addition to the basic game, there is a facility provided with which the user can change the design and colours of the pictures used in the game. This helps to maintain the interest of the game.

If there is a shortcoming in the program, it is that there is no very easy level for young players who would find it difficult to memorise the position of 17 pairs.

Overall, a sound old favourite which offers good value. **M.W.**

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

★ ★ ★ ★

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Vocabulary VIC-20 + 8K, 16K £9.99

Commodore, 675 Ajax Avenue, Slough, Berks.

If during my teaching practice, while training or any time I have been teaching since I had produced visual aids for my classrom of the same standard as these programs I would have failed instantly. The set consists of two tapes, and instruction books and a range of topics. On the first tape the programs cover everyday objects, the parts of the body, types of building etc.

A labelled picture is shown to the child and he or she is asked to look and learn the spellings. After this, one word at a time is removed and the child is asked to re-insert it. A tone tells you if the spelling is correct. At the end of each group a score is given along with a revision list. The aim is to increase the child's vocabulary, improve spelling and increase confidence in reading.

While the idea is good, the overall quality of the program is rather cheap and nasty. The graphics were crude and poorly presented. A competent programmer would have developed high resolution plotting routines to give a wide range of quality graphics. Rather tatty, compared to the material available on other machines.

Part of the Teach and Test Series for ages five to eight. **M.W**

instructions	90%
ease of use	80%
display	40%
value for money	50%

★ ★

Xnagrams 48K Spectrum £6.95

Postern, P.O. Box 2, Andoversford, Cheltenham GL54 5SW

Following prompts, you can work on up to five words at a time, making real words out of jumbled letters. The hidden word is displayed as blue blanks, with the jumbled letters on the right. Multiple words display in crossword format. You cursor across the blanks, pressing your choice of letter. Correct scores 30, wrong loses five and there is a high-score display. The three levels are junior school, senior, adult or brighter child. The display is unadorned, with little visual reward for success.

Shamlessly, I chose one word at junior level and failed miserably with a six-letter word (ROCKET). Hastily continuing, I scored instant success with JAM. Racing through several similar minor achievements, I boldly tried three words at once. This now becomes pure guesswork as all letters of all words are jumbled together.

My interest waned quickly and I doubt the educational merit. Is a child, at the level of recognising JAM, capable of understanding the anagram idea? The single word has some merit but multiplay, needing luck and the crossword mind, may be beyond many. Children with word difficulty might be turned off forever. **D.C.**

instructions	90%
ease of use	50%
display	30%
value for money	55%

★ ★ ★

Nine Currant Buns 48K Spectrum £9.95

Five Ways Software, Arrow, 17-21 Conway St, London W1P 6JD

An entertaining way for the under sixes to learn the numbers six to nine, practice counting up to nine, and be introduced to addition and subtraction. The program uses a baker in a shop with a box of animated buns and three gingerbread men to teach the numbers and then to test the child. There is plenty of reinforcement of all that is learnt.

Addition is taught using an animated plus sign and various animals showing how many are to be added. Then practice in adding occurs, using an overlay. A snake replaces the subtraction sign in the demonstration of take-away and leads to the practice session.

Each activity has been well-planned, with good use made of the sound and graphics capability of the Spectrum. The child and parent would, obviously, be best employed using an activity thoroughly at one session and not race through them all just because they are loaded. Too much at one time would confuse and not educate. **T.W.**

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

★ ★ ★ ★ ★

French Oric £12.95

Tansoft, 1/2 Cambridge Techno-Park, Newmarket Rd, Cambridge

If you fancy some French lessons then Tansoft provide an attractive method for you and your micro. A 10-lesson course, each needing about one hour of concentration, is provided in the form of a program and an audio tape. The idea is to run through the lesson first, on which you are tested for each way translations, and then listen to the audio tape for the pronunciations.

By the end you should have accumulated a vocabulary of about 350 words and a grounding in basic grammar. This should provide a sound base for extending your knowledge.

The method used is the Gruneberg Linkword Language System — a technique of linking French words to an image for ease of recall. Some of the examples are bizarre but this is quite deliberate, to create interesting images.

It is obviously impossible to assess in a limited period, and it would depend a lot on the commitment of the user. The course should appeal to children and adults equally and could be useful before the holidays.

Technically the package functioned well: the audio tape was particularly clear and professional. **P.S.W.**

instructions	75%
ease of use	85%
display	80%
value for money	90%

★ ★ ★ ★

Arithmetic 2 VIC-20 + 8K, 16K £9.90

Commodore, 675 Ajax Avenue, Slough, Berks

One tape consists of two programs, the first teaching the numbers to 20 by placing a number on the screen. The child, aged five to eight, has to use the keyboard to copy the number. If the number is correct, the machine shows the corresponding number of cars on the screen. The second program tests what has been learned by putting random numbers of objects on the screen for counting. After basic counting the machine deals with counting in twos, threes and fours using rather uninspired graphics.

On the second tape, programs three and four deal with multiplication and division. The test parts of these programs are in the form of games (Eat the Cake, Catch the Kite). My daughter, who has difficulty with numbers, asked when she would be doing multiplication after playing Catch the Kite — this must be an advantage in any arithmetic programme. The division program has the same format.

Overall a useful but uninspired package. Part of the Teach and Test Series. **M.W.**

instructions	90%
ease of use	80%
display	45%
value for money	75%

★ ★ ★

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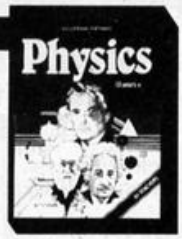
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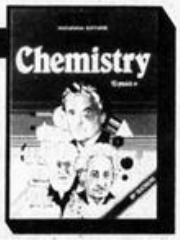
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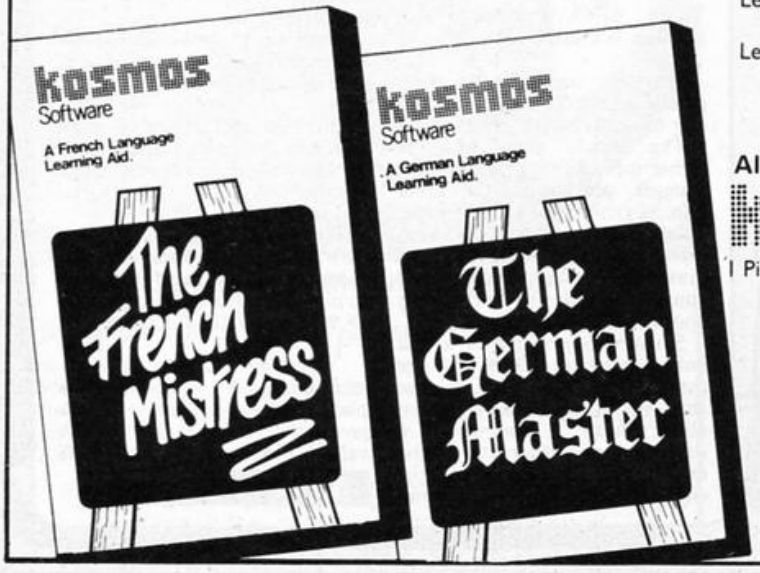
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House of Horrors and Star Strike £5.99

Solid Software, 35 Melville Rd, Bispham, Blackpool FY2 9JF

House of Horrors is an adventure game with graphics. To start you must find the key to enter the house. Clues to the key are given on screen and once deciphered you are given an option of five levels of play and a chance to have the instructions displayed if required. Without warning you are beset by problems which must be solved before you can proceed. There is an egotistical gorilla who likes to hear his name, and this is printed on screen for a brief moment after which you must type in the name from memory. The game proved to be difficult enough at level one so if you get to level five you're a better man than I Gunga Din. This game is excellent fun and a must for all you adventure fanatics.

Star Strike is an arcade style game where you are the pilot of a spaceship defending against alien invaders. The graphics used are excellent and represent the view through a cockpit window at the aliens coming towards you in a good 3D effect. Although the action is limited, the game is well presented with excellent graphics. The whole package adds up to a very good value for money. **D.B.**

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

★ ★ ★ ★ ★

Texi Golf £3.50

SofTI, 14 Station Rd, Brough, North Humberside

The game of golf is now available for most micros and the TI is no exception, with several versions on the market.

Unfortunately, most of the realism is taken out of this program, with non-standard clubs used when it would have been just as easy to use a standard set.

Instead of the usual three woods, nine irons and a putter, only 10 clubs are used. These are as follows: seven irons, one driver, one rather old-fashioned brassie and one wedge.

The course has nine holes, and any hole can be played at any time. I was surprised to find that there were no lakes, streams or trees which are almost essential features of a real course.

Rather a strange aspect of the game was that the computer chooses a "suitable" club if you land in the rough. This turns out to be extremely annoying, as nine times out of ten you have to play away from the green in order to avoid going into the rough again.

After the ninth hole, your score card and handicap are displayed.

This is not the best version of golf I have seen, but it could be greatly improved with just a few minor additions. **J.J.**

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

★ ★ ★ ★

Napoleon £4.95

MarKat, 4 Cloreen Pk, Belfast BT9 5BX

A card game, very similar to Whist, in which the player competes against the computer.

When the cards have been dealt (the player and the computer take turns), the non-dealer states how many tricks he thinks he can win. (As only five cards are dealt, this number can be no higher than five and no less than two). The dealer may then either pass or make a higher bid.

The first card is played by whoever makes the highest bid, and the suit of this card then becomes the trump suit.

Following suit, if possible, the opponent then plays a card. If the value of this card is higher than that played by the other contestant, the opponent wins the trick. As in Whist, if a trump is played it wins the trick.

Unlike Whist, there is a scoring system which awards points to the players, according to the amount of tricks.

The cards are displayed extremely well on the screen, with the player's cards face up, and the computer's face down.

Although the computer knows which cards the player holds, the instructions say it does not use this information to its own advantage. **J.J.**

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

★ ★ ★ ★

Graphics Creator & Screen Editor £5.95

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

Gone are the days when I used to spend many a boring evening scribbling on a grotty piece of over-used graph paper, attempting to design yet another alien for the world's billionth version of Space Invaders. All I have to do now is load Graphics Creator, and after tapping in my requirements all the hexadecimal coding is worked out for me. Very convenient.

As well as Graphics Creator and Screen Editor there are three other programs containing character sets, but I found these rather hard to load.

Upon execution of the program, an 8 x 8 character grid is dislayed on the screen, together with the letters A to Z adn, underneath them, two rows of un-defined characters.

To design your own character, all you have to do is tap in the coordinates of the squares you need filling. Characters can be rotated, inverted, stored as one as the user-defined characters, and saved on cassette. Their hex listings can also be shown on the screen.

The screen editor allows you to design a screen using your pre-defined characters, which is very useful when planning a title screen for a program. A must for all TI owners. **J.J.**

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

★ ★ ★ ★ ★

Fun pac 2 £6.95

Virgin, 61-63, Portobello Rd, London W11 3DD

A package consisting of three games, one arcade style and two text-only adventure games.

The arcade game has the rather topical title of Escape the Mugger, and you are the rather hapless victim who has to escape. The villain is, however, extremely fleet footed and you must exercise a great deal of cunning in order to avoid being another mugging statistic.

Starship Supernova is a text only adventure, where you are the captain of a space salvage ship which happens upon an alien spaceship heading for a supernova and destruction. The entire game is played against the clock and when time starts to run out you are given visual warnings to the effect that you are nearing the supernova.

The final game on the tape is also text only, and places you in as a gunfighter in the old wild west.

Different factors are given to help you decide on which action to take and your skill will decide whether you clean up the town or end up dead.

Three games on this tape are very well presented and I found them entertaining and good fun to play. At the combined price of £6.95, good value for money. **D.B.**

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

★ ★ ★ ★

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CRL Plumbs the depths

On your Lightbike for a bout of high-speed combat

Two players both use the keyboard in Lightbiker, a fast-moving game for the Commodore 64, by HCW regular David Rees. And there are a few other novel features too

Now you too can join in this high speed combat game, using my program for the Commodore 64

The first point to note about the game is that it is for a basic 64, so you won't need Extended Basic, Simons Basic, or any other add-ons.

A POINT and READ POINT command is built into the program, and is designed to use multicolour mode, so you can see the different coloured paths of you and your opponent.

The second interesting feature of the game is that the keyboard can be used for both players at the same time. This is because one of the machine code routines splits the keyboard in two, allowing two people to enter keys at the same time, so you don't need two joysticks to play.

Lightbiker is fast enough — five moves per second — to make it fun to play, and has one extra feature.

When the game is normally set, you have a resolution of 160 by 100 to play on, but this can be adjusted in steps of eight by changing variables XX and YY (e.g. if XX = 1 resolution will be 152 by 100).

Hints on conversion

If you are not going to write machine code, you must have a high resolution screen with POINT and READ commands, and a way to split the keyboard or read two joysticks. If these essential features are not included in your computer, it will probably not be possible to convert this game.

Your program could also be much shorter, e.g. lines 120-220 should be replaced by a graphics clear screen command.

Finally, lines 600-760, incrementing the lightbike position in its direction of motion, should be adjusted to your screen format and resolution.

As your lightbikes have to be set randomly within this area, it is best not to let the resolution fall below 48 by 28, otherwise one of the bikes may be placed outside the playing arena.



How it works

6-80 set up player variables and speed up the game
100-110 set colours
120-170 clear high resolution screen
180-220 set high resolution colours and display
230-250 set screen memory registers
260-295 draw edge lines
300-440 main routine
600-760 increment pixel movement
1000-1070 POKES machine code in
1100-1520 machine code DATA
2000-2250 end of game plus do you want another go?
3000-3110 display keys and screen size

To use the game, RUN it. There will be a delay as machine code DATA is POKEd in. The keys you will use are then displayed as the high resolution screen is cleared.

Then the grid edges are drawn and the game starts in earnest. After it is finished, a point is added to the score of the player who won, and you can play another game.

Note: As usual, Commodore BASIC control characters are explained in REMs in the lines above. These REMs should not be typed in.

Main Variables

X%,Y%,A%,B%,C% position variables for machine code
P,Q locations of direction registers
G game number
K,L machine code routines start positions
V start of video chip
XX subtracted from grid width X wards
YY subtracted from grid width Y wards
C(1),C(2) players 1,2 colours
S(1),S(2) scores of the players
X(1),A(1),Y(1),B(1) player position variables for player 1

```
 1 REM**************
 2 REM* LIGHTBIKER *
 3 REM*     BY     *
 4 REM* DAVID REES *
 5 REM**************
 6 X%=0:A%=0:Y%=0:B%=0:C%=0
 7 POKE52,31:POKE56,31:G=0:S(1)=0:S(2)=0
 9 REM*ARENA SIZE:XX AND YY*
10 P=49664:Q=P+1:G=G+1:XX=0:YY=0
20 C(1)=85:C(2)=170
29 REM*[L BLUE]..[YELLOW]
30 A$(1)="[R]IGHT":A$(2)="[L]EFT"
39 REM*PLAYER RIGHT VARIABLES*
40 X(1)=10+XX/2
50 A(1)=0:Y(1)=INT(RND(1)*(12-YY))+12.5
60 POKE56325,255:POKE56324,255
65 B(1)=0:POKE49664,1
69 REM*PLAYER LEFT VARIABLES*
70 X(2)=INT(RND(1)*(20-XX))+18
75 A(2)=0:Y(2)=10+YY/2:B(2)=0:POKE49665,3
80 K=49152:L=49408
85 IFPEEK(52000)=0THENGOSUB1000
90 GOSUB3000
99 REM*SET UP HIRES SCREEN*
100 V=53248
110 POKEV+32,2:POKEV+33,6
120 FORN=8TO15
129 REM*..[HOME]
130 POKE648,N*4:PRINT"[8]";
140 FORM=0TO98:PRINT"[@@@@@@@@@@]";:NEXT
150 FORM=0TO33:POKE990+M+N*1024,0:NEXT
160 NEXTN
```

```
170 POKE648,4
179 REM*[HOME]
180 PRINT"■";
189 REM*..[BLACK]
190 FORN=0TO98:PRINT"■**********";:NEXT
200 FORN=0TO9
210 POKE56286+N,0:POKE2014+N,126
220 NEXT
230 POKEV+17,PEEK(V+17)OR32
240 POKEV+24,31
250 POKEV+22,PEEK(V+22)OR16
259 REM*DRAW SIDE LINES*
260 C%=255
265 FORY=0TO24:FORB=0TO3
268 X%=XX:A%=3:Y%=Y:B%=B:SYSK
270 X%=39-XX:A%=0:SYSK
275 NEXTB,Y
280 FORX=0TO39:FORA=3TO0STEP-1
285 X%=X:A%=A:Y%=YY:B%=0:SYSK
290 Y%=24-YY:B%=3:SYSK
295 NEXTA,X
299 REM*MAIN ROUTINE*
300 FORN=1TO2
310 X%=X(N):A%=A(N):Y%=Y(N):B%=B(N)
330 C%=C(N):SYSK:IFPEEK(780)=1THEN2000
340 NEXT
400 SYSL:N=1
410 ONPEEK(P)GOSUB600,650,700,750
430 N=2:ONPEEK(Q)GOSUB600,650,700,750
440 GOTO300
599 REM*INCREMENT IN DIRECTION*
600 B(N)=B(N)-1:IFB(N)>-1THENRETURN
610 B(N)=3:Y(N)=Y(N)-1:RETURN
650 B(N)=B(N)+1:IFB(N)<4THENRETURN
660 B(N)=0:Y(N)=Y(N)+1:RETURN
700 A(N)=A(N)+1:IFA(N)<4THENRETURN
710 A(N)=0:X(N)=X(N)-1:RETURN
750 A(N)=A(N)-1:IFA(N)>-1THENRETURN
760 A(N)=3:X(N)=X(N)+1:RETURN
999 REM*POKE IN MACHINE CODE*
1000 FORN=0TO1
1010 FORM=0TO255
1020 READA:IFA=-1THEN1050
1030 POKE49152+N*256+M,A
1040 NEXTM
1050 NEXTN
1060 POKE52000,1
1070 RETURN
1100 DATA169,,141,52,3,160,3,177,45,10
1110 DATA10,10,144,4,24,238,52,3
1120 DATA141,53,3,160,10,177,45,168
1130 DATA169,1,192,,240,9,10,24,10,24
1140 DATA136,192,,208,247,133,251,10,24
1150 DATA101,251,24,141,54,3,169,
1160 DATA133,254,160,17,177,45,168
1170 DATA192,,240,17,169,,24,105,64
1180 DATA144,3,24,230,254,230,254,136
1190 DATA192,,208,241,133,253,165,254
1200 DATA24,105,32,24,109,52,3,24
1210 DATA133,254,173,53,3,24,101,253
1220 DATA144,3,24,230,254,133,253
1230 DATA160,24,177,45,10,24,133,2,160,31
1240 DATA177,45,45,54,3,133,252,169,255
1250 DATA56,237,54,3,24,133,251,164,2
1260 DATA177,253,37,251,170,177,253
1270 DATA45,54,3,201,,240,3,169,1,96
1280 DATA138,24,101,252,24,145,253
1290 DATA200,145,253,169,,96,-1
1400 DATA169,135,141,2,220,32,159,255
1410 DATA165,197,201,64,240,36,201,59
1420 DATA208,5,169,1,24,144,24,201,10
1430 DATA208,5,169,2,24,144,15,201,62
1440 DATA208,5,169,3,24,144,6,201,9
1450 DATA208,5,169,4,141,,194,169,120
1460 DATA141,2,220,32,159,255,169,255
1470 DATA141,2,220,165,197,201,64,208,1
1480 DATA96,201,48,208,5,169,1,24
1490 DATA144,24,201,53,208,5,169,2
1500 DATA24,144,15,201,49,208,5,169,3
1510 DATA24,144,6,201,54,208,5,169,4
1520 DATA141,1,194,96,-1
1999 REM*END OF GAME*
2000 FORT=0TO999:NEXT
2010 FORT=0TO9:GETA$:NEXT
2020 S(N)=S(N)+1
2030 POKEV+17,PEEK(V+17)AND223
2040 POKEV+24,21
2050 POKEV+22,PEEK(V+22)AND239
2058 REM*[CLS][GREEN].[RVS ON]..[GREEN]
2059 REM*.[RVS OFF]
2060 PRINT"■■THE ■"A$(N)"■■ PLAYER WON"
2070 PRINT"WELL DONE"
2079 REM*[DWN]
2080 PRINT"■DN GO NUMBER"G
2090 PRINT"THE SCORES ARE:"
2100 PRINTA$(1)" "S(1)
2110 PRINTA$(2)" "S(2)
2129 REM*[GREEN]
2130 PRINT"■"
2200 PRINT"DO YOU WANT ANOTHER GAME (Y/N)?"
2210 GETA$:IFA$="Y"THEN10
2220 IFA$=""THEN2210
2230 IFA$<>"N"THEN2200
2240 POKE56325,68
2250 END
2998 REM*KEY INSTRUCTIONS*
2999 REM*[CLS][L BLUE]..[DWN]
3000 PRINT"■■KEYS:■"
3009 REM*[RVS ON]
3010 PRINT"■LEFT PLAYER:"
3020 PRINT"2 UP■Q LEFT■W RIGHT■A DOWN"
3030 PRINT
3039 REM*[RVS ON]
3040 PRINT"■RIGHT PLAYER:"
3050 PRINT"\ UP■* LEFT■↑ RIGHT■= DOWN"
3060 PRINT
3070 PRINT"SCREEN SIZE IS:"
3080 PRINT(20-XX)*8;" ACROSS"
3090 PRINT"AND"
3100 PRINT(12.5-YY)*8;" UP."
3110 RETURN
```



Treasure awaits those who risk evil in the labyrinth

Are you brave enough to explore the dark labyrinth where monsters lurk and a treasure chest of gold lies. Only the fittest will survive this devilish adventure, written for the 48K Spectrum by Tim Frost and Simon Welbourne

How it works

1-35 initialisation of score, graphics, variables
99-239 introduction and instructions
300-950 character generation
999-1050 game screen display
1100-1250 entrance to dungeon
1253 subroutine (8500-8550) to erase display
1254 subroutine (8400-8440) for random dungeon
1299-1334 routine for room door
1348-1840 monster attack routine
1999-2670 player attacks and adjustment of status scores. Check for dead
3024-3420 room contents, and show which characters are dead
3500-3550 check if you've won and if so go to exit routine, otherwise leave room and continue.
3599-3676 draw exit and show score
8299-8350 failure routine
8899-8990 class descriptions
8999-9999 user defined graphics

Variables

t1,t2,t3,t4 class status scores
st1,st2,st3,st4 players' status scores
c1,c2,c3,c4 players' cash scores
lvl level of play
s decide whether there is a monster in the room
v decide on monster
mt monster's status
i decide initiatives
d damage
st,ad,aq,ah status score replacements
e special damage
sp1,sp2,sp3,sp4 player's spells
rm room count
bns bonuses
prov provisions
tres treasure
pts points
hs rub out questions
n$,o$,r$,q$ players' names
t$,(4,3) classes
i$,j$,k$,l$ players' classes
m$ (10,8) monsters
p$ name of monster
z$,y$ spaces

Is the lure of gold — and the risk of dark caverns where monsters await the unwary — your cup of tea?

In Hermon, short for Heroes and Monsters, you take the role of one of four characters: wizard, warrior, priest or thief.

Any combination of people may play the characters. For example, one person could play all four or two people per character could play.

You will meet up to 10 different types of nasties and of find all sorts useful equipment lying around. All you have to do is find the gold and escape unhurt!

For those not familiar with this type of game there is a substantial introduction in the listing.

When RUN there will be a short pause while graphics and variables are set up.

Details of the characters, or classes, can be obtained by pressing key 3. Enter your class in L mode. Skill level is the number of rooms you must explore before finding the exit.

If the game is SAVEd using the form "program name" LINE 1 then when LOADed the game will auto-run.

User-defined graphics a to p are used. Capitals in the PRINT statements should be entered in GRAPHICS mode.

So that's the program. Now it's up to you... if you dare.



```
  1 REM HEROES AND MONSTERS
  2 REM * TIM FROST &                    S.WELBOURNE
  3 INK 6: PAPER 0: BORDER 0: CLS
  5 PRINT AT 10,9;"PLEASE WAIT.";AT 8,7;"HERMON HAS LOADED";AT 9,11;"STOP TAPE"
  6 REM ***INITIALISATION***
 30 GO SUB 9000
 31 CLS
 32 LET n$="          "; LET o$=n$: LET r$=n$: LET q$=n$: LET i$="    "; LET j$=i
$: LET k$=i$: LET l$=i$
 33 INK 6: PAPER 0: BORDER 0: CLS
 35 LET ra=0: LET bns=0
 99 REM ***INTRO***
100 LET a$="AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA"
102 LET b$="B                              B"
104 LET c$="A                              A"
110 PRINT INK 4;a$;b$;c$;b$;c$;b$;c$;b$;c$;b$;c$;b$;c$;b$;c$;b$;c$;b$;c$;b$;c$;
a$
120 PRINT AT 2,6; FLASH 1;"BHEROES AND MONSTERSB"
140 PRINT INK 2;AT 4,4;"* T.FROST & S.WELBOURNE *"
143 PRINT AT 6,5;"Heroes & Monsters is a ";AT 7,1;" fantasy role-playing game.
"
145 PRINT AT 9,4;"You play the part of an "
146 PRINT AT 10,3;"intrepid adventurer.  You "
147 PRINT AT 11,3;"must explore the labyrinth,"
148 PRINT AT 12,2;"find treasure, kill monsters"
149 PRINT AT 13,2;"and eventually find the only"
150 PRINT AT 14,11;"way out!!"
152 PRINT INK 3;AT 16,3;"Step into the world of your"
153 PRINT INK 3;AT 17,9;"IMAGINATION!"
155 PRINT AT 19,7;"Press any key....."
160 IF INKEY$="" THEN GO TO 160
163 BEEP .25,10
165 CLS
167 REM **MONSTER DESCRIPTION**
170 LET d$="CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC"
172 LET e$="D                              D"
175 PRINT INK 4;d$;e$;e$;e$;e$;e$;e$;e$;e$;e$;e$;e$;e$;e$;e$;e$;e$;e$;e$;e$;e$;
d$
180 PRINT AT 2,2;"MONSTERS"; OVER 1;AT 2,2;"________"
181 PRINT AT 3,2;"APE:White,Nocturnal,Int=2"
182 PRINT AT 4,2;"BEAR:Strong,Bad sight,Int=3"
183 PRINT AT 5,2;"GOBLIN:Small,Ugly,Int=3"
184 PRINT AT 6,2;"KOBOLD:Small,Dog-like,Int=3"
185 PRINT AT 7,2;"MINOTAUR:Large,Strong,Int=2"
186 PRINT AT 8,2;"OGRE:Large,Semi-human,Int=2"
187 PRINT AT 9,2;"ORC:Ugly,Nocturnal,Int=2"
188 PRINT AT 10,2;"SKELETON:Fearless,Int=1"
189 PRINT AT 11,2;"ZOMBIE:Controlled dead,Int=1"
190 PRINT AT 12,2;"GIANT:Tall,Strong,Int=4"
192 PRINT AT 14,2;"Int=Intelligence.Score(1-5)"
193 PRINT AT 15,4;"1=POOR   5=GOOD"
194 PRINT AT 17,4;"Press any key..."
195 PRINT AT 19,2;"B B B B B B B B B B B B B "
196 IF INKEY$="" THEN GO TO 196
198 BEEP .25,10
200 CLS
205 REM **EQUIPMENT LIST**
210 LET f$="EEEEEEEEEEEEEEEEEEEEEEEEEEEEEE"
211 LET g$="F                              F"
212 PRINT f$;g$;g$;g$;g$;g$;g$;g$;g$;g$;g$;g$;g$;g$;g$;g$;g$;g$;g$;f$
215 PRINT AT 2,2;"EQUIPMENT"; OVER 1;AT 2,2;"_________"
220 PRINT INK 4;AT 3,2;"A SWORD:Use vs. monsters"
225 PRINT INK 4;AT 4,2;"M WAND:Used for spells "
228 PRINT INK 7;AT 6,2;"B MONSTER:Your Enemies"
229 PRINT INK 7;AT 7,2;"C MAN:This is you!"
230 PRINT INK 5;AT 9,2;"D ALTAR:Religious item"
231 PRINT INK 5;AT 10,2;"J TABLE:Room furnishings"
232 PRINT INK 5;AT 11,2;"L BED:Room furnishings"
233 PRINT INK 5;AT 12,2;"P CUP:Indicates provisions"
234 PRINT INK 6;AT 14,2;"E SHIELD:item of armour"
235 PRINT INK 6;AT 15,2;"I TREASURE CHEST:Gold!!"
236 PRINT INK 6;AT 19,4;"Press any key..."
237 PAUSE 0: IF INKEY$="" THEN GO TO 237
239 FOR f=1 TO 50: BEEP .05,f: NEXT f
300 INK 3: CLS
305 REM **GENERATION**
310 PRINT INK 6;" CHARACTER GENERATION"; OVER 1: PRINT INK 2;"_________________
_____"
333 BEEP .25,25
334 PRINT INK 4;AT 5,1;"PLAYERS= 4"
340 PRINT AT 7,1;"Here is an example of a player"
341 PRINT AT 9,1;"# NAME      CLASS STATUS CASH "
342 PRINT INK 5;AT 10,1;"1 ROTHGAR    WAR    50     00 "
345 PRINT AT 12,2;"The NAME is put in by you."
346 PRINT AT 13,2;"For details of CLASS press <3>"
347 PRINT AT 14,2;"STATUS is a measure of your     stamina.It will decrease wit
h   wounds and increase with more   provisions,rest,etc."
348 PRINT AT 18,2;"CASH is a measure of the       players gold pieces."
350 PRINT INK 6;AT 20,2;"Press any key.(3 FOR CLASSES)"
351 PAUSE 0: IF INKEY$="3" THEN GO TO 8900
352 BEEP .25,10
353 PAPER 1: BORDER 1: INK 6: CLS
355 LET h$="                                "
360 PRINT AT 2,2;"CHARACTER GENERATION"; OVER 1;AT 2,2;"_____________________"
365 PRINT
370 PRINT "PLAYERS= 4"
380 PRINT AT 5,10;"NAME      CLASS STAT CA"
385 REM **CHARACTER #1**
390 PRINT AT 6,0;"PLAYER #1:"
400 PRINT AT 10,0;"NAME #1 (9 letters max.)"
410 INPUT n$
411 BEEP .25,10
412 PRINT AT 10,0;h$
420 PRINT AT 6,10;n$
430 PRINT AT 10,0;"NOW CLASS.PRESS W FOR WARRIOR,  Z FOR WIZARD,P PREIST,T THIE
F"
440 DIM t$(4,3)
441 LET t$(1)="WAR"
442 LET t$(2)="WIZ"
443 LET t$(3)="PRE"
444 LET t$(4)="THI"
446 PAUSE 0
450 IF INKEY$="w" THEN PRINT AT 6,21;t$(1): LET i$=t$(1): BEEP .25,10
451 IF INKEY$="z" THEN PRINT AT 6,21;t$(2): LET sp1=6: LET i$=t$(2): BEEP .25,1
0
452 IF INKEY$="p" THEN PRINT AT 6,21;t$(3): LET i$=t$(3): BEEP .25,10
453 IF INKEY$="t" THEN PRINT AT 6,21;t$(4): LET i$=t$(4): BEEP .25,10
455 PRINT AT 10,0;h$
457 LET t1=50: LET t2=30: LET t3=40: LET t4=35
460 IF t$(1)=i$ THEN PRINT AT 6,27;t1
463 IF t$(2)=i$ THEN PRINT AT 6,27;t2
465 IF t$(3)=i$ THEN PRINT AT 6,27;t3
467 IF t$(4)=i$ THEN PRINT AT 6,27;t4
470 IF t$(1)=i$ THEN LET st1=t1
475 IF t$(2)=i$ THEN LET st1=t2
477 IF t$(3)=i$ THEN LET st1=t3
480 IF t$(4)=i$ THEN LET st1=t4
490 LET c1=00
495 PRINT AT 6,31;c1
500 REM **PLAYER #2**
505 PRINT AT 7,0;"PLAYER #2:"
507 PRINT AT 10,0;"NAME #2 (9 letters max.)"
510 INPUT o$
512 BEEP .25,10
515 PRINT AT 10,0;h$
517 PRINT AT 7,10;o$
520 PRINT AT 10,0;"NOW CLASS.PRESS W FOR WARRIOR,  Z FOR WIZARD,P PRIEST,T THIE
F"
530 PAUSE 0
532 IF INKEY$="w" THEN PRINT AT 7,21;t$(1): LET j$=t$(1): BEEP .25,10
534 IF INKEY$="z" THEN PRINT AT 7,21;t$(2): LET sp2=6: LET j$=t$(2): BEEP .25,1
0
536 IF INKEY$="p" THEN PRINT AT 7,21;t$(3): LET j$=t$(3): BEEP .25,10
538 IF INKEY$="t" THEN PRINT AT 7,21;t$(4): LET j$=t$(4): BEEP .25,10
540 PRINT AT 10,0;h$
542 IF t$(1)=j$ THEN PRINT AT 7,27;t1
545 IF t$(2)=j$ THEN PRINT AT 7,27;t2
547 IF t$(3)=j$ THEN PRINT AT 7,27;t3
549 IF t$(4)=j$ THEN PRINT AT 7,27;t4
560 IF t$(1)=j$ THEN LET st2=t1
562 IF t$(2)=j$ THEN LET st2=t2
564 IF t$(3)=j$ THEN LET st2=t3
566 IF t$(4)=j$ THEN LET st2=t4
568 LET c2=00
569 PRINT AT 7,31;c2
580 REM **PLAYER #3**
600 PRINT AT 0,0;"PLAYER #3:"
605 PRINT AT 10,0;"NAME #3 (9 letters max.)"
610 INPUT r$
612 BEEP .25,10
614 PRINT AT 10,0;h$
616 PRINT AT 8,10;r$
618 PRINT AT 10,0;"NOW CLASS.PRESS W FOR WARRIOR,  Z FOR WIZARD,P PRIEST,T THIE
F"
620 PAUSE 0
622 IF INKEY$="w" THEN PRINT AT 8,21;t$(1): LET k$=t$(1): BEEP .25,10
623 IF INKEY$="z" THEN PRINT AT 8,21;t$(2): LET sp3=6: LET k$=t$(2): BEEP .25,1
0
624 IF INKEY$="p" THEN PRINT AT 8,21;t$(3): LET k$=t$(3): BEEP .25,10
625 IF INKEY$="t" THEN PRINT AT 8,21;t$(4): LET k$=t$(4): BEEP .25,10
627 PRINT AT 10,0;h$
630 IF t$(1)=k$ THEN PRINT AT 8,27;t1
631 IF t$(2)=k$ THEN PRINT AT 8,27;t2
632 IF t$(3)=k$ THEN PRINT AT 8,27;t3
633 IF t$(4)=k$ THEN PRINT AT 8,27;t4
635 IF t$(1)=k$ THEN LET st3=t1
636 IF t$(2)=k$ THEN LET st3=t2
637 IF t$(3)=k$ THEN LET st3=t3
638 IF t$(4)=k$ THEN LET st3=t4
640 LET c3=00
645 PRINT AT 8,31;c2
660 REM **PLAYER #4**
700 PRINT AT 9,0;"PLAYER #4:"
710 PRINT AT 10,0;"NAME #4 (9 letters max.)"
720 INPUT q$
730 BEEP .25,10
740 PRINT AT 10,0;h$
750 PRINT AT 9,10;q$
760 PRINT AT 10,0;"NOW CLASS.PRESS W FOR WARRIOR,  Z FOR WIZARD.P PRIEST,T THIE
F"
770 PAUSE 0
780 IF INKEY$="w" THEN PRINT AT 9,21;t$(1): LET l$=t$(1): BEEP .25,10
790 IF INKEY$="z" THEN PRINT AT 9,21;t$(2): LET sp4=6: LET l$=t$(2): BEEP .25,1
0
800 IF INKEY$="p" THEN PRINT AT 9,21;t$(3): LET l$=t$(3): BEEP .25,10
810 IF INKEY$="t" THEN PRINT AT 9,21;t$(4): LET l$=t$(4): BEEP .25,10
820 PRINT AT 10,0;h$
830 IF t$(1)=l$ THEN PRINT AT 9,27;t1
840 IF t$(2)=l$ THEN PRINT AT 9,27;t2
850 IF t$(3)=l$ THEN PRINT AT 9,27;t3
860 IF t$(4)=l$ THEN PRINT AT 9,27;t4
870 IF t$(1)=l$ THEN LET st4=t1
880 IF t$(2)=l$ THEN LET st4=t2
890 IF t$(3)=l$ THEN LET st4=t3
900 IF t$(4)=l$ THEN LET st4=t4
910 LET c4=00
920 PRINT AT 9,31;c4
921 REM **DIFFICULTY**
922 PRINT AT 12,4;"INPUT SKILL LEVEL (1-4)"
923 PRINT AT 13,5;"1 = 15 ROOMS";AT 14,5;"2 = 30 ROOMS";AT 15,5;"3 = 50 ROOMS";
AT 16,5;"4 = 100 ROOMS"
926 INPUT lvl
927 IF lvl<1 OR lvl>4 THEN GO TO 922
928 BEEP .25,15
930 PRINT AT 18,4;"PRESS ANY KEY..."
935 IF INKEY$="" THEN GO TO 935
940 FOR f=1 TO 30: BEEP .05,20: BEEP .05,0: NEXT f
950 PAPER 0: INK 6: BORDER 0: CLS
999 REM **START GAME!!**
1000 PLOT 0,0: DRAW 0,175: DRAW 255,0: DRAW 0,-175: DRAW -255,0: PLOT 0,48: DRAW
 255,0: PLOT 0,80: DRAW 255,0: PLOT 87,80: DRAW 0,87:
1001 PRINT INK 2;AT 11,1;"P P PPPP PPPP PPPPP  PPPP P  P"
1002 PRINT INK 6;AT 12,1;"PPP PP   PPPP P P P  P  P PP P"
1003 PRINT INK 4;AT 13,1;"P P PPP  PPP  P P P  P  P P P PP"
1004 PRINT INK 5;AT 14,1;"P P PPPP P PP P   P  PPPP P  P"
1007 REM **INSTALL CHARACTERS**
1010 PRINT AT 16,1;"# NAME      CLASS STATUS  CASH"
1020 PRINT AT 17,1;"1 ";n$;AT 17,14;i$;AT 17,21;st1;AT 17,28;c1
1030 PRINT AT 18,1;"2 ";o$;AT 18,14;j$;AT 18,21;st2;AT 18,28;c2
1040 PRINT AT 19,1;"3 ";r$;AT 19,14;k$;AT 19,21;st3;AT 19,28;c3
1050 PRINT AT 20,1;"4 ";q$;AT 20,14;l$;AT 20,21;st4;AT 20,28;c4
1100 REM **DRAW ENTRANCE**

1200 PLOT 15,96: DRAW 0,38: DRAW 20,20,-0.5*PI: DRAW 20,-20,-0.5*PI: PLOT 55,96:
 DRAW 0,38: PLOT 55,96: DRAW -8,0: DRAW 0,38: PLOT 15,96: DRAW 8,0: DRAW 0,8: DR
AW 0,30: DRAW 12,12,-0.5*PI: DRAW 12,-12,-0.5*PI
1210 PRINT INK 4;AT 3,4;"F";AT 8,4;"M": PRINT INK 7;AT 9,4;"C"
1220 PRINT AT 1,1;"WELCOME.."
1230 FOR f=-20 TO -10: FOR g=15 TO 10 STEP 1: BEEP .05,f-g: BEEP .05,g-f: NEXT
f: NEXT g
1240 PRINT AT 1,12;"YOU ENTER THROUGH": PRINT AT 2,12;"A HUGE,ROCK-CARVED": PRIN
T AT 3,12;"ARCHWAY. YOU FEEL": PRINT AT 4,12;"AS THOUGH YOU ARE": PRINT AT 5,12;
"BEING WATCHED..."
1244 PAUSE 80
1245 BEEP .18,-6: PAUSE 20: BEEP .18,-7: PAUSE 20: BEEP .18,-9: PAUSE 20: BEEP .
18,-7: PAUSE 20: BEEP .18,-6: PAUSE 20: BEEP .18,-4: PAUSE 20: BEEP 1,-2:
1250 PAUSE 200
1253 GO TO 8500
1254 GO TO 8400
1299 REM **ROOM DOOR!**
1300 PLOT 15,96: DRAW 0,38: PLOT 55,96: DRAW 0,38: DRAW -40,0: PLOT 17,98: DRAW
 0,34: DRAW 34,0: DRAW 0,-34: DRAW -34,0
1310 PLOT 21,101: DRAW 11,0: DRAW 0,11: DRAW -11,0: DRAW 0,-11: PLOT 21,117: DRA
W 11,0: DRAW 0,11: DRAW -11,0: DRAW 0,-11: PLOT 35,101: DRAW 11,0: DRAW 0,11: DR
AW -11,0: DRAW 0,-11: PLOT 35,117: DRAW 11,0: DRAW 0,11: DRAW -11,0: DRAW 0,-11:
 CIRCLE 46,114,1
1330 PRINT AT 1,12;"YOU REACH A DOOR.";AT 2,12;"IT IS UNLOCKED."
1331 PRINT AT 4,12;"PRESS ANY KEY...";AT 5,15;"TO ENTER!!"
1334 IF INKEY$="" THEN GO TO 1334
1345 GO TO 8500
1346 BEEP .25,30
1348 REM **COMBAT SYSTEM**
1350 PRINT INK 7;AT 5,1;"C"
1353 LET s=1+INT (RND*2)
1354 IF s=1 THEN GO TO 3000
1355 IF s=2 THEN PRINT INK 7;AT 5,8;"B"
1360 LET v=1+INT (RND*10)
1370 DIM m$(10,8)
1371 LET m$(1)="APE....."
1372 LET m$(2)="BEAR...."
1373 LET m$(3)="GOBLIN.."
1374 LET m$(4)="KOBOLD.."
1375 LET m$(5)="MINOTAUR"
1376 LET m$(6)="OGRE...."
1377 LET m$(7)="ORC....."
1378 LET m$(8)="SKELETON"
1379 LET m$(9)="ZOMBIE.."
1380 LET m$(10)="GIANT..."
1385 LET mt=0
1390 IF v=1 THEN LET p$=m$(1): LET mt=35
1395 IF v=2 THEN LET p$=m$(2): LET mt=40
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1400 IF v=3 THEN LET p$=m$(3): LET mt=25
1405 IF v=4 THEN LET p$=m$(4): LET mt=25
1410 IF v=5 THEN LET p$=m$(5): LET mt=95
1415 IF v=6 THEN LET p$=m$(6): LET mt=80
1420 IF v=7 THEN LET p$=m$(7): LET mt=20
1425 IF v=8 THEN LET p$=m$(8): LET mt=45
1430 IF v=9 THEN LET p$=m$(9): LET mt=60
1435 IF v=10 THEN LET p$=m$(10): LET mt=120
1437 PRINT AT 1,12;"YOU ENCOUNTER ONE";AT 2,12;p$
1438 PLOT INVERSE 1;15,95: PLOT INVERSE 1;55,95
1439 FOR f=1 TO 200: NEXT f
1499 REM **DECIDE INITIATIVE**
1500 LET i=INT (RND*2)+1
1502 PLOT INVERSE 1;15,95: PLOT INVERSE 1;55,95
1505 IF i=1 THEN GO TO 2000
1506 REM *CHECK IF MONSTER DEAD*
1507 IF mt<=0 THEN BEEP 1,-4: BEEP 2,-6: IF mt<=0 THEN GO TO 2969
1508 GO SUB 8430
1509 PLOT INVERSE 1;15,95: PLOT INVERSE 1;55,95
1510 PAUSE 30: PRINT AT 3,12;"THE ";p$;AT 4,12;"ATTACKS!!"
1515 LET v=INT (RND*4)+1
1517 IF v=1 AND st1>0 THEN GO TO 1530
1518 IF v=2 AND st2>0 THEN GO TO 1630
1519 IF v=3 AND st3>0 THEN GO TO 1730
1520 IF v=4 AND st4>0 THEN GO TO 1830
1521 IF st1<=0 AND st2<=0 AND st3<=0 AND st4<=0 THEN GO TO 8300
1522 IF v=1 AND st1<=0 THEN GO TO 1515
1523 IF v=2 AND st2<=0 THEN GO TO 1515
1524 IF v=3 AND st3<=0 THEN GO TO 1515
1525 IF v=4 AND st4<=0 THEN GO TO 1515
1528 IF mt<=0 THEN BEEP 1,-4: BEEP 2,-6: IF mt<=0 THEN GO TO 3010
1530 IF mt>st1 THEN LET d=mt-st1: GO TO 1537
1535 IF mt<=st1 THEN PRINT AT 5,12;"BUT THE ";AT 6,12;p$;" MISSES!!": PAUSE 200: GO TO 2000
1537 PAUSE 35: PRINT AT 7,12;n$;" IS HIT!": BEEP 2,-4: BEEP 2,-5: BEEP 2,-6:
1540 LET st1=st1-d: PRINT AT 17,21;st1: IF st1<10 AND st1>0 THEN PRINT AT 17,21;" ";st1
1545 GO TO 2000
1550 GO TO 2000
1630 IF mt>st2 THEN LET d=mt-st2: GO TO 1637
1635 IF mt<=st2 THEN PRINT AT 5,12;"BUT THE ";AT 6,12;p$;" MISSES!!": PAUSE 200: GO TO 2000
1637 PAUSE 35: PRINT AT 7,12;o$;" IS HIT!": BEEP 2,-4: BEEP 2,-5: BEEP 2,-6:
1640 LET st2=st2-d: PRINT AT 18,21;st2: IF st2<10 AND st2>=0 THEN PRINT AT 18,21;" ";st2
1650 GO TO 2000
1660 GO TO 2000
1730 IF mt>st3 THEN LET d=mt-st3: GO TO 1737
1735 IF mt<=st3 THEN PRINT AT 5,12;"BUT THE ";AT 6,12;p$;" MISSES!!": PAUSE 200: GO TO 2000
1737 PAUSE 35: PRINT AT 7,12;r$;" IS HIT!": BEEP 2,-4: BEEP 2,-5: BEEP 2,-6:
1740 LET st3=st3-d: PRINT AT 19,21;st3: IF st3<10 AND st3>0 THEN PRINT AT 19,21;" ";st3
1750 GO TO 2000
1760 GO TO 2000
1830 IF mt>st4 THEN LET d=mt-st4: GO TO 1837
1835 IF mt<=st4 THEN PRINT AT 5,12;"BUT THE ";AT 6,12;p$;" MISSES!!": PAUSE 200: GO TO 2000
1837 PAUSE 35: PRINT AT 7,12;q$;" IS HIT!": BEEP 2,-4: BEEP 2,-5: BEEP 2,-6:
1840 LET st4=st4-d: PRINT AT 20,21;st4: IF st4<10 AND st4>0 THEN PRINT AT 20,21;" ";st4: GO TO 2000
1999 REM **PLAYER ATTACKS**
2000 BEEP .25,0: PRINT AT 1,12;z$;AT 2,12;z$;AT 3,12;z$;AT 4,12;z$;AT 5,12;z$;AT 6,12;z$;AT 7,12;z$;AT 8,12;z$;AT 9,12;z$
2020 IF st1<=0 OR st2<=0 OR st3<=0 OR st4<=0 THEN BEEP .5,-4: BEEP .5,-4: BEEP .13,-4: BEEP .5,-4: BEEP .5,-1: BEEP .13,-2: BEEP .13,-2: BEEP .13,-4: BEEP .13,-4: BEEP .13,-5: BEEP .75,-4
2021 IF st1<=0 THEN PRINT AT 17,1;"KKKKKKKKKKKKKKKKKKKKKKKKKKKKKK"
2022 IF st2<=0 THEN PRINT AT 18,1;"KKKKKKKKKKKKKKKKKKKKKKKKKKKKKK"
2023 IF st3<=0 THEN PRINT AT 19,1;"KKKKKKKKKKKKKKKKKKKKKKKKKKKKKK"
2024 IF st4<=0 THEN PRINT AT 20,1;"KKKKKKKKKKKKKKKKKKKKKKKKKKKKKK"
2025 PRINT AT 2,12;"WHO ATTACKS?";AT 3,12;"PRESS 1 FOR #1";AT 4,12;"       2 FOR #2";AT 5,12;"       3 FOR #3";AT 6,12;"       4 FOR #4";
2026 IF st1<=0 AND st2<=0 AND st3<=0 AND st4<=0 THEN GO TO 8300
2027 IF INKEY$="" THEN GO TO 2027
2031 IF INKEY$="1" THEN GO TO 2040
2033 IF INKEY$="2" THEN GO TO 2100
2035 IF INKEY$="3" THEN GO TO 2160
2037 IF INKEY$="4" THEN GO TO 2220
2040 BEEP .25,10: GO SUB 8430
2041 IF st1>0 THEN GO TO 2043
2042 IF st1<=0 THEN PRINT AT 8,12;n$;" IS DEAD";AT 9,12;"TRY AGAIN!": GO TO 2025
2043 PRINT AT 2,12;n$;" ATTACKS"
2044 LET st=st1
2046 GO SUB 2950
2047 IF INKEY$="" THEN GO TO 2047
2048 IF INKEY$="7" THEN GO TO 2350
2050 IF INKEY$="8" THEN GO TO 2550
2100 BEEP .25,10: GO SUB 8430
2101 IF st2>0 THEN GO TO 2103
2102 IF st2<=0 THEN PRINT AT 8,12;o$;" IS DEAD";AT 9,12;"TRY AGAIN!": GO TO 2025
2103 PRINT AT 2,12;o$;" ATTACKS"
2104 LET ad=st2
2106 GO SUB 2950
2107 IF INKEY$="" THEN GO TO 2107
2108 IF INKEY$="7" THEN GO TO 2400
2109 IF INKEY$="8" THEN GO TO 2600
2160 BEEP .25,10: GO SUB 8430
2161 IF st3>0 THEN GO TO 2163
2162 IF st3<=0 THEN PRINT AT 8,12;r$;" IS DEAD";AT 9,12;"TRY AGAIN!": GO TO 2025
2163 PRINT AT 2,12;r$;" ATTACKS"
2164 LET aq=st3
2165 GO SUB 2950
2167 IF INKEY$="" THEN GO TO 2167
2168 IF INKEY$="7" THEN GO TO 2450
2169 IF INKEY$="8" THEN GO TO 2635
2220 BEEP .25,10: GO SUB 8430
2221 IF st4>0 THEN GO TO 2223
2222 IF st4<=0 THEN PRINT AT 8,12;q$;" IS DEAD";AT 9,12;"TRY AGAIN!": GO TO 2025
2223 PRINT AT 2,12;q$;" ATTACKS"
2224 LET ah=st4
2226 GO SUB 2950
2227 IF INKEY$="" THEN GO TO 2227
2228 IF INKEY$="7" THEN GO TO 2500
2229 IF INKEY$="8" THEN GO TO 2655
2350 IF st>=mt THEN PRINT AT 5,12;"YOU HIT!!!!":
2351 IF st<=mt THEN GO TO 2385
2353 FOR n=0 TO 7: BEEP .06,n: NEXT n
2355 LET d=st-mt: LET mt=mt-d: LET st1=st: PAUSE 150: GO TO 1507
2385 PAUSE 100: PRINT AT 5,12;"YOU GRAZE IT!": LET d=mt-st: LET e=d-30: FOR f=1 TO 200: NEXT f
2388 IF e<=0 THEN GO TO 2395
2390 LET mt=mt-e: LET st1=st: GO TO 1507
2395 LET mt=mt-0: LET st1=st: GO TO 1507
2397 REM **********************
2400 IF ad>=mt THEN PRINT AT 5,12;"YOU HIT!!!"
2401 IF ad<mt THEN GO TO 2435
2403 FOR n=0 TO 7: BEEP .06,n: NEXT n
2405 LET d=ad-mt: LET mt=mt-d: LET st2=ad: PAUSE 150: GO TO 1507
2435 PAUSE 100: PRINT AT 5,12;"YOU GRAZE IT!": LET d=mt-ad: LET e=d-30: FOR f=1 TO 200: NEXT f
2438 IF e<=0 THEN GO TO 2445
2440 LET mt=mt-e: LET st2=ad: GO TO 1507
2445 LET mt=mt-0: LET st2=ad: GO TO 1507
2447 REM **********************
2450 IF aq>=mt THEN PRINT AT 5,12;"YOU HIT!!!"
2451 IF aq<mt THEN GO TO 2485
2453 FOR n=0 TO 7: BEEP .06,n: NEXT n
2455 LET d=aq-mt: LET mt=mt-d: LET st3=aq: PAUSE 150: GO TO 1507
2485 PAUSE 100: PRINT AT 5,12;"YOU GRAZE IT!": LET d=mt-aq: LET e=d-30: FOR f=1 TO 200: NEXT f
2488 IF e<=0 THEN GO TO 2495
2490 LET mt=mt-e: LET st3=aq: GO TO 1507
2495 LET mt=mt-0: LET st3=aq: GO TO 1507
2497 REM **********************
2500 IF ah>=mt THEN PRINT AT 5,12;"YOU HIT!!!"
2501 IF ah<mt THEN GO TO 2535
2503 FOR n=0 TO 7: BEEP .06,n: NEXT n
2505 LET d=ah-mt: LET mt=mt-d: LET st4=ah: PAUSE 150: GO TO 1507
2535 PAUSE 100: PRINT AT 5,12;"YOU GRAZE IT!": LET d=mt-ah: LET e=d-30: FOR f=1 TO 200: NEXT f
2538 IF e<=0 THEN GO TO 2545
2540 LET mt=mt-e: LET st4=ah: GO TO 1507
2545 LET mt=mt-0: LET st4=ah: GO TO 1507
2549 REM ****spells****
2550 IF i$="WIZ" THEN GO TO 2569
2555 PRINT AT 6,12;"IDIOT! ";n$;AT 7,12;"ISN'T A WIZARD!";AT 8,12;"LOSE YOUR GO!"
2556 FOR f=1 TO 250: NEXT f
2557 GO TO 1507
2569 IF sp1>0 THEN GO TO 2580
2570 IF sp1=0 THEN PRINT AT 7,12;"NO SPELLS LEFT";AT 8,12;"LOSE YOUR GO!": FOR f=1 TO 250: NEXT f: GO TO 1507
2580 PRINT INK 3;AT 5,8;"G": PAUSE 250: LET sp1=sp1-1: GO TO 2969
2600 IF j$="WIZ" THEN GO TO 2619
2602 PRINT AT 6,12;"IDIOT! ";o$;AT 7,12;"ISN'T A WIZARD!";AT 8,12;"LOSE YOUR GO!"
2603 FOR f=1 TO 250: NEXT f
2604 GO TO 1507
2619 IF sp2>0 THEN GO TO 2630
2620 IF sp2=0 THEN PRINT AT 7,12;"NO SPELLS LEFT";AT 8,12;"LOSE YOUR GO!": FOR f=1 TO 250: NEXT f: GO TO 1507
2630 PRINT INK 3;AT 5,8;"G": PAUSE 250: LET sp2=sp2-1: GO TO 2969
2635 IF k$="WIZ" THEN GO TO 2640
2636 PRINT AT 6,12;"IDIOT! ";r$;AT 7,12;"ISN'T A WIZARD!";AT 8,12;"LOSE YOUR GO!"
2637 FOR f=1 TO 250: NEXT f
2638 GO TO 1507
2640 IF sp3>0 THEN GO TO 2645
2642 IF sp3=0 THEN GO TO 2643
2643 PRINT AT 7,12;"NO SPELLS LEFT";AT 8,12;"LOSE YOUR GO!"; FOR f=1 TO 250: NEXT f: GO TO 1507
2645 PRINT INK 3;AT 5,8;"G": PAUSE 250: LET sp3=sp3-1: GO TO 2969
2655 IF l$="WIZ" THEN GO TO 2660
2656 PRINT AT 6,12;"IDIOT! ";q$;AT 7,12;"ISN'T A WIZARD!";AT 8,12;"LOSE YOUR GO!"
2657 FOR f=1 TO 250: NEXT f
2658 GO TO 1507
2660 IF sp4>0 THEN GO TO 2665
2662 IF sp4=0 THEN GO TO 2643
2665 PRINT INK 3;AT 5,8;"G": PAUSE 250: LET sp4=sp4-1: GO TO 2969
2670 REM ****************
2674 GO TO 3010
2950 PRINT AT 3,12;"PRESS 7 FOR SWORD";AT 4,12;"       8 FOR SPELL"
2960 RETURN
2969 GO SUB 8430
2970 PRINT INK 6;AT 5,8;"H": PRINT AT 1,12;"THE MONSTER LIES";AT 2,12;"DEAD ON THE FLOOR"
2974 LET bns=bns+50: PAUSE 200: GO TO 3010
3000 PRINT AT 1,12;"THERE ARE NO";AT 2,12;"MONSTERS IN THE ";AT 3,12;"ROOM": FOR f=1 TO 150: NEXT f
3005 PLOT INVERSE 1;15,95: PLOT INVERSE 1;55,95
3010 PRINT INK 0;AT 5,8;" "
3012 GO SUB 8430
3024 REM **ROOM CONTENTS**
3025 LET x=INT (RND*4)+1
3030 IF x=1 THEN GO TO 3040
3031 IF x=2 THEN GO TO 3100
3032 IF x=3 THEN GO TO 3200
3033 IF x=4 THEN GO TO 3300
3040 PRINT INK 6;AT 5,4;"I": PRINT INK 5;AT 5,6;"P"
3042 PRINT AT 1,12;"YOU HAVE FOUND";AT 2,12;" I AND P"
3044 LET tres=INT (RND*10)+1: LET prov=INT (RND*5)+1
3046 LET c1=c1+tres: LET c2=c2+tres: LET c3=c3+tres: LET c4=c4+tres:
3048 PRINT AT 17,28;c1: IF c1<10 THEN PRINT AT 17,28;" ";c1
3050 PRINT AT 18,28;c2: IF c2<10 THEN PRINT AT 18,28;" ";c2
3052 PRINT AT 19,28;c3: IF c3<10 THEN PRINT AT 19,28;" ";c3
3054 PRINT AT 20,28;c4: IF c4<10 THEN PRINT AT 20,28;" ";c4
3060 IF st1>0 THEN LET st1=st1+prov
3062 IF st2>0 THEN LET st2=st2+prov
3064 IF st3>0 THEN LET st3=st3+prov
3066 IF st4>0 THEN LET st4=st4+prov
3070 PRINT AT 17,21;st1: IF st1<10 THEN PRINT AT 17,21;" ";st1
3072 PRINT AT 18,21;st2: IF st2<10 THEN PRINT AT 18,21;" ";st2
3074 PRINT AT 19,21;st3: IF st3<10 THEN PRINT AT 19,21;" ";st3
3076 PRINT AT 20,21;st4: IF st4<10 THEN PRINT AT 20,21;" ";st4
3080 IF st1<=0 THEN PRINT AT 17,1;"KKKKKKKKKKKKKKKKKKKKKKKKKKKKKK"
3082 IF st2<=0 THEN PRINT AT 18,1;"KKKKKKKKKKKKKKKKKKKKKKKKKKKKKK"
3084 IF st3<=0 THEN PRINT AT 19,1;"KKKKKKKKKKKKKKKKKKKKKKKKKKKKKK"
3086 IF st4<=0 THEN PRINT AT 20,1;"KKKKKKKKKKKKKKKKKKKKKKKKKKKKKK"
3090 GO TO 3400
3100 PRINT INK 5;AT 5,4;"D";AT 5,6;"J"
3102 PRINT AT 1,12;"YOU HAVE FOUND";AT 2,12;" D AND J"
3104 GO TO 3400
3200 PRINT INK 5;AT 5,4;"J";AT 5,6;"L"
3202 PRINT AT 1,12;"YOU HAVE FOUND";AT 2,12;" J AND L"
3204 GO TO 3400
3300 GO TO 3040
3400 PAUSE 100: PRINT AT 5,12;"PRESS ANY KEY...";AT 6,12;"TO LEAVE"
3420 IF INKEY$="" THEN GO TO 3420
3500 LET rm=rm+1: IF lvl=1 THEN GO TO 3501: IF lvl=2 THEN GO TO 3503: IF lvl=3 THEN GO TO 3505: IF lvl=4 THEN GO TO 3507
3501 IF rm=15 THEN GO TO 3600
3502 GO TO 1250
3503 IF rm=30 THEN GO TO 3600
3504 GO TO 1250
3505 IF rm=50 THEN GO TO 3600
3506 GO TO 1250
3507 IF rm=100 THEN GO TO 3600
3510 GO TO 1250
3550 STOP
3599 REM **EXIT!!!!**
3600 GO TO 3610
3610 IF INKEY$="" THEN GO TO 3610
3620 PAPER 5: BORDER 0: INK 0: CLS
3635 FOR n=0 TO 255: PLOT INK 0;0+n,175: DRAW INK 0;0,-56: NEXT n:
3640 FOR y=0 TO 130: PLOT 0,y: DRAW INK 0;y,0: NEXT y:
3645 FOR y=0 TO 130: PLOT 255,y: DRAW -y,0: NEXT y
3650 FOR n=0 TO 80: PLOT n,0: DRAW 0,80: NEXT n: FOR n=175 TO 255: PLOT n,0: DRAW 0,80: NEXT n
3655 PLOT 0,80: DRAW 255,0: PLOT 95,94: DRAW 10,-11: DRAW 10,9: DRAW 10,-8: DRAW 15,12: DRAW 10,-12: DRAW 10,14:
3660 PRINT INK 2; OVER 1;AT 4,12;"E X I T";AT 5,15;"NO"
3662 FOR n=81 TO 174: PLOT INK 4;0+n,78: DRAW INK 4;0,-78: NEXT n
3665 CIRCLE INK 6;130,104,4:
3670 BEEP .20,-1: BEEP .20,-1: BEEP .20,-1: BEEP 1.2,4: PAUSE 25: BEEP .20,-1: BEEP .20,-1: BEEP .20,-1: BEEP 1.2,4:
3672 PAUSE 30: BEEP .35,0: BEEP .20,8: BEEP .35,4: BEEP .20,4: BEEP .35,-1: BEEP .20,-1: BEEP 2,-4:
3673 LET pts=c1+c2+c3+c4+bns+lvl*2+rm*20
3674 PRINT INK 1;AT 13,11;"WELL DONE!";AT 15,11;"YOU SCORED": PRINT INK 0; FLASH 1;AT 16,14;pts:
3676 FOR f=1 TO 300: NEXT f: CLS : PAPER 0: INK 7: FOR n=1 TO 40: BEEP .05,n: NEXT n: GO TO 8345
8299 REM **FALIURE**
8300 PAUSE 200: CLS : PAPER 0: INK 7:
8301 FOR f=1 TO 50: BEEP .05,60-f: NEXT f: PRINT AT 1,1;"YOU HAVE ALL BEEN KILLED !"
8302 PRINT AT 3,15;"BAD LUCK!"
8303 LET pts=c1+c2+c3+c4+rm+bns+lvl*2
8304 PRINT AT 5,11;"YOU SCORED ";pts
8306 PRINT AT 7,8;"YOU REACHED ROOM No. "rm
8345 PRINT AT 12,4;"PRESS 1 TO PLAY AGAIN";AT 13,4;"PRESS 2 TO STOP"
```

SPECTRUM PROGRAM

```
8346 IF INKEY$="" THEN GO TO 8346
8347 IF INKEY$="1" THEN GO TO 31
8348 IF INKEY$="2" THEN STOP
8350 STOP
8399 REM **RANDOM DUNGEON**
8400 LET x=1+INT (RND*6)
8402 IF x=1 THEN PRINT AT 1,12;"THE PASSAGE LEADS";AT 2,12;"STRAIGHT AHEAD.";AT
3,12;"YOU WALK DOWN IT."
8403 IF x=1 THEN PLOT 15,96: DRAW 0,30: PLOT 55,96: DRAW 0,30: DRAW -40,0: PLOT
15,95: DRAW 20,24: DRAW -20,14: DRAW 20,-14: DRAW 20,14: DRAW -20,-14: DRAW 20,-
24: PRINT INK 7;AT 9,3;"C": PAUSE 200: BEEP .25,10: GO TO 8500
8404 IF x=2 THEN PRINT AT 1,12;"YOU COME TO A ";AT 2,12;"CROSS-ROADS.WHICH";AT 3
,12;"WAY? (1 ON,2 LEFT";AT 4,12;"3 RIGHT)",
8405 IF x=2 THEN PLOT 15,96: DRAW 0,30: PLOT 55,96: DRAW 0,30: DRAW -40,0: PLOT
15,116: DRAW 10,0: DRAW 0,10: DRAW 10,-0: DRAW 10,0: DRAW -10,-8: DRAW -10,-10:
DRAW 10,10: DRAW 10,-10: DRAW 0,10: DRAW 0,-10: DRAW 10,0: PRINT INK 7;AT 9,3;"C
": PAUSE 200: BEEP .25,10: GO TO 8600
8406 IF x=3 THEN PRINT AT 1,12;"YOU COME TO A ";AT 2,12;"T-JUNCTION.WHICH";AT 3,
12;"WAY? (1 RIGHT,";AT 4,12;"2 LEFT)"
8407 IF x=3 THEN PLOT 15,96: DRAW 0,30: PLOT 55,96: DRAW 0,30: DRAW -40,0: PLOT
15,105: DRAW 40,0: PLOT 15,129: DRAW 40,0: PRINT INK 7;AT 8,3;"C": PAUSE 200: BE
EP .25,10: GO TO 8650
8408 IF x=4 THEN PRINT AT 1,12;"THERE IS A RIGHT";AT 2,12;"TURN.YOU CONTINUE"
8409 IF x=4 THEN PLOT 15,96: DRAW 0,30: PLOT 55,96: DRAW 0,30: DRAW -40,0: DRAW
10,-8: DRAW 0,-20: DRAW -10,-10: DRAW 10,10: DRAW 30,0: PLOT 55,126: DRAW -30,0:
 PRINT INK 7;AT 8,4;"C": PAUSE 200: BEEP .25,10: GO TO 8500
8410 IF x=5 THEN PRINT AT 1,12;"THERE IS A LEFT";AT 2,12;"TURN. YOU CONTINUE"
8411 IF x=5 THEN PLOT 15,96: DRAW 0,30: PLOT 55,96: DRAW 0,30: DRAW -40,0: DRAW
40,0: DRAW -10,-8: DRAW -30,0: DRAW 30,0: DRAW 0,-20: DRAW -30,0: DRAW 30,0: DRA
W 10,-10: PRINT INK 7;AT 8,4;"C": PAUSE 200: BEEP .25,10: GO TO 8500
8412 IF x=6 THEN GO TO 1300
8429 REM **RUB-OUT WRITING**
8430 PRINT AT 1,12;z$;AT 2,12;z$;AT 3,12;z$;AT 4,12;z$;AT 5,12;z$;AT 6,12;z$;AT
7,12;z$;AT 8,12;z$;AT 9,12;z$
8435 PRINT AT 9,1;" ";AT 9,6;" "
8440 RETURN
8499 REM **RUB-OUT EVERYTHING**
8500 LET z$="                "
8510 PRINT AT 1,12;z$;AT 2,12;z$;AT 3,12;z$;AT 4,12;z$;AT 5,12;z$;AT 6,12;z$;AT
7,12;z$;AT 8,12;z$;AT 9,12;z$
8520 LET y$="                "
8530 PRINT AT 1,1;y$;AT 2,1;y$;AT 3,1;y$;AT 4,1;y$;AT 5,1;y$;AT 6,1;y$;AT 7,1;y$
;AT 8,1;y$;AT 9,1;y$;
8535 PLOT INVERSE 1;15,95: PLOT INVERSE 1;55,95
8540 IF x=6 THEN GO TO 1346
8550 GO TO 1254
8599 REM *PASSAGE INSTRUCTIONS*
8600 PAUSE 0: IF INKEY$="1" OR INKEY$="2" OR INKEY$="3" THEN GO TO 8500
8650 PAUSE 0: IF INKEY$="1" OR INKEY$="2" THEN GO TO 8500
8800 STOP
8899 REM **CLASS DESCRIPTIONS**
8900 INK 4: BEEP .25,10: CLS
8910 PRINT AT 2,2;"CLASSES": OVER 1;AT 2,2;"_______"
8920 PRINT INK 5;AT 4,2;"WARRIORS: These humans are      skilled fighters. They
are      strong and healthy. Their      initial status score is 50.      They al
ways enjoy a good,      lengthy battle!"
8921 PRINT INK 6;AT 11,2;"PRIESTS: These humans are      skilled in the art of
healing.  They can also track animals.    They have 40 status pts.      They a
re always devoted to      their friends."
8930 PRINT AT 20,2;"Press any key to continue."
8940 IF INKEY$="" THEN GO TO 8940
8950 BEEP .25,10: CLS
8960 PRINT INK 5;AT 2,2;"THIEVES: These humans are      crafty athletes. They a
re good  at opening chests using keys.    They have 35 status pts. "
8970 PRINT INK 6;AT 8,2;"WIZARDS: These humans are      spell-casters. They hav
e 6      fire-ball spells. Each will      kill one monster. They use      wands.
They are relatively      weak,having only 30 status      points."
8980 PRINT AT 20,5;"Press any key..."
8985 IF INKEY$="" THEN GO TO 8985
8990 BEEP .25,10: CLS : GO TO 340
9999 REM **USR DEF. GRAPHICS**
9000 FOR x=USR "a" TO USR "p"+7
9001 READ n
9002 POKE x,n
9003 NEXT x
9009 REM **SWORD**
9010 DATA 1,2,4,8,16,160,64,160
9019 REM **MONSTER**
9020 DATA 153,90,60,24,24,60,36,102
9029 REM **MAN**
9030 DATA 153,90,36,36,24,60,36,36
9039 REM **ALTAR**
9040 DATA 0,24,60,24,24,126,126,255
9049 REM **SHIELD**
9050 DATA 153,102,90,82,74,70,36,24
9059 REM **CROSSED SWORDS**
9060 DATA 129,66,36,24,24,165,66,165
9069 REM **FIREBALL**
9070 DATA 16,84,84,254,254,124,56,0
9109 REM **CORPSE**
9110 DATA 0,0,0,0,0,0,17,210,254
9119 REM **TREASURE CHEST**
9120 DATA 0,0,0,0,60,66,126,126,126
9129 REM **TABLE**
9130 DATA 0,0,0,0,0,0,126,36,36
9139 REM **CROSS**
9140 DATA 24,24,126,24,24,24,24,24
9149 REM **BED**
9150 DATA 0,0,128,128,193,255,255,129
9159 REM **WAND**
9160 DATA 17,10,20,0,23,32,64,128
9169 REM **DRAGON 1**
9170 DATA 0,0,1,99,255,31,31,32
9179 REM **DRAGON 2**
9180 DATA 12,66,193,193,241,249,254,8
9199 REM **CUP**
9200 DATA 126,189,189,126,60,24,24,60
9999 RETURN
```



U.S. SCENE

Critics cool on CBM 264

I suppose you might have heard by now that Jack Tramiel, company founder and president of Commodore, has resigned from the company. Commodore is still reeling under the news. Within four weeks of Tramiel's departure, four other high level Commdore executives also resigned.

Although the two newest Commodore machines, the 264 and 364, were slated for an April delivery date, it seems apparent that the high level shake-up may cause this date to be postponed. Some industry observers feel that without high-level management well versed in the computer industry, Commodore may be left without a clear cut marketing plan for the rest of this year.

Despite this, it is unlikely that the company will feel any permanent setbacks in the marketplace. After all, the Commodore 64, with its under-$200 price tag here, has all but eliminated competition in the low-end home computer market. Since the 64 is selling so well, they can readily afford to hold back the market introduction of the two new machines.

Another prime reason for Commodore to delay the new computers is the criticism and cool reception given the machines by some industry analysts and certain key members of the computing press when it was learned that neither machine was software compatible with the 64.

Such a move looks bad to this member of the computing press; we'll see how much of a factor it is to Commodore in the next months or so.

★★★★

New Tech Times update. *Awhile back I wrote about the new television show being aired on our Public Broadcasting Network which allows viewers to use their computers and modems to correspond with the producers of the show.*

The host, Nicholas Johnson, author of How To Talk Back To Your TV Set, is now on the receiving end of his idea. Using The Source, an American computer bulletin board available by subscription, viewers can contact the show via The New Tech Times Online service.

The service provides previews of coming shows, addresses and phone numbers for companies whose products were shown, Johnson's own syndicated columns, books available at discount, information on obtaining transcriptions of the show, other special offers, and, above all, the chance for viewers to suggest ideas for future shows. Now that's talkin' back...

★★★★

Is it about time? Who knows? According to the prestigious Stanford Research Institute (SRI), the average market growth of personal computers is expected to slow down and stabilize to a rate of about 5.4 per cent annually within the next two years. SRI has spent about $400,000 on this research project.

Part of the results predict that within two years more than half of all personal computers sold will be replacements for older machines. The firm also predicts that businesses will not be buying so many personal computers when stand-alone word processors, terminals, and workstations can be tied into integrated systems.

This last prediction seems odd to me. Will things have gone full circle in two more years? I thought one of the reasons that personal units were purchased by business people was that that eliminated the need to depend on one central computer time-sharing facility.

Oh, well. People love to re-invent the wheel don't they? I'll see you in two years and let you know what happened.

I'll also see you next week and let you know what is happening.

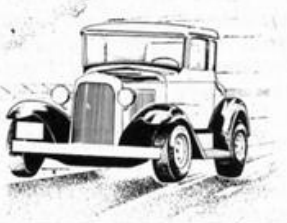
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1994 (ten years after) 48K Spectrum £ 6.95

Visions, 1 Felgate Mews, Studland St, London W6

Your task is to get to the inner comuter room by collecting keys to each successive room leading to it. Of course there are obstacles in the way, and many baddies to thwart your attempts. By far the worst was a big bird, presumably an eagle. Not that it hurts you, far from it, but the darned thing picks you up and carries you back to the start of the screen. Your only means of ascent are two lifts moving in opposite directions. If you don't get everything just right then you are clobbered and, if that isn't enough, your strength rapidly decreases as you contact various "thingies". Curiously though, when the bird carries you back your strength returns. After two hours I have not yet managed to get to the second level, but I'll manage it next time — I've bought a shot gun. That bird is not going to get the better of me. Although graphics are nothing to write home about, movement is quite smooth, and makes for a playable game. **B.B.**

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

★ ★ ★ ★ ★

Fruity Freddy 32K BBC

SoftSpot, 29 South Cres, Prittlewell, Southend, Essex SS2 6TB

This new and adventurous software house is going to make a big mark in BBC software. Not only does it produce arcade quality games but they are usually original in concept. This game has all the ingredients of its previous offerings: superb colour, fast — almost supersonic action — and a good humourous story line too.

You control Freddy who has decided to steal all fruit from the next door garden. He has to wait for the flowers to develop fruit first. In the meantime he is assailed by killer bees, crazy caterpillars, even birds with killer droppings.

If he treads on a plant before fruit have developed the owner comes out to give him a thrashing. There's more: if the fruit become overripe it's seeds are dispersed and new plants start to grow making the emptying of the garden more difficult. There is an insect spray, but I found it wasn't anywhere near full enough for my needs. Only those very nimble survive to eat the sweets.

In short, everything you could want from a new game, including that rare addictive element. **D.C.**

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

★ ★ ★ ★ ★

Millypede Spectrum £5.00

CCI, Units 2, 3 and 4, Shire Hill Industrial Estate, Saffron Walden, Essex CB11 3AQ

A competent version of the arcade favourite, Centipede. Your garden is under danger of pest invasion in the form of a centipede who squirms towards the bottom of the screen, changing direction when it comes across a mushroom. Your task, as a can of insect repellent, is to destroy this bothersome bug before he stomps you.

The bugs have various allies too, nemely the spider and a rather docile snail who drifts nonchalently across the screen. Beware of the spider: this atrocious arachnid moves fast and unpredictably.

Unlike the arcade version, the mushrooms disappear as soon as they are hit, making the game simpler and less compulsive. Also missing is the cute little flea. Both of these features are in other Spectrum versions of the game.

The centipede is quite well programmed: if you split his body the two halves dive off in different directions, making the game much harder. Good use of sound too — as the game progresses insects scream at a higher pitch.

Nevertheless, better versions of Centipede exist, I suggest you try the others before buying this one. **T.B.**

instructions	70%
playability	60%
graphics	55%
value for money	50%

★ ★ ★

Project Volcano 48K Spectrum £6.95

Mission, 1st Floor, 49 Grange Rd, Darlington, Co Durham DL1 59B

A very enjoyable, well presented espionage adventure game.

You, an ace spy, have to penetrate a command centre situated in a volcano, presumably extinct, somewhere in Eastern Europe and put their computer out of action for four weeks by destroying the master program.

Right from the moment you open your folder containing mission objectives, briefing notes and a map of part of the complex it is obvious that the game has been well thought out. It supports a small but adequate vocabulary with the more common commands able to be abbreviated, for instance "Take IDcard" becomes "T ID". Your commands and the responses are screened along with very good line drawings of your locations.

The action moves along at a brisk pace and many problems face you, most of which will require the use of objects you should have picked up along the way. As usual with adventures, you are strongly advised to keep a careful note of where you have been!

A splendid game. Very suitable for a novice adventurer. **D.J.**

instructions	100%
playability	85%
graphics	65%
value for money	85%

★ ★ ★ ★

Magic Meanies Spectrum £5.95

CDS, 10 Westfield, C1, Tickhill, Doncaster DN11 9LA

Have you ever wanted to make a fortune by turning lead into gold? In Magic Meanies you control a wizard collecting gold to transmute.

You guide him around the screen collecting all the lead while avoiding the magic meanies who follow his path. He is armed only with five crystal balls but there are also four apples which you can use to block or squash your pursuers. With each new screen an extra meanie of a different type is added.

There is an option of nine speeds, from the pedestrian to the impossible. You can also silence the rendition of the Can-Can which, for no apparent reason, accompanies the action.

The graphics are over-small and the pin man appears to be flat on his face when you move up or down. An annoying feature is the method of entering names into the high score table. You must laboriously use left and right to move through the alphabet to select each letter.

Movement keys are well chosen and there is a Kempston joystick option.

Magic Meanies is an interesting game let down by poor graphics. **S.E.**

instructions	70%
playability	65%
graphics	48%
value for money	60%

★ ★ ★

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HC3

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Gobble the dots and avoid the ghosts...

All the features of a fun arcade game are in Victor Thorn's program



HCWman, my six-level maze game, runs on any Atari with one joystick.

As you would expect, you guide HCWman with your joystick around a maze full of dots.

You must try to clear the maze of its dots without being gobbled up by one of the ghosts which are in pursuit of you throughout the game.

Each time you get caught by a ghost you lose one of your three lives.

The dots are worth 10 points each, and note that the ghosts can eat them too!

Positioned in each corner of the maze are power pills. If you eat one of these you gain three-fold:

- 25 energy units will be added to the Power time indicator (PT at the bottom of the screen
- The ghosts will freeze
- You can eat the ghosts for a tasty 400 points each until the PT indicator reaches zero.

The power pills are also worth 25 points each.

Each time you clear the maze of its dots the skill level will increase by one.

There are six skill levels, each selectable from the keyboard at the beginning of each game. 1 is easiest, 6 is hardest. These are the differences:

skill level	No. of ghosts	ghost speed
1	1	slow
2	2	slow
3	3	slow
4	1	fast
5	2	fast
6	3	fast

If your score is among the 10 best you can enter your name — up to 20 letters — in the Top 10.

When entering this program I would advise you to leave out all the REMs as it runs considerably faster without them.

Hints on conversion

This program is in GRAPHICS 1+16, a text mode which divides the screen into 20 by 20. The characters are redefined in lines 14000-14540.

STICK (0) reads the joystick.

Lines 12000 to 12060 draw the maze using DATA statements. PLOT places a single character at position x,y, on the screen and DRAWTO draws to position x,y, from the last position plotted.

POSITION puts the cursor at the specified place on the screen.

LOCATE positions the cursor at the specified place on the screen and reads the contents under it.

How it works

I have put in a lot of REMarks to guide you through the program

Variables

- **CN$** holds charcters to be redefined
- **CHB** starting address of custom character set
- **CHD** starting address of each character held in CHN$
- **x(),y()** horizontal, vertical positions of three ghosts
- **LI** lives remaining
- **SC** score
- **PT** power, time remaining
- **A,B,** HCWman's horizontal, vertical position
- **ST** holds STICK(0) value
- **Z** character LOCATE variable
- **D** dots left — there are 196 when the maze is full
- **J** used in FOR...NEXT loops as abbreviation: J=PEEK (764), which checks for pressed key etc
- **T** used in FOR...NEXT loops, and also with X(T) and Y(T) where T equals 1, 2, or 3
- **L** determines how many ghosts are in maze
- **GP, SP** IF GP = SP (speed) THEN move ghosts
- **CM** value of a line number. If last position of joystick was right then CM would be the line number which moves HCWman right
- **G$** input name
- **N$** string array holds name of Top 10 scorers
- **N()** holds Top 10 scores

```
0 REM **********************
1 REM *        HCWMAN        *
2 REM *          BY          *
3 REM *     VICTOR THORN     *
4 REM *     -------------    *
5 REM *                      *
6 REM **********************
7 REM
15 GOSUB 9500:POSITION 16,9:? "HCWMAN":POSITION 14,21:?
 "PLEASE WAIT"
20 DIM CHN$(14),X(6),Y(6),N(10),N$(219),G$(20):FOR T=1
TO 10:N(T)=0:NEXT T:N$=" ":N$(219)=" ":N$(2)=N$
30 GOSUB 14000:GOTO 8075
40 GOSUB 11000:GOSUB 12000:LI=3:SC=0:PT=0:POSITION 0,23
:? #6;"SCORE=":POSITION 13,23:? #6;"PT=";PT
100 COLOR 134:PLOT 1,1:PLOT 1,21:PLOT 18,1:PLOT 18,21
110 POSITION 7,9:? #6;"HCWMAN":COLOR 37:PLOT 8,10:DRAWT
O 7+LI,10
112 IF D=196 THEN POSITION 7,12:? #6;"READY!":FOR I=1 T
O 600:NEXT I:COLOR 35:PLOT 7,12:DRAWTO 12,12
115 A=10:B=18:CM=300:GP=0:GOSUB 10010:COLOR 0:FOR T=1 T
O 3:PLOT X(T),Y(T):NEXT T
120 COLOR 164:FOR T=1 TO L-1:PLOT X(T),Y(T):NEXT T:T=1
200 ST=STICK(0):IF ST=15 THEN GOTO CM
```

```
206 IF ST<>7 THEN 220
208 LOCATE A+1,B,Z:IF Z=30 THEN GOTO CM
209 GOTO 212
210 LOCATE A+1,B,Z:IF Z=30 THEN 300
212 IF Z=134 THEN GOSUB 4000
214 IF PT>0 THEN GOSUB 7000
215 CM=210:GOSUB 6000:COLOR 0:PLOT A,B:A=A+1
216 GOTO 300
220 IF ST<>11 THEN 240
228 LOCATE A-1,B,Z:IF Z=30 THEN GOTO CM
229 GOTO 232
230 LOCATE A-1,B,Z:IF Z=30 THEN 300
232 IF Z=134 THEN GOSUB 4000
234 IF PT>0 THEN GOSUB 7000
235 CM=230:GOSUB 6000:COLOR 0:PLOT A,B:A=A-1
236 GOTO 300
240 IF ST<>14 THEN 260
248 LOCATE A,B-1,Z:IF Z=30 THEN GOTO CM
249 GOTO 252
250 LOCATE A,B-1,Z:IF Z=30 THEN 300
252 IF Z=134 THEN GOSUB 4000
254 IF PT>0 THEN GOSUB 7000
255 CM=250:GOSUB 6000:COLOR 0:PLOT A,B:B=B-1
256 GOTO 300
260 IF ST<>13 THEN GOTO CM
268 LOCATE A,B+1,Z:IF Z=30 THEN GOTO CM
269 GOTO 272
270 LOCATE A,B+1,Z:IF Z=30 THEN 300
272 IF Z=134 THEN GOSUB 4000
274 IF PT>0 THEN GOSUB 7000
275 CM=270:GOSUB 6000:COLOR 0:PLOT A,B:B=B+1
300 COLOR 37:PLOT A,B:POSITION 6,23:? #6;SC
302 IF D<1 THEN PT=0:POSITION 16,23:? #6;PT;" ":GOTO 70
0
304 IF PT=0 THEN 310
305 PT=PT-1:POSITION 16,23:? #6;PT;" ":IF PT=0 THEN GOS
UB 10000
306 FOR I=15 TO 255 STEP 20:SOUND 0,I,10,15:NEXT I:SOUN
D 0,0,0,0:GOTO 200
310 GP=GP+1:IF GP=SP THEN 400
320 FOR I=1 TO L*18:NEXT I:GOTO 200
400 GP=0:IF A<=X(T) THEN 450
405 LOCATE X(T)+1,Y(T),Z:IF Z=30 THEN 450
410 IF Z=35 THEN D=D-1
415 IF Z=37 THEN 8010
418 LOCATE X(T)+2,Y(T),Z:IF Z=37 THEN COLOR 0:PLOT X(T)
,Y(T):X(T)=X(T)+1:GOTO 8000
420 COLOR 0:PLOT X(T),Y(T)
430 X(T)=X(T)+1:COLOR 164:PLOT X(T),Y(T)
450 T=T+1:IF T=L THEN T=1:GOTO 470
460 GOTO 400
470 IF A>=X(T) THEN 520
475 LOCATE X(T)-1,Y(T),Z:IF Z=30 THEN 520
480 IF Z=35 THEN D=D-1
485 IF Z=37 THEN 8010
488 LOCATE X(T)-2,Y(T),Z:IF Z=37 THEN COLOR 0:PLOT X(T)
,Y(T):X(T)=X(T)-1:GOTO 8000
490 COLOR 0:PLOT X(T),Y(T)
500 X(T)=X(T)-1:COLOR 164:PLOT X(T),Y(T)
520 T=T+1:IF T=L THEN T=1:GOTO 540
530 GOTO 470
540 IF B<=Y(T) THEN 590
545 LOCATE X(T),Y(T)+1,Z:IF Z=30 THEN 590
550 IF Z=35 THEN D=D-1
555 IF Z=37 THEN 8010
558 LOCATE X(T),Y(T)+2,Z:IF Z=37 THEN COLOR 0:PLOT X(T)
,Y(T):Y(T)=Y(T)+1:GOTO 8000
560 COLOR 0:PLOT X(T),Y(T)
570 Y(T)=Y(T)+1:COLOR 164:PLOT X(T),Y(T)
590 T=T+1:IF T=L THEN T=1:GOTO 610
600 GOTO 540
610 IF B>=Y(T) THEN 660
615 LOCATE X(T),Y(T)-1,Z:IF Z=30 THEN 660
620 IF Z=35 THEN D=D-1
625 IF Z=37 THEN 8010
628 LOCATE X(T),Y(T)-2,Z:IF Z=37 THEN COLOR 0:PLOT X(T)
,Y(T):Y(T)=Y(T)-1:GOTO 8000
630 COLOR 0:PLOT X(T),Y(T)
640 Y(T)=Y(T)-1:COLOR 164:PLOT X(T),Y(T)
660 T=T+1:IF T=L THEN T=1:GOTO 200
670 GOTO 610
700 FOR T=1 TO 5:POKE 709,159:FOR I=1 TO 60:NEXT I:POKE
 709,120:FOR I=1 TO 60:NEXT I:NEXT T:POKE 709,122
710 COLOR 0:FOR T=1 TO 21:PLOT 1,T:DRAWTO 18,T:NEXT T:C
OLOR 30:PLOT 1,10:DRAWTO 18,10:PLOT 1,12:DRAWTO 18,12
720 COLOR 35:PLOT 1,11:DRAWTO 18,11:POSITION 6,6:? #6;"
BIGHEAD!"
730 FOR T=1 TO 16:COLOR 164:PLOT T,11:COLOR 37:PLOT T+2
,11:FOR I=1 TO 40:NEXT I:COLOR 0:PLOT T,11:PLOT T+2,11
740 NEXT T:GOSUB 11000:GOSUB 12000:L=L+1:IF L>4 THEN L=
2:SP=SP-1:IF SP=0 THEN SP=1:L=4
750 GOTO 100
4000 PT=PT+25:POSITION 16,23:? #6;PT:SC=SC+50:FOR I=5 T
O 255 STEP 10:SOUND 0,I,10,15:NEXT I:SOUND 0,0,0,0:RETU
RN
6000 IF Z=35 THEN SC=SC+10:D=D-1:SOUND 0,12,12,15:FOR I
=1 TO 4:NEXT I:SOUND 0,0,0,0
6001 RETURN
7000 IF Z<>164 THEN RETURN
7001 SC=SC+400:FOR I=255 TO 7 STEP -8:SOUND 0,I,8,15:SO
UND 1,I,10,15:NEXT I:SOUND 0,0,0,0:SOUND 1,0,0,0:RETURN
7500 COLOR 0:FOR I=1 TO L-1:PLOT X(I),Y(I):NEXT I:RETUR
N
8000 COLOR 164:PLOT X(T),Y(T):FOR I=1 TO 50:NEXT I
8010 GOSUB 7500:COLOR 30:PLOT 7+LI,10
8020 FOR T=39 TO 47 STEP 0.3:COLOR T:PLOT A,B:FOR I=5 T
O 10:SOUND 0,T+I,10,15:NEXT I:NEXT T
8021 FOR T=255 TO 3 STEP -14:SOUND 0,T,10,15:NEXT T:SOU
ND 0,0,0,0:COLOR 0:PLOT A,B
8025 LI=LI-1:IF LI>0 THEN POKE 77,0:GOTO 115
8030 GOSUB 9500:POSITION 16,0:? "HCWMAN":POSITION 6,2:?
 "PROGRAMMED BY VICTOR THORN":POSITION 11,5
8035 ? "HIGH SCORE TABLE":POSITION 11,6:? "---- ----- -
-----":GOSUB 8500:POSITION 11,19:? "YOUR SCORE:";SC
8040 I=I+1:IF SC>N(I) THEN 9000
8050 IF I<10 THEN 8040
8060 RESTORE 8070:FOR T=1 TO 32:READ NT:SOUND 0,NT,10,1
5:FOR I=1 TO 13:NEXT I:NEXT T
8070 DATA 243,217,204,182,162,204,162,0,173,217,173,0,1
82,230,182,0,243,217,204,182,162,204,162,121,136,162,20
4
8072 DATA 162,136,136,1
8075 T=0:POSITION 5,21:? "CHOOSE SKILL LEVEL (KEYS 1-6)
":POSITION 7,22:? "1-EASIEST ::: 6-HARDEST":POKE 764,25
5
8080 T=T+1:SOUND 0,T,10,15:SOUND 1,T,8,15:POKE 712,T:IF
 T=255 THEN T=0
8085 I=PEEK(764):SP=2:IF I=31 THEN L=2:GOTO 8120
8090 IF I=30 THEN L=3:GOTO 8120
8095 IF I=26 THEN L=4:GOTO 8120
8100 SP=1:IF I=24 THEN L=2:GOTO 8120
8105 IF I=29 THEN L=3:GOTO 8120
8110 IF I=27 THEN L=4:GOTO 8120
8115 GOTO 8080
8120 GRAPHICS 17:POKE 77,0:POKE 708,255:POKE 709,122:PO
KE 710,45:POKE 711,15:POKE 756,CHB/256:POKE 764,255
8130 SOUND 0,0,0,0:SOUND 1,0,0,0:GOTO 40
8500 FOR I=1 TO 9:POSITION 6,7+I:? I;". ";N(I):POSITION
 15,7+I:? N$(I*20,I*20+19):NEXT I:I=0
8510 POSITION 5,17:? "10. ";N(10):POSITION 15,17:? N$(2
00,219):RETURN
9000 FOR T=9 TO I STEP -1:N(T+1)=N(T):G$=N$(T*20,T*20+1
9):N$(T*20+20,T*20+39)=G$:NEXT T:POSITION 2,20
9010 ? "ENTER YOUR NAME FOR HI-SCORE TABLE":POSITION 6,
21:INPUT G$
9020 FOR T=1 TO 2:POSITION 0,20:? CHR$(156):NEXT T
9030 N(I)=SC:N$(I*20,I*20+19)="                    ":N$
(I*20,I*20+19)=G$:GOSUB 8500:GOTO 8060
9500 GRAPHICS 0:POKE 82,0:POKE 709,14:POKE 710,0:POKE 7
12,56:POKE 752,1:RETURN
10000 COLOR 0:FOR I=1 TO L-1:PLOT X(I),Y(I):NEXT I
10010 FOR I=1 TO 3:X(I)=10:NEXT I:Y(1)=3:Y(2)=7:Y(3)=12
:RETURN
11000 COLOR 35:FOR T=1 TO 21:PLOT 1,T:DRAWTO 18,T:NEXT
T:D=196:RETURN
12000 TRAP 12004:Z=0:RESTORE 12006:COLOR 30:FOR T=1 TO
43:READ X,Y:Z=Z+X+Y:PLOT X,Y:READ X,Y:DRAWTO X,Y:Z=Z+X+
Y
12002 NEXT T:IF Z=1813 THEN TRAP 40000:Z=0:RETURN
12004 ? "ERROR-CHECK LINES 12000 TO 12060":END
12006 DATA 0,0,19,0,19,0,19,22,19,22,0,22,0,22,0,0,2,2,
7,2,12,2,17,2,9,1,10,1,9,2,10,2,6,4,13,4,2,4,2,11,4,4
12010 DATA 4,9,5,6,7,6,12,6,14,6,15,4,15,9,17,4,17,11,3
,11,4,11,15,11,16,11,9,5,10,5,9,6,10,6,6,8,13,8,6,9,13,
9
12020 DATA 6,10,13,10,6,11,13,11
12030 DATA 2,13,4,13,6,13,13,15,13,17,13,9,14,10,14,
9,15,10,15,2,15,5,15,14,15,17,15,5,16,5,17,14,17,14,16
12040 DATA 7,15,7,17,8,17,12,17,12,15,12,16,2,17,2,20,3
,17,3,20,4,19,4,20,16,17,16,20,17,17,17,20,15,20,15,19
12060 DATA 6,19,13,19,6,20,13,20
14000 Z=0:TRAP 14050:CHN$=">#$%'()*+,_-/":CHB=(PEEK(10
6)-8)*256:FOR I=0 TO 511:POKE CHB+I,PEEK(57344+I):NEXT
I
14010 RESTORE 14500:FOR I=1 TO LEN(CHN$):CHD=CHB+(ASC(C
HN$(I))-32)*8
14040 FOR T=0 TO 7:READ A:Z=Z+A:POKE CHD+T,A:NEXT T:NEX
T I:IF Z=11415 THEN TRAP 40000:RETURN
14050 ? "ERROR-CHECK LINES 14000 TO 14540":END
14500 DATA 255,129,129,129,129,129,129,255,0,0,0,24,24,
0,0,0,24,60,126,219,255,255,255,170
14510 DATA 60,126,219,255,255,219,102,60,0,24,60,126,12
6,60,24,0
14520 DATA 36,102,231,231,255,255,126,60,102,102,231,23
1,255,255,126,60,0,129,195,231,255,255,126,60,0,0,0,231
14530 DATA 255,255,126,60,0,0,0,0,255,255,126,60,0,0,0,
0,24,255,126,60,0,0,0,0,24,24,126,60,0,0,0,0,24,24,24,6
0
14540 DATA 84,8,81,132,169,68,17,81
```

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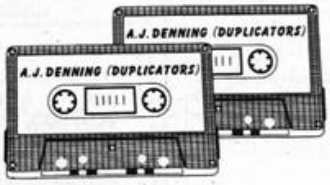
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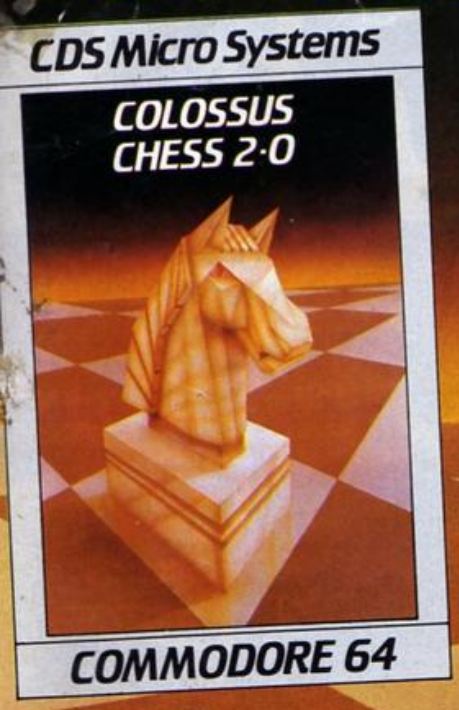
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