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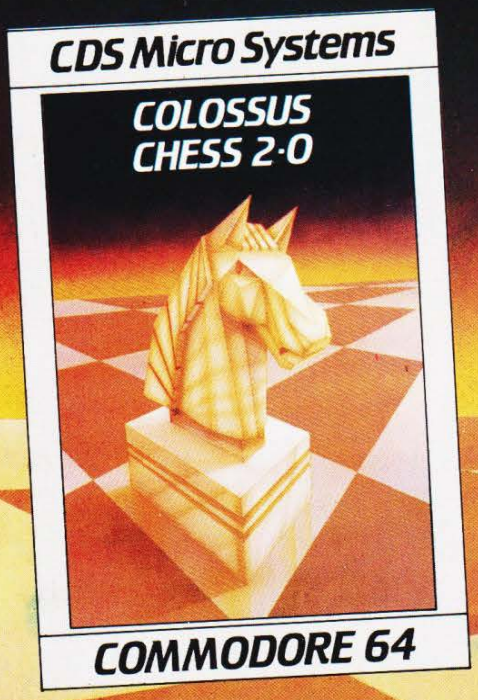

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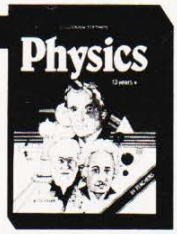

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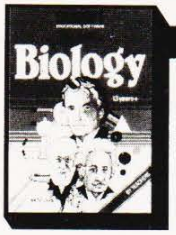

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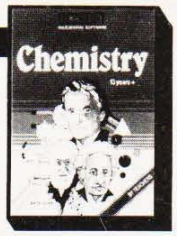

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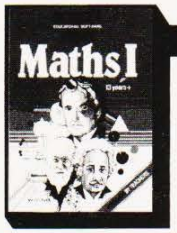

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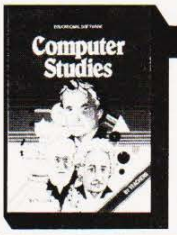

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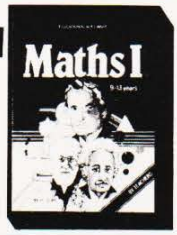

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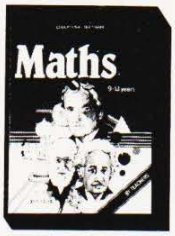

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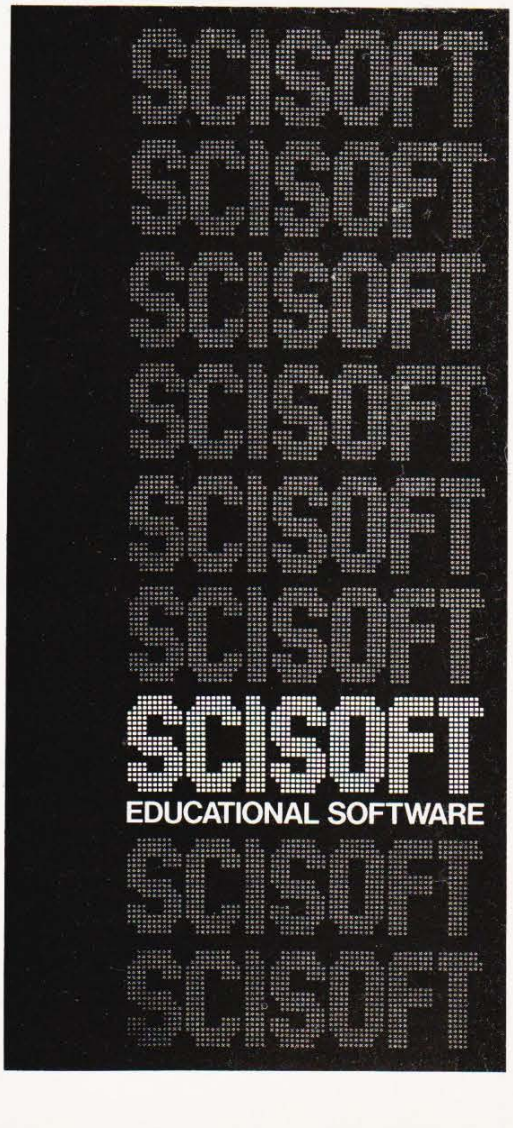

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From Llamas Come Goats

Llamasoft, the company that brought you such great games as 'Revenge of the Mutant Camels' and 'Metagalatic Llamas Battle at the edge of Time', has released what could be another smash hit for the Commodore 64 and the VIC 20 + 8K.

Hell Gate is a fast action game with fully colour high resolution graphics and goats — more about the goats later — with plenty of sound.

The idea behind the game is to zap things, but the concept is entirely original. You play the part of the defender of the solar system. The baddies are coming through a kind of space warp far beyond the orbit of Pluto. The goodies have put four zap guns around this space warp. It is your job to control all four guns at once and to shoot the aliens as they emerge from the space warp. Control is strange as you are controlling four guns at once, but it is easy to get used to it.

Every now and then a few goats start to move across the screen, you get more points if you avoid shooting them — which is quite difficult as with four guns shooting at once there are a lot of bullets on the screen at once.

Jeff Minter, the author of all Llamasoft's games, is also working on another Commodore 64 game called 'Sheep in Space' so watch out for that one soon. He must have a thing about our furry friends!

Hellgate for the Commodore 64 costs £5.00 and for the VIC 20 + 8K it is £6.00.

Llamasoft are based at 49 Mount Pleasant, Tadley, Basingstoke, Hants.

A Load of Rubbish

New Generation Software's latest release for the Sinclair ZX Spectrum is called 'Trashman'. The object of this game is to clear a town of its rubbish.

The screen is made up of a section of the road with houses on either side, and a four lane road down the middle that has cars and lorries travelling up and down it at various speeds — frogger style. Somewhere on the road is the van that you must tip your bins into, this van is constantly moving up the road so there is a time element to collecting the bins as the van pulls away if you are too slow.

Hazards that you must face include being run over by the cars, being hit by cyclists, and having your leg bitten by dogs. Various tasks can be performed for householders, and for the various other places that exist in the town, for bonus points. Among the other places that are dotted around the town ar a transport cafe and a pub, if you enter the pub there is a good chance that you will come out drunk! This means that controlling the man on the screen is made very difficult and he is likely to be run over.

As the game progresses the houses become more difficult and the paths around the house get harder, you must keep to the path or a dog jumps out and bites you. If you get bitten or hit by a cyclist then you slow down, wouldn't anyone? When one road is completed then you go on to another, even harder road until you complete the whole town.

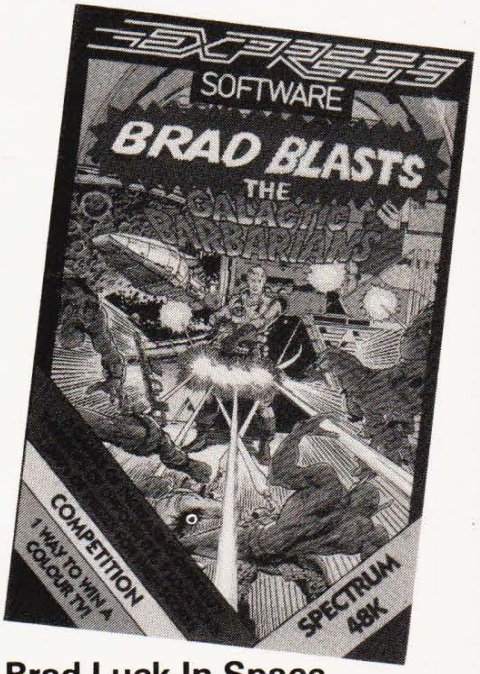
The graphics are fully three-dimensional and feature shadows and very realistic houses and other buildings.

Trashman is only available for the 48K ZX Spectrum and is priced at £5.95. New Generation Software are based at The Brooklands, 15 Sunnybank, Lyncombe Vale, Bath.

Moving Picture Company

We must offer our apologies to "The Moving Pictue Company" for omitting to credit them for the spectacular computer generated images we used to illustrate the computer animation article in our February issue.

The address is The Moving Picture Company, 25 Noel St, London W1.



Brad Luck In Space

Express Software's debut release goes by the unlikely name of 'Brad Blasts the Galatic Barbarians' and runs on the 48K ZX Spectrum.

You play the part of Brad Stevens, a member of the Special Space Service, who is out to rid the earth of the warlike Galatic Barbarians.

The game consists of five seperate sections: the flight through space, the docking sequence, the flight to Deltra 10 — the planet that the barbarians are on, walking to the laboratory, and finally in the laboratory. When you get to the lab you must destroy the 'super power serum' that the baddies have developed.

On the mission Brad has to fight barbarians, cyborgs, and enemy fighters.

If you score over 10,000 points the player can send off a coupon supplied with the game and will receive a prize. Also there is a competition that you can enter with a colour TV as a prize.

Express software expect this to be the first in a series of 'Brad' games, more are to follow later on in the year.

The program runs on a 48K ZX Spectrum although a Commodore 64 version is in development. The price is £5.95.

Express software at 73 Watery Lane, Birmingham B9 4HN.

New Joysticks

There seem to have been plenty of joysticks coming on the market recently. Kempston have tow new additions to their range of 'Competition Pro' joysticks. The Competition Pro 1000 and 3000 feature a rounded base with a large fire button on the front.

The difference between the 2000 and 3000 is the actual control stick itself, the 1000 has no on-stick fire button and has a short stick that is wider at the top than it is at the bottom. The 3000 has a pistol grip with a top fire button and a trigger on the front of the stick.

Both joysticks have a five foot cable and use the common Atari format nine pin 'D' connector that is found on the Atari and Commodore computers, and most interfaces for the ZX Spectrum — inluding the Kempson interface. The switching operation is performed by an eight way leaf switch.

The Competition-Pro 1000 retails at £10.99 and the 3000 at £12.75 and you will find Kempston Microelectronics at Unit 30, Singer Way, Woburn Road Indistrial Estate, Kempston, Bedford MK42 7AF.

The follow up to Spectravideo's highly successful Quickshot joystick should be available now. Unimaginatively called the Quickshot 2,, the joystick has a pistol grip handle with two fire buttons, one on top of the stick to be used by the players thumb, and one in a trigger position. The joystick features a 'rapid fire' switch that lets the player use the firing action like a machine gun when the program that is using the joystick is only single shot.

Spectravideo has also released a joystick for the Colecovision, called the

Quickshot 3, the joystick is a modification of the Quickshot 2. The main differences between a Coleco joystick and a 'normal' joystick is that the Coleco has two fire buttons and a 12 key numeric pad. The Quickshot 3 has the numeric key pad but also has FOUR fire buttons.

Two of the fire buttons are located on the base of the unit and correspond to the normal left and right fire buttons of the Colecovision device, the other fire two fire buttons are located on the stick itself in the manner of the Quickshot 2, with one of the buttons on top of the other as a trigger.

The Quickshot 2 cost £11.95 and the Quickshot 3 is £25.65. Spectravideo are at 165 Garth Rd, Morden, Surrey SM4 4LH

Bleating Computers

Computers that can speak to you are not new,, there have been voice boxes around for most of the popular home computers for some years. An accurate speech recognition system that is easy to use and program with is.

Orion Data's 'Micro Command' speech recogniser is a black box that plugs into the back of the Sinclair ZX Spectrum and comes with a microphone and a game called 'Sheep Talk', this is a development of Virgin Games 'Sheep Walk' program and enables the player to give spoken commands to the sheep dog as it tries to pen up the sheep.

The Unit can, at present, only cope with 16 words or sound commands, but that is mote than enough for most arcade games and strategy games, though a bit limited for adventure games. One day perhaps the keyboard will be obsolete and we will only have to talk to our computers to get them to do anything.

Versions are in development for other popular microcomputers and some software is to incorporate the ability to use this device.

Micro Command costs £49.95 and Orion Data are at 3 Cavendish St, Brighton, East Sussex BN2 1RN.

New Acornsoft Games

The software grapevine reports that Acornsoft are bringing out three new games in the not too distant future.

Swarm is a hunter against hunted type of gane where the hunted fight back. The screen is covered in snooker ball shapes and has your ship on one side of the screen and the enemy on the other. You can shoot one another in the usual way but if you hit one of the snooker balls odd things happen. A lizard type of creature hatches out of the shape and heads for the nearest ship, be it yours or the enemy's. I do not need to tell you what happens when the lizard hits you.

Volcano is a game where there is an erupting volcano in the middle of the screen with some people on one side of the screen and you in control of a helicopter on the other side of the screen. The idea is to rescue the people without getting deatroyed by the erupting rocks that are coming out of the volcano. You must do all this quickly before the lava level rises to kill all the people and swamp your landing pad.

news news news news news news news news

ARCADE HARTBUSTERS

BRITAIN'S SOFTWARE CHARTS

1. Hunchback (OCEAN) — Spec
2. Manic Miner (SOFTWARE PROJECT) — Spec
3. Chuckie Egg (AF) — Spec
4. Atic Atac (ULTIMATE) — Spec
5. Flight Simulation (PSION) — Spec
6. Chequered Flag (PSION) — Spec
7. Death Chase (MICROMEGA) — Spec
8. Ant Attack (QUICKSILVA) — Spec
9. Hunchback (OCEAN) — Comm 64
10. Lunar Jetman (ULTIMATE) — Spec

NON-ARCADE HARTBUSTERS

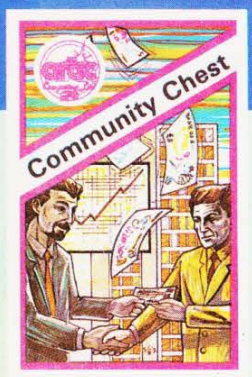
BRITAIN'S SOFTWARE CHARTS

1. The Hobbit (MELBOURNE HOUSE) — Spec, Comm 64, BBC
2. Twin Kingdom Valley (BUG BYTE) — Spec
3. Valhalla (LEGEND) — Spec
4. Colossal Adventure (LEVEL 9) — Spectrum
5. The Valley (APS) — Spec, Comm 64, BBC, Vic, Atari
6. Stonkers (IMAGINE) — Spec
7. Snooker (VISIONS) — Spec
8. Transylvanian Tower (RICHARD SHEPHERD) — Spec
9. Stockmarket (APS) — Spec, Comm 64, BBC, Vic, Atari
10. Black Crystal (CARNELL) — Spec, BBC

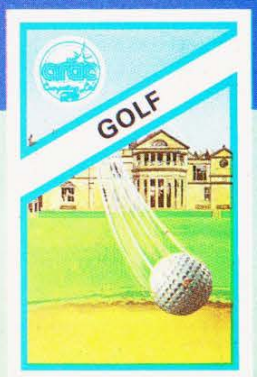
by the ASP Market Research Group

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

Tonight you could be lost in a world of a thousand mirrors



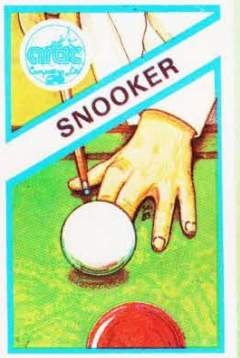
Check out these exciting NEW mind-benders from Artic!



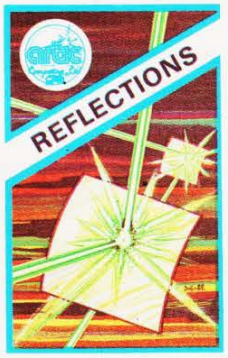
COMMUNITY CHEST
Pit your wits against the computer with this exciting new graphics version of the family board game.
16K ZX81 **£4.95**

ST ANDREWS
One of the best golf games yet devised! Play all eighteen holes at St Andrews, the home of golf.
Spectrum 48K **£5.95**

JIGSAW
The program with the ultimate in graphics. Spend hours compiling detailed pictures from the jigsaw pieces that the computer shuffles for you.
Spectrum 48K **£5.95**



SNOOKER
Pot black or play high breaks without even leaving your living room! Lots of fun with a full display of the table on-screen and automatic scoring by the computer.
Spectrum 16K/48K **£5.95**



REFLECTIONS
A frustrating, mind-boggling game that'll keep you at the keyboard for hours on end. You control a torch-beam that you must flash into an unknown grid of mirrors. The tricky bit is to locate the mirror and its angle from the reflection.
Spectrum 16K/48K **£5.95**

REVERSI
Hours of stimulating companionship for any player. Four levels of play from beginner to expert. The board is displayed on the screen, and the program provides many other features, including the facility to store a half-finished game for completion later on.
16K ZX81 **£5.95**
Spectrum 16K/48K **£5.95**

CONNECT 4
Lots of fun with counters as you pit your wits against the computer or a friend. Full graphics display.
VIC-20 **£5.95**

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3-D MAZE

'3-D Maze' runs on a 16K or 48K Oric-1 computer. In the game, you have the task of getting to a set room in the Maze in as few moves as possible. This room can be identified because when it is in sight, it is shown with a square (which looks like a floormat) lying on the floor. Throughout the game, you see the maze in 3-D as you would if you were actually in the maze. I might also add here that the display given is very realistic (even if I say so myself). When typing in the program, try not to put in any unnecessary spaces (unless you have a 48K model) because the game leaves only about 50 bytes free.

The maze itself is quite simple (see the data in lines 63050 to 63140) but quite small mazes can seem very large to the player when they are only seen in 3-D. The data can easily be changed, but be careful not to run out of memory if you are using a 16K model. A space in the maze is represented by a 0, a 'brick' or 'solid wall' is represented by a 1, and the target is represented by a 2. It is in fact possible to have more than one target, and if more than one is in sight, both will be shown.

When you play the game, you are put in the maze in a random position and facing in a random direction. The space bar will move you forward one space, and the left and right cursor keys will turn you through 90 degrees to the left or right.

RUNS ON ORIC

RUNdown

Lines	Action
1000-1320	Draw routines for separate parts of display.
56000-56060	End routine for when target reached.
51000-57140	Draw display when facing West.
58000-58140	Draw display when facing South.
59000-59140	Draw display when facing East.
60010	GOTO 57000, 58000, 59000 or 60020 depending on direction.
60020-60150	Draw display when facing North.
61000-61150	Check key pressed and perhaps move player.
62000-62999	Randomise position and direction, checking you don't land on a wall.
63000-63150	Set up maze.

Variables used

MO%	Moves taken so far (turning doesn't count as a move).
A$	General purpose (usually used in GET A$ for inputs such as moving in maze and in end routine).
A%(9,9)	Array holding maze DATA.
X%,Y%	Co-ordinates of player.
D%	Direction of player: 1 North 2 East 3 South 4 West
KE%	ASCII code of key pressed.
A,B	Used in loops for reading maze data.

Conversion clues

HIRES — puts Oric into High-resolution mode. Clears screen if already in High Resolution mode.

TEXT — puts Oric into Text mode. Does not clear screen if already in Text mode.

GET A$ — waits for a key to be pressed and then puts the key pressed into A$.

CURSOR X,Y,FB — puts the Hires cursor at X,Y,FB=1 if you wish to plot a point there, 0 if you wish to rub out a point there, 2 if you wish to increase that point or 3 if you wish to leave the point as it is. The Oric's Hires screen measures 240 x 200 pixels. If your computer has a higher resolution, it will be possible to leave lines 1000-1320 alone, just altering the commands. If not, you will have to change most of the numbers in the routine from 1000 to 1320.

DRAW x,y,fb — Draws a line from current Hires cursor position to a point X pixels right and Y pixels down from the cursor, and moves the cursor to this position.

```
120 RELEASE:HIRES:HIMEM #1800
130 GOSUB 63000:GOSUB62000:GOSUB60000
140 GOSUB61000:GOSUB60000:GOTO140
1000 CURSET0,0,1:DRAW20,10,1:CURSET0,120,1:DRAW20,-10,1:RETURN
1010 CURSET0,10,1:DRAW20,0,1:CURSET0,110,1:DRAW20,0,1:RETURN
1020 CURSET20,10,1:DRAW0,100,1:RETURN
1030 CURSET220,10,1:DRAW19,-10,1:CURSET220,110,1:DRAW19,10,1:RETURN
1040 CURSET220,10,1:DRAW19,0,1:CURSET220,110,1:DRAW19,0,1:RETURN
1050 CURSET220,10,1:DRAW0,100,1:RETURN
1060 CURSET20,10,1:DRAW200,0,1:CURSET20,110,1:DRAW200,0,1:RETURN
1070 CURSET20,10,1:DRAW40,20,1:CURSET20,110,1:DRAW40,-20,1:RETURN
1080 CURSET20,30,1:DRAW40,0,1:CURSET20,90,1:DRAW40,0,1:RETURN
1090 CURSET60,30,1:DRAW0,60,1:RETURN
1100 CURSET180,30,1:DRAW40,-20,1:CURSET180,90,1:DRAW40,20,1:RETURN
1110 CURSET180,30,1:DRAW40,0,1:CURSET180,90,1:DRAW40,0,1:RETURN
1120 CURSET180,30,1:DRAW0,60,1:RETURN
1130 CURSET60,30,1:DRAW120,0,1:CURSET60,90,1:DRAW120,0,1:RETURN
1140 CURSET60,30,1:DRAW30,15,1:CURSET60,90,1:DRAW30,-15,1:RETURN
1150 CURSET60,45,1:DRAW30,0,1:CURSET60,75,1:DRAW30,0,1:RETURN
1160 CURSET90,45,1:DRAW0,30,1:RETURN
1170 CURSET150,45,1:DRAW30,-15,1:CURSET150,75,1:DRAW30,15,1:RETURN
1180 CURSET150,45,1:DRAW30,0,1:CURSET150,75,1:DRAW30,0,1:RETURN
1190 CURSET150,45,1:DRAW0,30,1:RETURN
1200 CURSET90,45,1:DRAW60,0,1:CURSET150,75,1:DRAW-60,0,1:RETURN
1210 CURSET90,45,1:DRAW20,10,1:CURSET90,75,1:DRAW20,-10,1:RETURN
1220 CURSET90,55,1:DRAW20,0,1:CURSET90,65,1:DRAW20,0,1:RETURN
1230 CURSET110,55,1:DRAW0,10,1:RETURN
1240 CURSET130,55,1:DRAW20,-10,1:CURSET130,65,1:DRAW20,10,1:RETURN
1250 CURSET130,55,1:DRAW20,0,1:CURSET130,65,1:DRAW20,0,1:RETURN
1260 CURSET130,55,1:DRAW0,10,1:RETURN
1270 CURSET110,55,1:DRAW20,0,1:CURSET110,65,1:DRAW20,0,1:RETURN
1280 CURSET110,55,1:DRAW20,10,1:CURSET130,55,1:DRAW-20,10,1:RETURN
1290 CURSET60,95,1:DRAW120,0,1:DRAW20,10,1:DRAW-160,0,1:DRAW20,-10,
1:RETURN
1300 CURSET90,80,1:DRAW60,0,1:DRAW10,5,1:DRAW-80,0,1:DRAW10,-5,1:RE
TURN
1310 CURSET110,67,1:DRAW20,0,1:DRAW10,5,1:DRAW-40,0,1:DRAW10,-5,1:R
ETURN
1320 CURSET120,62,1:DRAW2,2,1:DRAW-4,0,1:DRAW2,-2,1:RETURN
56000 PING
56010 TEXT:PRINT:PRINT:PRINT" Well done! You reached the target in"
56020 PRINTMO%"moves!"
56030 PRINT"Would you like to play the game again?"
56040 GETA$:IFA$="Y"THEN RUN
56050 IFA$="N"THENEND
56060 GOTO 56040
57000 HIRES
57010 IFA%(X%,Y%)=2THEN56000
57020 IFA%(X%,Y%+1)=1THENGOSUB1000ELSEGOSUB1010
57030 GOSUB1020:IFA%(X%,Y%-1)=1THENGOSUB1030ELSEGOSUB1040
57040 GOSUB1050:IFA%(X%-1,Y%)=1THENGOSUB1060:RETURN
57045 IFA%(X%-1,Y%)=2THENGOSUB1290
57050 IFA%(X%-1,Y%+1)=1THENGOSUB1070ELSEGOSUB1080
57060 GOSUB1090:IFA%(X%-1,Y%-1)=1THENGOSUB1100ELSEGOSUB1110
57070 GOSUB1120:IFA%(X%-2,Y%)=1THENGOSUB1130:RETURN
57075 IFA%(X%-2,Y%)=2THENGOSUB1300:RETURN
57080 IFA%(X%-2,Y%+1)=1THENGOSUB1140ELSEGOSUB1150
57090 GOSUB1190:IFA%(X%-2,Y%-1)=1THENGOSUB1170ELSEGOSUB1180
57100 GOSUB1160:IFA%(X%-3,Y%)=1THENGOSUB1200:RETURN
57105 IFA%(X%-3,Y%)=2THENGOSUB1310
57110 IFA%(X%-3,Y%+1)=1THENGOSUB1210ELSEGOSUB1220
57120 GOSUB1230:IFA%(X%-3,Y%-1)=1THENGOSUB1240ELSEGOSUB1250
57130 GOSUB1260:IFA%(X%-4,Y%)=1THENGOSUB1270:RETURNELSEGOSUB1280
57140 IFA%(X%-4,Y%)=2THENGOSUB1320:RETURNELSERETURN
58000 HIRES
58010 IFA%(X%,Y%)=2THEN56000
58020 IFA%(X%+1,Y%)=1THENGOSUB1000ELSEGOSUB1010
58030 GOSUB1020:IFA%(X%-1,Y%)=1THENGOSUB1030ELSEGOSUB1040
58040 GOSUB1050:IFA%(X%,Y%+1)=1THENGOSUB1060:RETURN
58045 IFA%(X%,Y%+1)=2THENGOSUB1290
58050 IFA%(X%+1,Y%+1)=1THENGOSUB1070ELSEGOSUB1080
58060 GOSUB1090:IFA%(X%-1,Y%+1)=1THENGOSUB1100ELSEGOSUB1110
58070 GOSUB1120:IFA%(X%,Y%+2)=1THENGOSUB1130:RETURN
58075 IFA%(X%,Y%+2)=2THENGOSUB1300
58080 IFA%(X%+1,Y%+2)=1THENGOSUB1140ELSEGOSUB1150
58090 GOSUB1160:IFA%(X%-1,Y%+2)=1THENGOSUB1170ELSEGOSUB1180
```

```
58100 GOSUB1190:IFA%(X%,Y%+3)=1THENGOSUB1200:RETURN
58105 IFA%(X%,Y%+3)=2THENGOSUB1310
58110 IFA%(X%+1,Y%+3)=1THENGOSUB1210ELSEGOSUB1220
58120 GOSUB1230:IFA%(X%-1,Y%+3)THENGOSUB1240ELSEGOSUB1250
58130 GOSUB1260:IFA%(X%,Y%+4)=1THENGOSUB1270:RETURN:ELSEGOSUB1280
58140 IFA%(X%,Y%+4)=2THENGOSUB1320:RETURNELSERETURN
59000 HIRES
59010 IFA%(X%,Y%)=2THEN56000
59020 IFA%(X%,Y%-1)=1THENGOSUB1000ELSEGOSUB1010
59030 GOSUB1020:IFA%(X%,Y%+1)=1THENGOSUB1030ELSEGOSUB1040
59040 GOSUB1050:IFA%(X%+1,Y%)=1THENGOSUB1060:RETURN
59045 IFA%(X%+1,Y%)=2THENGOSUB1290
59050 IFA%(X%+1,Y%-1)=1THENGOSUB1070ELSEGOSUB1080
59060 GOSUB1090:IFA%(X%+1,Y%+1)=1THENGOSUB1100ELSEGOSUB1110
59070 GOSUB1120:IFA%(X%+2,Y%)=1THENGOSUB1130:RETURN
59075 IFA%(X%+2,Y%)=2THENGOSUB1300
59080 IFA%(X%+2,Y%-1)=1THENGOSUB1140ELSEGOSUB1150
59090 GOSUB1160:IFA%(X%+2,Y%+1)=1THENGOSUB1170ELSEGOSUB1180
59100 GOSUB1190:IFA%(X%+3,Y%)=1THENGOSUB1200:RETURN
59105 IFA%(X%+3,Y%)=2THENGOSUB1310
59110 IFA%(X%+3,Y%-1)=1THENGOSUB1210ELSEGOSUB1220
59120 GOSUB1230:IFA%(X%+3,Y%+1)=1THENGOSUB1240ELSEGOSUB1250
59130 GOSUB1260:IFA%(X%+4,Y%)=1THENGOSUB1270:RETURNELSEGOSUB1280
59140 IFA%(X%+4,Y%)=2THENGOSUB1320:RETURNELSERETURN
60000 HIRES
60010 OND%GOTO 60020,59000,58000,57000
60020 IFA%(X%,Y%)=2THEN56000
60030 IFA%(X%-1,Y%)=1THENGOSUB1000ELSEGOSUB1010
60040 GOSUB1020:IFA%(X%+1,Y%)=1THENGOSUB1030ELSEGOSUB1040
60050 GOSUB1050:IFA%(X%,Y%-1)=1THENGOSUB1060:RETURN
60055 IF A%(X%,Y%-1)=2THENGOSUB1290
60060 IFA%(X%-1,Y%-1)=1THENGOSUB1070ELSEGOSUB1080
60070 GOSUB1090:IFA%(X%+1,Y%-1)=1THENGOSUB1100ELSEGOSUB1110
60080 GOSUB1120:IFA%(X%,Y%-2)=1THENGOSUB1130:RETURN
60085 IFA%(X%,Y%-2)=2THENGOSUB1300
60090 IFA%(X%-1,Y%-2)=1THENGOSUB1140ELSEGOSUB1150
60100 GOSUB1160:IFA%(X%+1,Y%-2)=1THENGOSUB1170ELSEGOSUB1180
60110 GOSUB1190:IFA%(X%,Y%-3)=1THENGOSUB1200:RETURN
60115 IFA%(X%,Y%-3)=2THENGOSUB1310
60120 IFA%(X%-1,Y%-3)=1THENGOSUB1210 ELSEGOSUB1220
60130 GOSUB1230:IFA%(X%+1,Y%-3)=1THENGOSUB1240ELSEGOSUB1250
60140 GOSUB1260:IFA%(X%,Y%-4)=1THENGOSUB1270:RETURNELSEGOSUB1280
60150 IFA%(X%,Y%-4)=2THENGOSUB1320:RETURN
61000 GET A$:IF ASC(A$)>32 THEN 61000
61010 KE%=ASC(A$)
61020 IFKE%<>8 AND KE%<>9ANDKE%<>32THEN61000
61030 IFKE%=8THEND%=D%-1:IFD%=0THEND%=4
61040 IFKE%=9THEND%=D%+1:IFD%=5THEND%=1
61050 IF KE%=8 OR KE%=9 THEN RETURN
61060 IF KE%<>32 THEN RETURN
61070 IFD%=1ANDA%(X%,Y%-1)=1THEN SHOOT:RETURN
61080 IFD%=2ANDA%(X%+1,Y%)=1THENSHOOT:RETURN
61090 IFD%=3ANDA%(X%,Y%+1)=1THENSHOOT:RETURN
61100 IFD%=4ANDA%(X%-1,Y%)=1THEN SHOOT:RETURN
61105 MO%=MO%+1
61110 IFD%=1THENY%=Y%-1
61120 IFD%=2THENX%=X%+1
61130 IFD%=3THENY%=Y%+1
61140 IFD%=4THENX%=X%-1
61150 RETURN
62000 X%=INT(RND(1)*10):Y%=INT(RND(1)*10):IF A%(X%,Y%)<>0 THEN 62200
0
62010 D%=INT(RND(1)*4)+1
62999 RETURN
63000 DIM A%(9,9):FORA=0TO9:FORB=0TO9:READA%(B,A):NEXTB,A
63050 DATA 1,1,1,1,1,1,1,1,1,1
63060 DATA 1,0,0,1,0,1,0,0,0,1
63070 DATA 1,0,1,0,0,0,1,1,0,1
63080 DATA 1,0,0,0,1,0,0,0,0,1
63090 DATA 1,1,0,1,1,1,1,0,1,1
63100 DATA 1,0,0,1,0,0,1,0,0,1
63110 DATA 1,0,1,1,1,0,1,0,1,1
63120 DATA 1,0,0,0,1,0,1,0,0,1
63130 DATA 1,2,1,0,0,0,0,0,1,1
63140 DATA 1,1,1,1,1,1,1,1,1,1
63150 RETURN
```

NEXT MONTH

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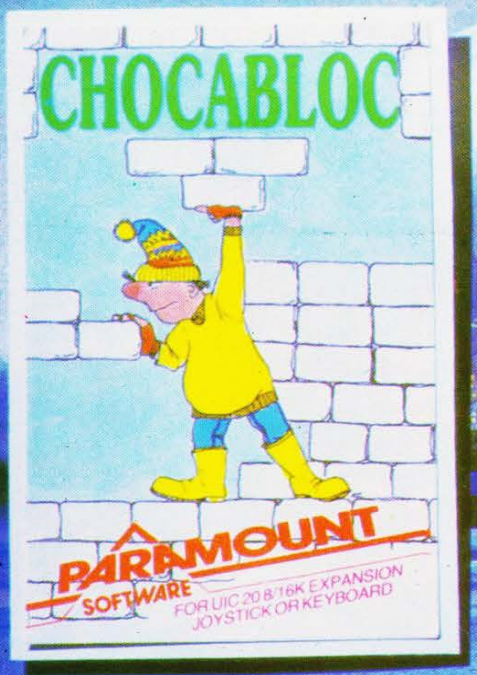

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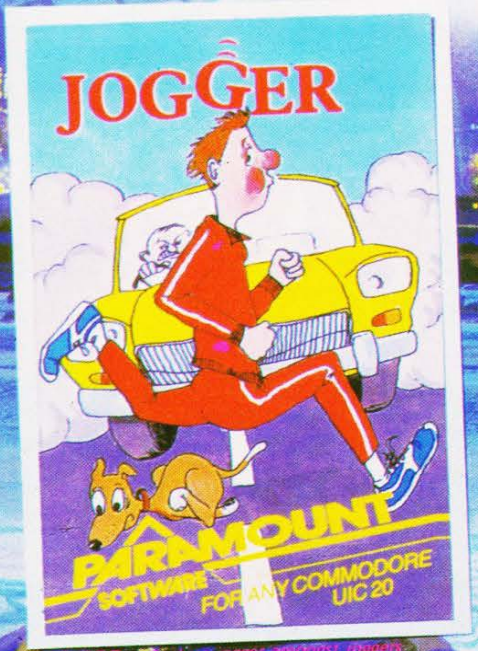

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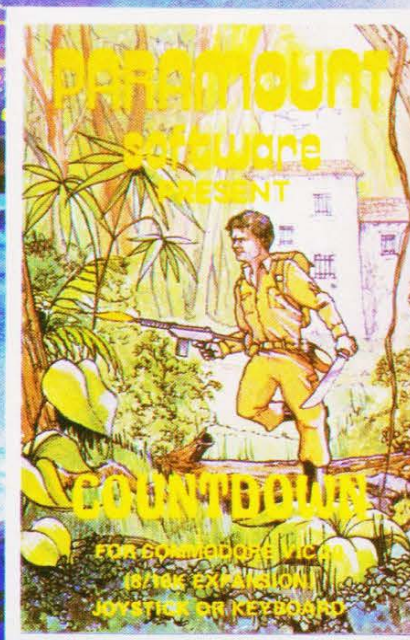

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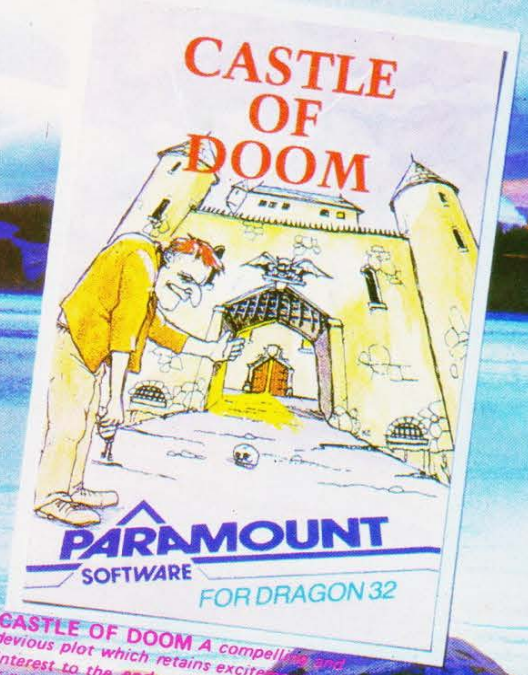

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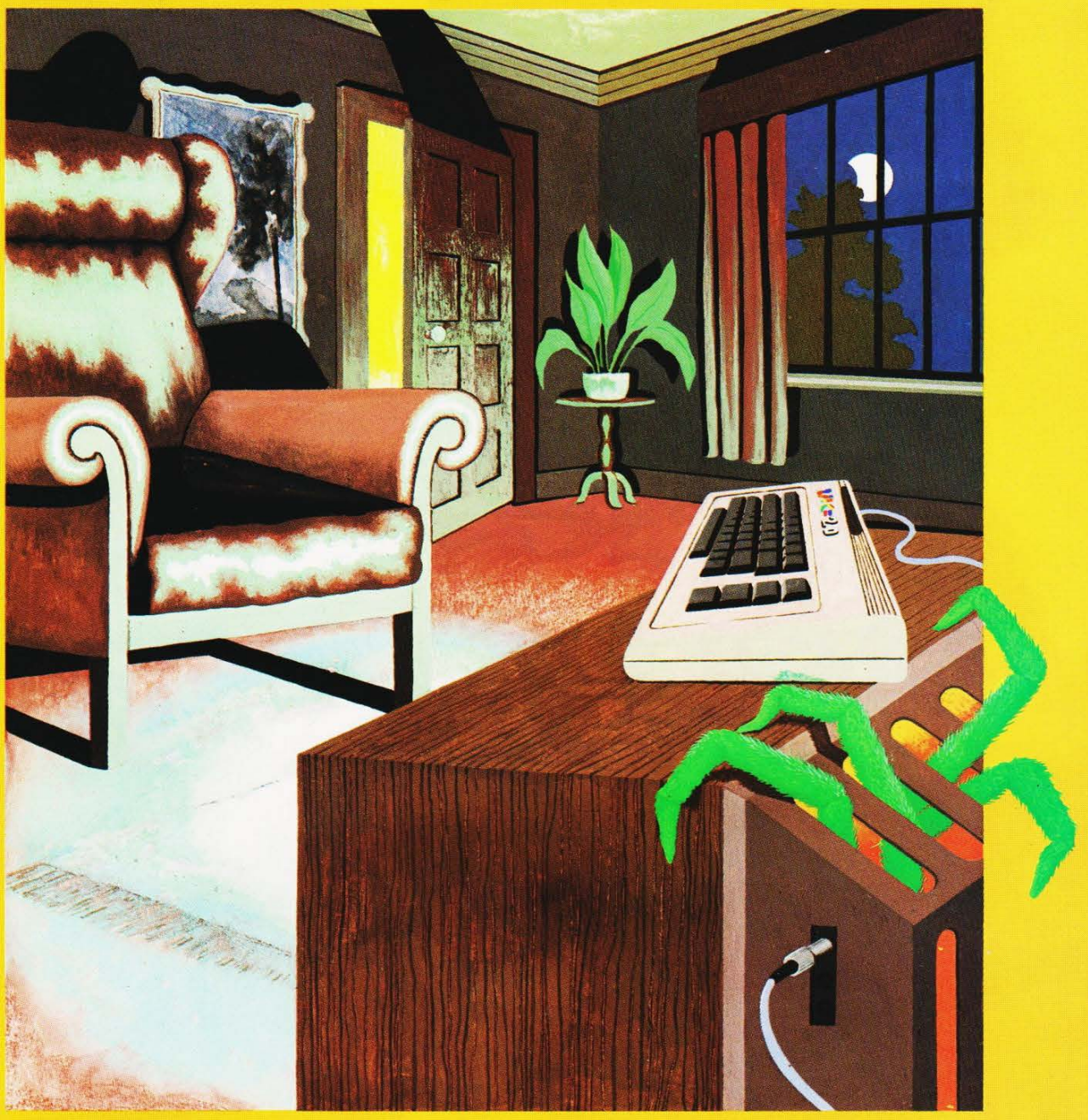

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The Runaway Robot Replies

Dear Sir
I am writing to say how much I enjoy Games Computing. I think that it is cheap at 80p. I already have an order for it at my local newsagent. Please, please, please, could you do a top score chart for people to write in and tell you their high scores.

Please could you tell me if my game of Harrier Attack is bugged or not, because when I get the Harrier to land back on the aircraft carrier, the game ends. Never the less I still think that it is a great game. My highest score is 31560.
G.Swain
Blairgowie

Veronica White of Durell Software, the makers of Harrier Attack said ''The idea behind Harrier Attack is to land safely on your aircraft carrier, after causing as much death and destruction on the way, that is possible, to gain points''. So it appears that your game is not bugged but you must do all your fighting before you land.

With regard to the hi-score business look at the letter from M Farrell, elsewhere on this page.

Dear Games Computing
I think you have a great magazine for games programs, but to me and probably many others it is useless as there are no Dragon programs. Please could you include some Dragon games in future issues.
Andrew Robertson
Strathclyde

Last month we published Lunar Bomber and Casino, both of which would have run of Dragon 32 so we hope you enjoyed typing them in.

We have been getting quite a lot of letters saying 'why don't you do games for this machine' or 'please include games for that machine' but is all up to you. If we don't get any programs sent in for a particular machine then we can't publish anything for it. So get writing those games and turn to our Program Submissions section elsewhere in this issue.

Dear Games Computing
Whilst reading your fab mag I came across Chris Palmer's Minestorm hi-score, I had to respond with mine, which is *3,784,353* after *188* mine fields, this score took about four and a half hours to achieve. The scores of other Vectrex games are Star Ship 5,542,700 (lots of sectors, took two days to get), Armor Attack 490,800 (very difficult), Scramble 113,000 (a bit boring).

As an idea why don't you have a sort of high score chart for the Vectrex, Coleco, Atari, and Intellivision consoles. Obviously only the most popular games for each system weould feature, but I think this would give the serious video gamer something more than his own hi-score to beat. They could then, if they beat the scores, write to you with their scores.

Keep up the good work, but try to concentrate on the video game systems as well as computers.
M I Farrell
Haylands

Well! that is a pretty hi-score isn't it. We were going to print Pete Green's (editor of Computing Today) hi-score, on Mine storm, of 900,525 but this one thrashes it by quite a lot.

If you do have an exceptionally high score on a video game, send it in. We do need to have conclusive proof of your score, usually a photograph of the screen. Mark your envelope 'High Score' and include an address and telephone number and any other information that is relevant, such as the level that you were on, how long it took, and information about the console/cartridge/add-ons.

Dear Editor
Your magazine is a smash hit, I couldn't find a better magazine to buy. It's very good and cheap, but the computer programs are very badly printed. So could you print them in normal sized letters.

It would be very helpful if you could print smaller programs for computers with smaller memories. But, these points aside, your magazine is briliantly written.
Sharon Lea
Nantwich

If we were to print the listings in 'normal sized letters' then we would be able to print less than half of the great games that we bring you every month, so as the print is still completely readable we feel we are justified in reducing the listing slightly.

On the subject of shorter programs, we are considering starting a section in the magazine that contains only quick, short programs. If you have any little masterpieces then send them to our Golden Square address clearly marked 'Short Stuff'. As far as the accompanying instructions are concerned, we just need a shorter version of the normal program documentation as mentioned in the program submissions section later on in this issue.

Have you got any opinions to air, has someone somewhere upset you and you want to grizzle and gripe? Or maybe you're full of the joys of spring and feel like telling a happy story?
Whatever you want to say, be it good, bad or indifferent drop us a line here at Games Computing and get it off your shoulders.
Send your letters to:
'Postman Pat', Games Computing, 1 Golden Square, London W1.

In the first four articles in this series we looked at the history, the structure, and the design of wargames. So far it has all been theory — now we put it into practice: this article will take you through the various stages of a wargame design.

WAR

From Rome to RAM — Marching at Last!

So how do we start? First pick a subject. At this point I am going to bottle out of historical research by choosing a fantasy subject — a war between two wizards. This saves me reading, but it does require that I do a bit of imagining and produce a 'storyboard' for the game — something to make the game believable. I have chosen the following storyboard.

The land of Arg is ruled by the Great Wizard Mudlin, aided by two other lesser wizards. Each wizard controls one castle — Mudlin's castle is in the centre of the realm while the two other wizards have castles at the eastern and western edges of the realm. The situation would be peaceful and stable except for one problem: Mudlin has died without leaving a will, and the remaining wizards are now intent on seizing control of the country. To do this they must control Mudlin's castle as well as maintain control of their own castle.

GAME COMPONENTS

So that's the basic story line, as well as the victory conditions. But it's hardly enough to design a game from. Let's look at the components of the game: first, the map. Let's settle on a 9 x 9 square format. Mudlin's castle can occupy point (5,5) (the centre of the map, where the first number is the horizontal coordinate and the second is the vertical coordinate), while the wizards' castles can be on points (5,1) and (5,9). Now for a bit of terrain. Let us put impassable mountains at points (3,3) to (3,7), and a forest on the square (4,6) to (6,6) to (6,8) to (4,8). Finally we'll put Human towns at (3,4), (3,8), (7,2) and (7,6). Our map of Arg is complete — but what does it all mean? Let's add to the storyboard a little.

In the land of Arg are four human towns, formerly governed by Mudlin. Now they are awaiting the outcome of the Wizard war before deciding who to support. However, they are open to persuasion and may be conquered. Also there are various tribes of creatures who used to be under Mudlin's control but now wander at random.

Now for a few of instructions, or rules, for the game. What do we need? All war games have movement, units, and combat. This game looks like being no different. Also we will need magic rules, persuasion rules for the humans, a start game procedure and and end game procedure.

Let's start with movement. Movement is related to distance, so let us define a distance for our map. If we say each position on the map is 1000 metres from the next position the Arg is 9km by 9km: small, but larger than Scunthorpe and probably more exciting. This distance also means that visibility is not really a problem as a human could easily see five miles from the top of a tall tower. We can give the movement of units as the distance in kilometers that they can travel. if a unit tries to move diagonally we can use the Pythagorus triangle equation to find the diagonal distance $(A * A) + (B * B) = (C * C)$. Finally we must say that movement in a forest area is at half speed, movement into the

GAMES

mountains is forbidden, and movement out of areas with an enemy present is also forbidden.

MANPOWER TO PLAY WITH

So, that's the basics of movement. Onto the forces. First we know that there are humans. Let's give them a movement speed of 3km per turn and a strength of 2. Now let us define three magical creatures to add to the game. We'll have a Troll with a movement speed of 1km per turn and a strength of 3, a goblin with a speed of 2km per turn and a strength of 2, and an imp with a speed of3km per turn and a strength of 1. The magicians themselves must also be defined. Let us give them a speed of 3, a strength of 10, and a magical power of 1000.

Now let's look at spells and magic — after all it is a wizard war.

Magic can cover several areas: creation, destruction, attack, defence, persuasion, and movement. Let us say that the use of magic involves some magical power, which we will represent by magical power (MP) points, so that we can 'cast' a spell. Now to the actual spells. First let's have three creation spells to create armies. 'Create Troll', 'Create Goblin', and 'Create Imp' will cost two magical power points each and will create one creature in the area that the magician is in. We now need a spell of destruction, this will reduce the defensive strength of the fortifications. Let us say that all fortifications (the human towns and towers) have an initial strength of 10. The spell will reduce the strength of any fortification by 1 and costs 100 magical power points to cast. The spell can only be used against fortifications in the same area as the magician.

For the attack and defence spells let us say that magical power points can be used to increase attack or defence strength at the rate of one strength per magical power point. The spell can only be used in the area that the magician occupies.

On the subject of persuasion, let us define the initial loyalty of each human town as three points. A persuasion spell costs 50 magical power points and alters the loyalty of the town by 1, −1 for computer persuasion and +1 for player persuasion. If the loyalty of the town reaches −10 then the town joins the computer's forces, if it reaches +10 it joins the players forces.

That only leaves a movement spell. This has to fairly powerfull to ensure that it is worth using. So for one magical power point any creature, or the magician, can be moved from anywhere on the map to anywhere else on the map.

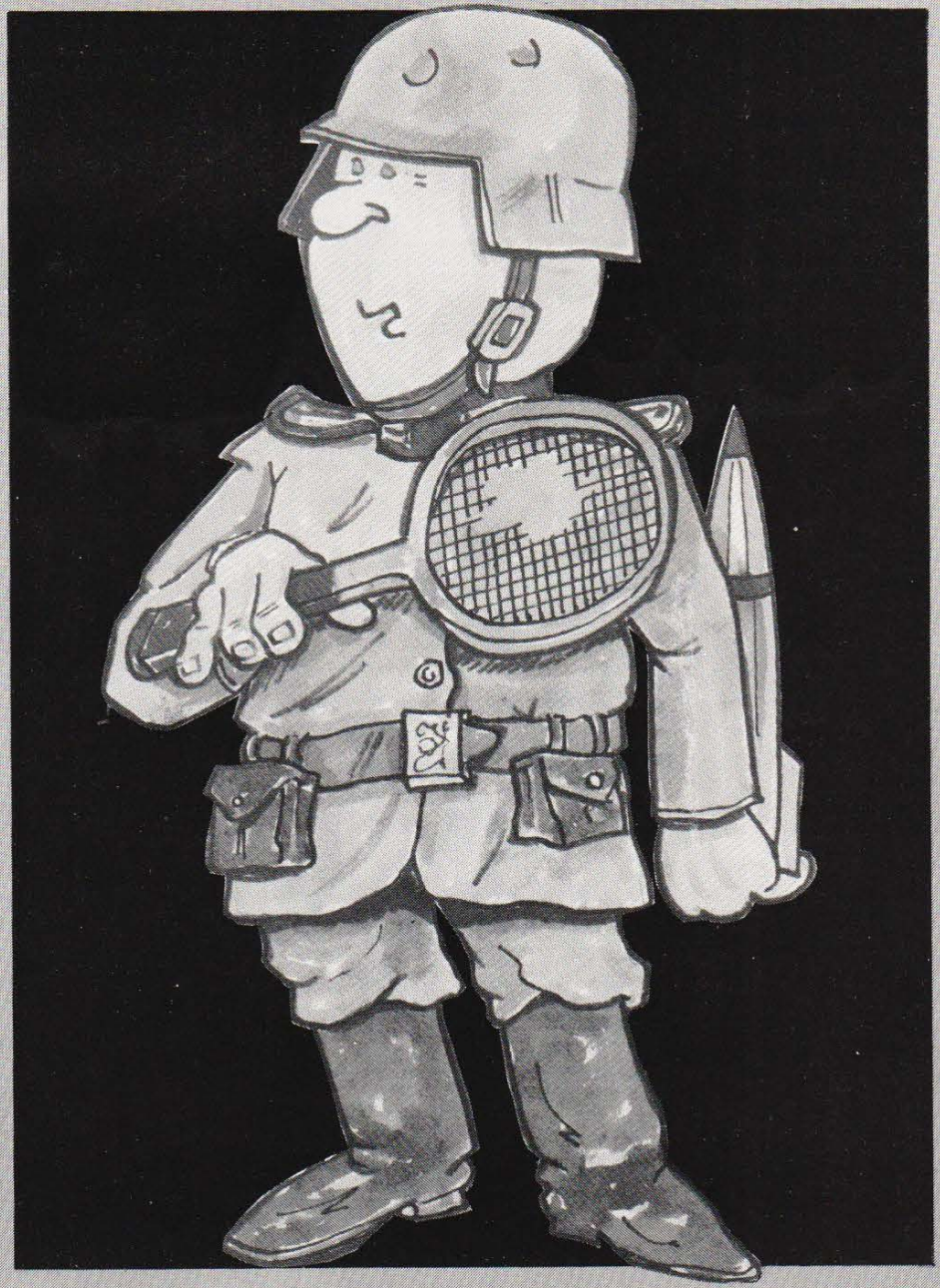
The rules are almost complete, so let's work on the structure of the program. We'll start at the beginning of the set up. We have described the board, so let's start the game with the magicians in their respective castles, and let's put 100 trolls, 100 goblins, and 100 imps in all three castles. The human towns will start with 100 human troops each. Finally we will place ten forces of 'neutral' armies at random positions on the board, each force consisting of 50 each of Trolls, Goblins, and Imps.

Each turn will consist of the following actions: First each human town will receive two extra soldiers, and each magician will receive 100 extra magical power points. Now is when the creation and destruction spells are cast. Next comes movement. All forces can be moved up to the limit of their movement allowance, also any movement spells are put into operation at this moment.

LET BATTLE COMMENCE

Now comes combat, where all forces in the same area will fight each other, attack and defence spells will afffect this procedure. Next comes the persuasion phase, where the persuasion spells are used. Finally there is the check for a winner, and, if there is none, play runs onto the next turn.

Now with a structure and most of the rules we can, at last, cover the problem of combat. In a wargame this is the most vital part of the game. Make it too light and the game will grind on like World War 1, make it too bloody and the forces disappear too fast. In this game if equal forces meet they should inflict about 15% losses on each other. This will mean that forces will



WARGAMES

reduce in number as the game progresses, but not too fast. The average strength of a unit is 2, so if we inflict losses of (Opponent's total strength) * (Random number 0.5 to 1.0) on a force this should give us the right range of losses. if the battle takes place in a forest area then the losses can be halved, and if the battle takes place in a fortified area then the attacker's losses can be multiplied by the fortification strength.

If we are building a two-player game then that would be sufficient to create the game, but we are not, (well I'm not and you're coming with me whether you like it or not). So we need some rules to cover the computer opponent. Let us make it aggressive only to the player and attempting to avoid all other battles. First we'll deal with movement. Let us say that the computer will always move its force up to the limit of their allowance. it will always head for its own castle if it is enemy occupied or is next to it, otherwise it will move towards the tower in the centre. The computer will never use movement spells except to move to the central tower when it has 1000 troops there — for the final assault.

The Map

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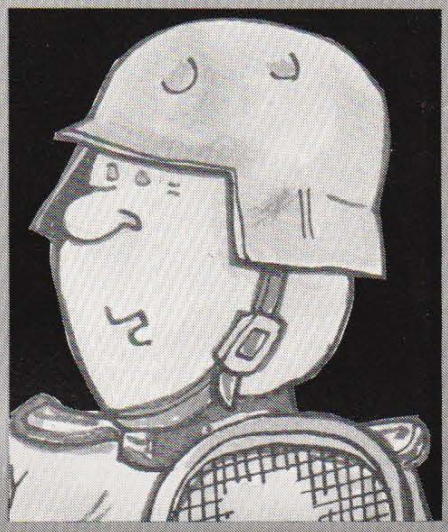
In combat the computer will use a 100 magical power point attack spell an a 100 magical power point defence spell, — if it has the magical power points — if a combat occurs in the area in which it has a magician. In persuasion, it will use one persuasion spell per turn per town if it has the magical power points and if there are any towns to persuade. In creation it will create first 10 Trolls, then 10 Goblins, then 10 Imps, in that order if it has the magical power points.

So now we have the beginnings of a computer wargame. In describing the creation process I have tried to give an insight into how we are intending to apply the basic rules of computer games design. I have had to miss out a lot of explanations as to why I have done what I have done, but I hope the previous articles will be sufficient to give you the idea of the workings of my mind. Next month, in the last of the present series, we will actually be looking at the wargame itself, also don't forget to start writing for the wargame competition, details of which are below.



COMPETITION

We want to make one of our readers rich. And famous. All you have to do is write a wargame for us to play.

Apart from that there are very few limitations. Any subject matter is fair game, but bear in mind we've played an awful lot of wargames between us at Games Computing, and plagarists should be warned that we'li almost certainly spot their efforts — and disqualify them.

The prize for the authors of the games considered to be the best by our panel of judges is to have their games marketed by our sister software company, Argus Press Software Ltd, and receive full royalties on all sales. That could amount to a fair income for a popular game, particularly as we will have the game converted to run on a range of popular machines. There will also be a £50 prize for the first-placed entry.

To enter this competition, you should submit your game on tape, stating clearly what machine it runs on, together with your name and address. Make sure your name address and the name of the game is marked clearly in block letters on the cassette case and envelope.

We can accept programs for the following machine on cassette:
Commodore 64, VIC 20, both PETS;
ZX Spectrum;
Dragon 32;
Any Atari;
Oric-1;
BBC Micro;
Texas T199/4A(with or without Extended BASIC);
Sharp MZ-80K and MZ-80A (with standard BASIC only);
TRS-80,
Apple 11 or 11e;
In addition we will accept programs on disc for the Commodore computers, the Ataris, both Sharps and the Apples.

The majority of the program must be writen in BASIC. Specific routines such as screen-handling can be in machine code but BASIC equivalents should be provided where possible. Machine code routines must be relocatable and fully documented. (This is in your interest: it makes it easier to convert programs onto other machines and the more we can adapt it to, the more tapes we sell and the more royalties the winner earns.)

The closing date for the competition is June 30th 1984. The authors of programs which do not win will retain full rights in their work.

RULES OF ENTRY

This competition is open to all UK and Northern Ireland readers of Games Computing except for employees of Argus Specialist Publications Ltd, their printers, distributors or anyone associated with the competition.

All entries must be postmarked before the closing date of June 30th 1984.
No correspondence will be entered into regarding the result of this competition and it a condition of entry that the judges' decision is final.

The winner will be notified by post and the result of the competition will be published in a future issue of Games Computing.

Entries should be clearly marked on the outside of the envelope "WARGAME COMPETITION" and addressed to Games Computing, No.1 Golden Square, London W1R 3AB.

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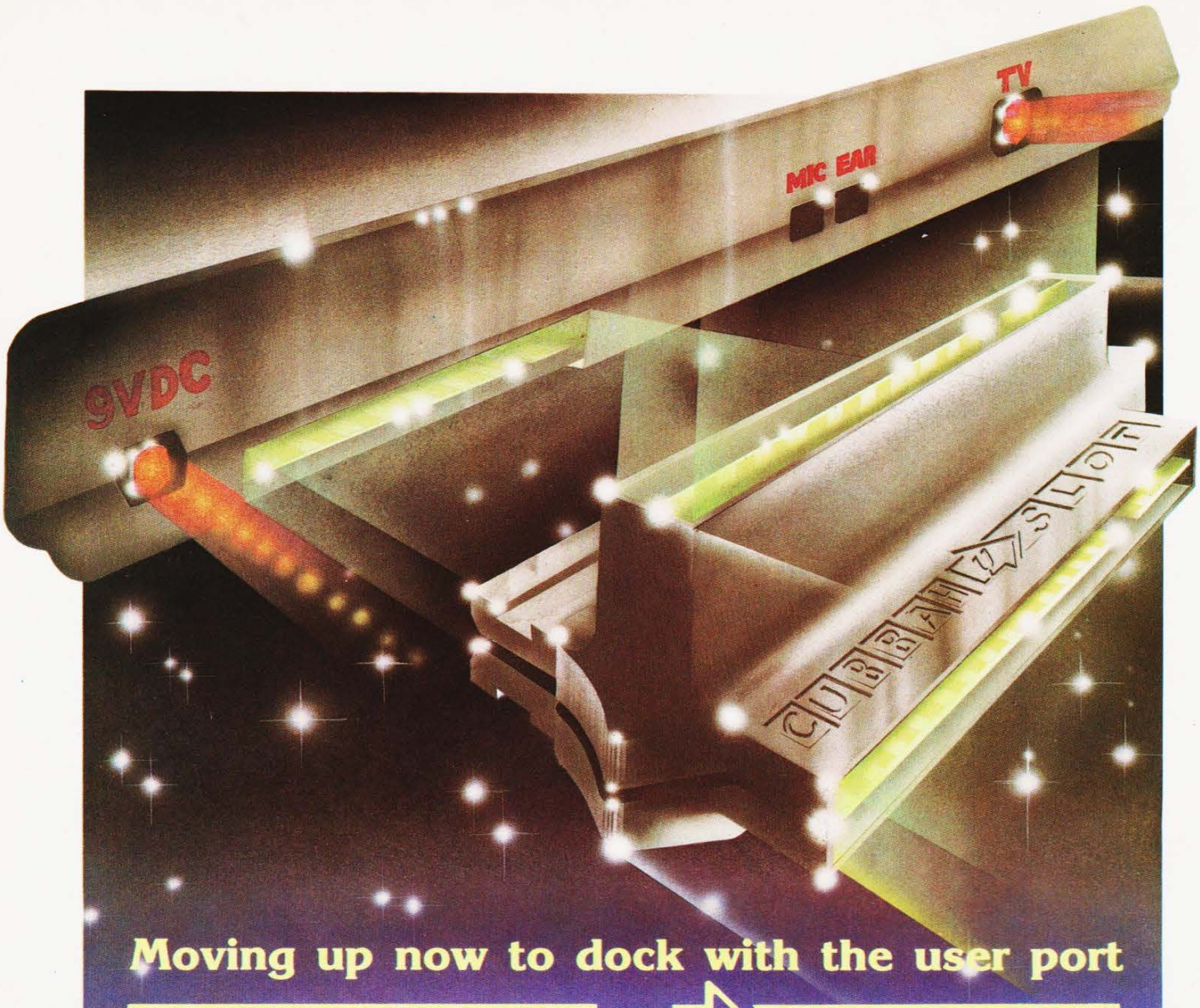

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COMPETITION

One hundred and fifty copies of Richard Shepherd Software's Urban Upstart, Transylvanian Tower, or Super Spy are there for the taking in this great *Games Computing*/Richard Shepherd Software spot-the-difference competition.

Urban upstart is a tongue-in-cheek vision of what the future may be like. For instance, muggers roam the streets and even dogs carry flick knives.

You play the part of a young hooligan who is trying to escape from this urban madness — the town of Scarthorpe to be precise. There are over 90 locations, with each location having its own graphical representation in full colour high resolution. The graphics take up a third of the screen while the text occupies the rest of it.

This is the latest game from a stable that has produced such thoroughbred winners as Everest Ascent, Ship of the Line, and Devils of the Deep.

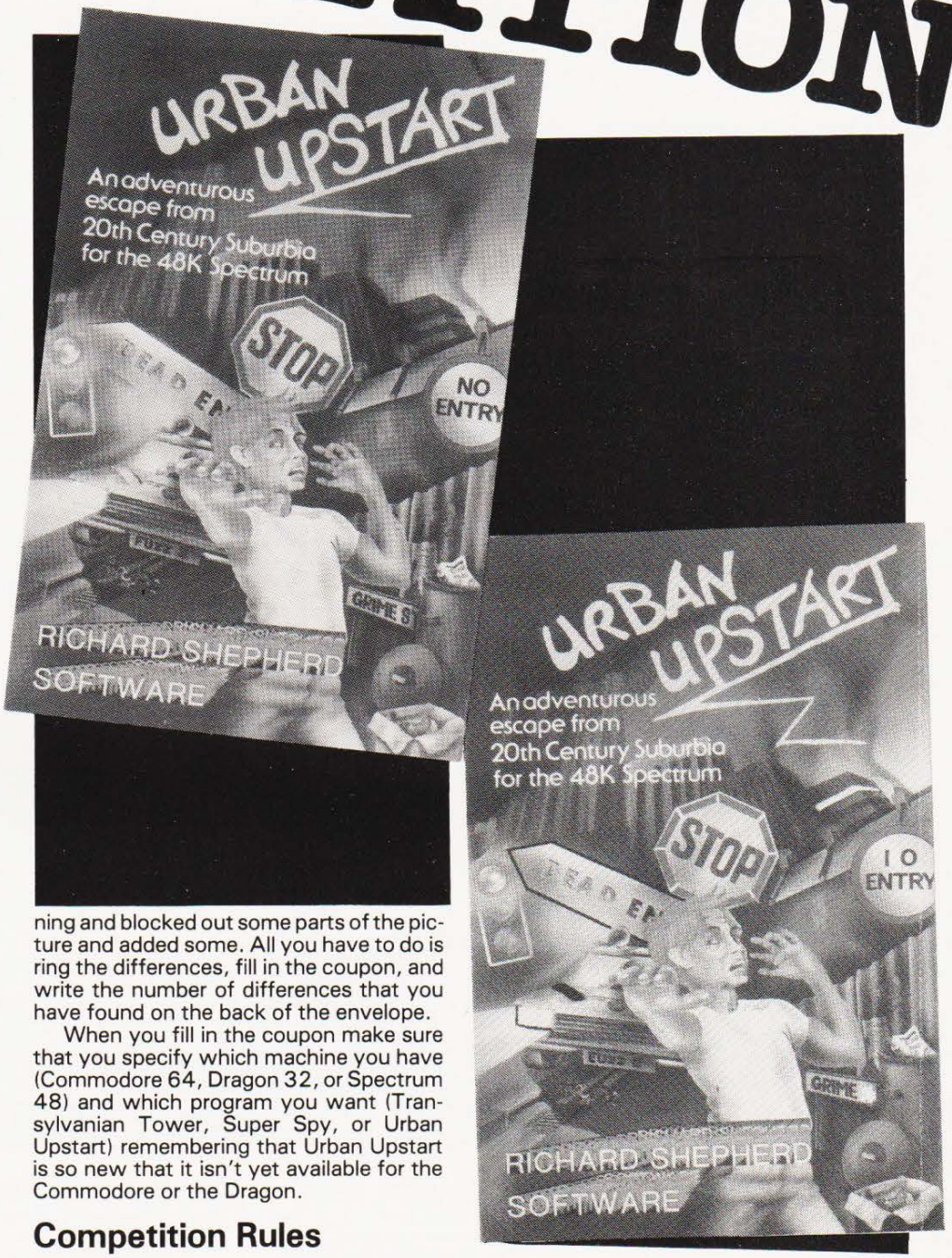
You could also chose for your prize either Transylvanian Tower or Super Spy. Transylvanian Tower is a real time graphical maze adventure in which you must battle against the forces of evil and try to reach the top of Dracula's deadly castle.

Super Spy is a global trail of espionage and intrigue. You take the leading role and must stop the nasty Doctor Death from unleashing his nuclear bombs to destroy the world. To do this you must travel around the world gathering various objects and trying to solve an anagram which will reveal the name of the island that Doctor Death is hiding on.

When you have finally found him there are still more problems to await you including a maze to work your way through.

Transylvanian Tower and Super Spy are available for the Commodore 64, Dragon 32, and ZX Spectrum 48K. Urban Upstart is only available on the ZX Spectrum 48K at present.

Richard Shepherd Software is a company that has been going for over two years now and currently produces adventure and simulation games for the Commodore 64)on cassette and disk), Dragon 32, and ZX Spectrum. Apart from games the firm has also produced Cash Control, a business program for the ZX Spectrum that can use microdrives to store data and help run a small business.



How to enter

On this page are two pictures of the inlay card for Urban Upstart. We have been cunning and blocked out some parts of the picture and added some. All you have to do is ring the differences, fill in the coupon, and write the number of differences that you have found on the back of the envelope.

When you fill in the coupon make sure that you specify which machine you have (Commodore 64, Dragon 32, or Spectrum 48) and which program you want (Transylvanian Tower, Super Spy, or Urban Upstart) remembering that Urban Upstart is so new that it isn't yet available for the Commodore or the Dragon.

Competition Rules

1. This competition is open to all UK readers of *Games Computing*, except employees of Argus Specialiost Publications Ltd, their printers and distributors, employees of Richard Shepherd Software, or anyone connected with them.
2. As long as the correct coupon is used for each entry there is no limit to the number of entries per person, photocopies will not be accepted.
3. All entries must be postmarked before 31 May 1984.
4. The prizes will be awarded to the first 150 entries judged to be correct by the editor.
5. No correspondence will be entered into with regard to the competition results and it is condition of entry that the editors decision is final.
6. The winner will be notified by post and the results will be published in a future issue of *Games Computing*.

Address to: RICHARD SHEPHERD/GAMES COMPUTING COMPETITION MAY '84

Software title required: . . . . . .

Machine it must run on: . . . . . .

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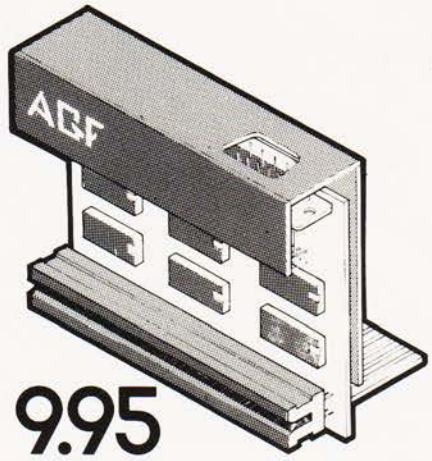

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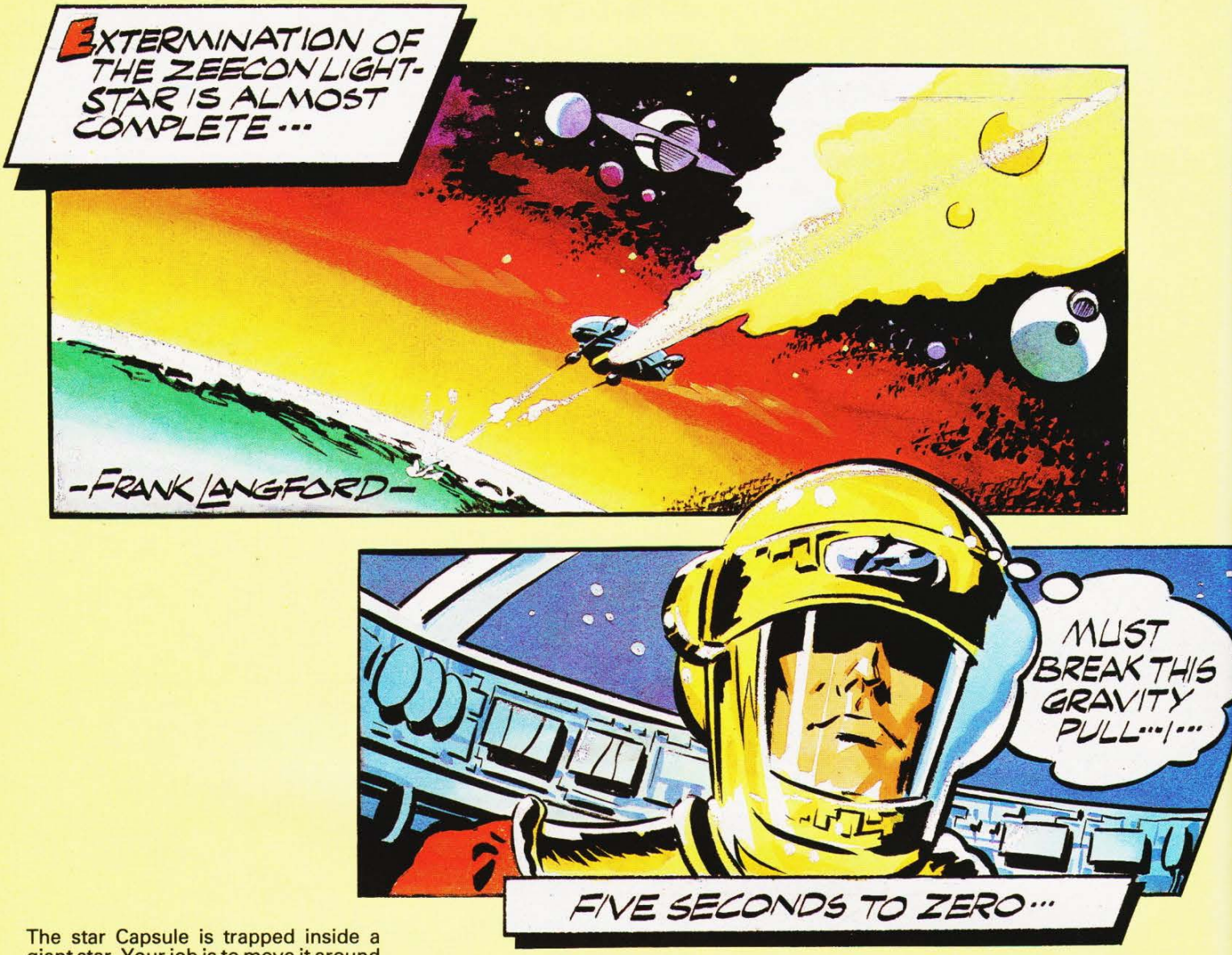


The star Capsule is trapped inside a giant star. Your job is to move it around the inside of the star trying to absorb 'pockets' of energy-giving radiation.

Can you accumulate enough energy, and thus points, to reach the randomly generated minimum level to escape from the fantasitc gravity of the star before the star 'quakes'? Can you do so within the time limit (also randomly generated) to get a bonus?

Try it and see if you can get to the next, even more dangerous, star!

Controls are **'A'** to move left, **'D'** — right, **'J'** — up, and **'L'** — down.

RUNdown

Lines	Action
5-22	Initialization, setting up of variables for score, hi-score, time, definition of function by which to measure time. Also setting up of screen colours. Line 12 initiates the time and determines the colour variable C.
25-40	Routine to define the graphics for star points and capsule ('p', 'q', 'r', 's'., and 't' in 'G' mode).
50-95	DATA for the above.
100-240	PRINTs the star shape.
250-260	Defines and PRINTs minimum level (ML) and time limit (TL).
270-300	PRINTs nucleus, star capsule, and executes subroutine 1000.
400-410	Defines graphics characters for radiation quanta ('a', 'b', 'c', 'd', and 'e' in 'G' mode.)
500-547	Makes the nucleus radiate and executes subroutine 550.
550-560	Decides if co-ordinates of either radiation quanta equal those of the star capsule, if so subroutine 650 is executed.
600-645	DATA for radiation quanta.
650-680	Makes the star capsule change through three colours and back again with sound.
690	Increments score according to the distance from the nucleus that the radiation was absorbed.
700	Executes subroutine 1000.
710	Determines if the time has reached or exceeded the time limit.
720	Determine if the score is great enough for the capsule to escape.
740-745	Determine the time since switch on and check that the time is correct.
747	Increments the time, accounting for radiation movement, any absorption, and program time.
750	Transfers control to 500 to continue the game.
760	As 720.
800-890	'Starquake' routine, causes nucleus to disintegrate and star capsule to shatter.
815	Converts capsule PRINT AT co-ordinates to PLOT co-ordinates.
824-825	Change X and Y co-ordinates to fit on screen.
830	Calculate the horizontal and vertical distances of shatter lines, and then DRAWs them.
850-878	Disintegrate nucleus and star.

STAR QUAKE!

RUNS ON SPECTRUM

879-883	PRINT 'Starquake' and END messages.
885-890	See if you want another game.
900-995	'Escape' routine. Lines 905, 907, 910, and 950 decide which way to escape, depending whereabouts in the star you are, complete with sound effects.
920-930	Left.
935	Right.
955	Up.
975	Down.
980-994	PRINT escape message and sound.
995	Switches off FLASH and INVERSE, adds escape bonus of 50 points, and transfers control back to line 12 for a more difficult star.
1000-1100	Routine to move capsule.
1025	Decides if energy quanta are at capsules co-ordinates and if so RETURNs to allow quanta to be absorbed.
1030	Assures that capsule is within the star.

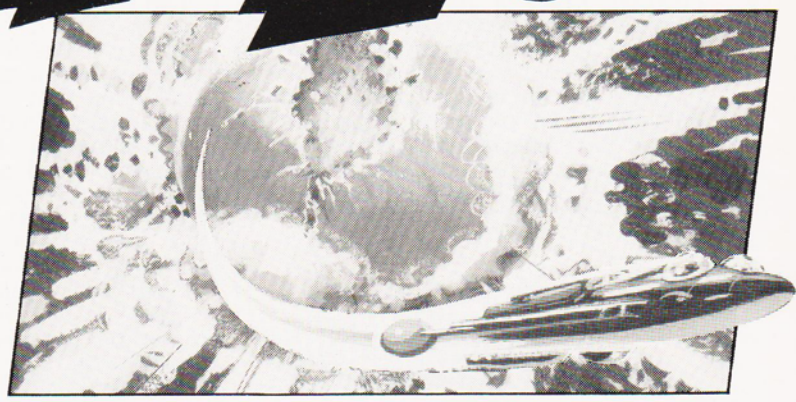
Variable used

h	High score.
s	Score.
sn	Star number.
t	Time.
FN t	Time function.
c	Colour variable based on star number.
t1	Time since start.
tl	Time limit.
ml	Maximum score limit.
x,y	Co-ordinates of star capsule.
a,b	Co-ordinates of star capsule by pixel.
a1,b1	Horizontal and vertical distances of end of shatter lines from centre of star capsule.
L	Angular multiplier.
L1	Angle of shatter line.
r	Random radiation shape decider.
r$,s$	Radiation representative variables.
j,k	Co-ordinates of radiation.
m,n,o,p	Co-ordinates of radiation variables for absorption routine.
i	INK colour in absorption routine.
t2	Current time since start.
p,q	Disintegration co-ordinates in routine 800-890.
a$	Answer to replay question.

```
  1 REM *** Starquake ***
  2 REM * By Tony Heath *
  5 GO SUB 25
  7 LET h=0
  8 DEF FN t()=(65536*PEEK 2367
4+256*PEEK 23673+PEEK 23672)/50
  10 LET s=0
  11 LET sn=0: REM star number
  12 LET t1=FN t(): PAPER 0: CLS
: LET t=0: LET sn=sn+1: LET c=s
n: IF sn/7>INT (sn/7) THEN LET c
=sn-6*INT (sn/7)
  15 INK 6: PAPER 0: PRINT "Star
quake ";
  17 INK c: PAPER 7-c: BORDER 0:
 PRINT "Score:";s;AT 0,24;"Hi:";
h
  20 PRINT AT 1,12;"Time:";t
  21 PRINT AT 3,0;"By Tony Heath
";AT 3,21;"Star no.";sn: GO TO 1
00
  25 RESTORE 50: FOR c=112 TO 11
5: REM star points and capsule
  30 FOR a=0 TO 7: READ n: POKE
USR CHR$ (c)+a,n
  40 NEXT a: NEXT c: RETURN
  50 DATA BIN 00010000,BIN 00011
000,BIN 00111000,BIN 00111100
  55 DATA BIN 01111100,BIN 01111
110,BIN 11111110,255
  60 DATA BIN 00000001,BIN 00000
111,BIN 00011111,BIN 01111111
  65 DATA 255,BIN 00111111,BIN 0
0001111,BIN 00000011
  70 DATA BIN 10000000,BIN 11100
000,BIN 11111100,255
  75 DATA 254,BIN 11111000,BIN 1
1110000,BIN 11000000
  80 DATA 255,254,BIN 01111110,B
IN 01111100
  85 DATA BIN 00111100,BIN 00111
000,BIN 00011000,BIN 00010000
  90 DATA BIN 00011000,BIN 00011
000,BIN 00111100,BIN 01100110
  95 DATA BIN 11100111,255,255,2
55
  99 REM draw star
 100 PRINT AT 3,16;"A"
 110 PRINT AT 4,14;"▗▄▖▝▘"
 120 PRINT AT 5,8;"▗▄▄▄
```

STAR QUAKE!

RUNS ON SPECTRUM



```
 710 IF t>=t1 THEN GO TO 760
 720 IF s>=m1 THEN GO TO 900
 740 LET t2=FN t()
 745 IF t2-t1<0.01 THEN GO TO 74
0
 747 LET t=t+INT (t2-t1+0.03*k+0
.14*i+0.3): PRINT AT 1,17;t: LET
 t1=t2
 750 GO TO 500
 760 IF s>=m1 THEN GO TO 900
 800 REM 'starquake' routine
 810 FLASH 1: PAPER 6: PRINT AT
4,9;"STARQUAKE!!": FLASH 0: PAPE
R 7-c
 815 LET a=8*x+3: LET b=172-8*y
 820 FOR l=1 TO 12: LET l1=l*PI/
6: INK INT (RND*8)
 824 IF x>15 THEN LET x=31-x
 825 IF y>10 THEN LET y=21-y
 830 PLOT a,b: LET a1=(8*x+3)*CO
S l1: LET b1=(8*y+3)*SIN l1: DRA
W OVER 1;a1,b1
 840 BEEP 0.02,l-20: NEXT l
 850 FOR p=12 TO 14: PRINT AT p,
15;"  ": NEXT p
 860 FOR p=1 TO 3: FOR q=1 TO 9
 870 PRINT AT 12-2*p,15-q; PAPER
 5;".";AT 12-2*p,15-q; PAPER 7-c
;" ";" "
 875 BEEP 0.01,p*q: NEXT q: NEXT
 p: PRINT AT 12-2*p,14-q; PAPER
7-c;" ": INK 2
 876 FOR p=0 TO 100: PAPER 0: PR
INT AT 5+INT (RND*17),INT (RND*3
1);" "
 877 PAPER 8-c: PRINT AT 5+INT (
RND*17),INT (RND*31);CHR$ (131+I
NT (RND*12))
 878 BEEP 0.02,INT ((p-50)/2): N
EXT p
 879 INVERSE 1: FLASH 1: PRINT A
T 12,10;"*********";AT 13,10;"GA
ME OVER";AT 14,10;"*********": I
NVERSE 0: FLASH 0
 880 BEEP 0.1,10: BEEP 3,10: INK
 6: PAPER 2: CLS : PRINT AT 5,2;
"You scored ";s;" points and": P
RINT "escaped from ";sn;" star";
 881 IF sn>1 THEN PRINT "s ";
 882 PRINT ",taking ";t;"seconds
 before being destroyed": PRINT
"by the debris of the last star.
"
 883 IF s>h THEN PRINT '"You've
 got the ";: INVERSE 1: PRINT "B
i";: INVERSE 0: PRINT "-score!"'
"well done.": LET h=s
 885 PRINT '"Do you want anothe
r game(y/n)?"
 886 LET a$=INKEY$: IF a$="y" OR
 a$="Y" THEN GO TO 10
 887 IF a$="n" OR a$="N" THEN IN
K 0: PAPER 7: PRINT AT 18,11;"Th
e End": STOP
 890 GO TO 886
 900 REM escape routine
 902 FLASH 1
 905 IF x<5 OR x>24 THEN GO TO 9
50
 907 IF y=13 THEN GO TO 950
 910 IF x>15 THEN GO TO 935
 920 FOR a=x TO 1 STEP -1
 925 PRINT AT y,a;" ";AT y,a-1;"
▲": BEEP 0.02,11-a
 930 NEXT a: GO TO 980
 935 FOR a=x TO 30
 940 PRINT AT y,a;" ";AT y,a+1;"
▲": BEEP 0.02,a-20
 945 NEXT a: GO TO 980
 950 IF y<13 THEN GO TO 970
 955 FOR b=y TO 5 STEP -1
 960 PRINT AT b,x;" ";AT b-1,x;"
▲": BEEP 0.02,14-b
 965 NEXT b: GO TO 980
 970 FOR b=y TO 20
 975 PRINT AT b,x;" ";AT b+1,x;"
▲": BEEP 0.02,b-11: NEXT b
 980 PRINT AT 5,2;"Well done,you
 have escaped!!": FLASH 0: PRINT
 '''"Now prepare yourself to try
to  escape from the next,even mo
re  deadlier star!!"
 990 INVERSE 1: FLASH 1: PRINT A
T 12,3;"****************";AT 13,
3;"ESCAPE BONUS- 50";AT 14,3;"**
**********"
 994 BEEP 0.07,20: BEEP 6,20
 995 INVERSE 0: FLASH 0: LET s=s
+50: GO TO 12
 999 REM animate star capsule
1000 PRINT AT y,x;" "
1005 LET e$=INKEY$
1010 LET x=x-(e$="a")+(e$="d")
1020 LET y=y-(e$="j")+(e$="l")
1030 IF SCREEN$ (y,x)<>" " THEN
LET x=x+(e$="a")-(e$="d"): LET y
=y+(e$="j")-(e$="l")
1100 PRINT AT y,x,"▲": RETURN
```

HiResAlt City

Hiresalt City is for the Oric 1 or Atmos but could be altered to suit any computer because there are no specific PEEKs or POKEs in the program. The game has been written in 'HIRES' and the 'Alt'ernate character set is used to achieve the background.

The game is easy to understand, and although it is very fast, it contains nothing which would confuse someone new to programming.

The object of the game is to drive your runner around the City which appears on the screen without crashing into the perimeter wall, any of the buildings or your own trail which is formed as the runner moves, for 1500 cycles of the program. (One cycle of the program is equivalent to the runner moving one pixel). On completion of 1500 cycles a new City appears with more buildings to avoid.

Each new screen becomes increasingly more difficult until the sixteenth screen when a new type of city appears. This city consists of a perimeter wall but instead of containing buildings it contains vertical lines which are separated from each other by two pixels and by the perimeter walls by one pixel. The object of this is to steer yourself around the vertical lines. You will find that speed pressing of the cursor keys is required if you are not to die. Even then the game is not at an end! More cities appear on the screen making each new screen harder than the previous one. The game ends only when you have crashed on three occasions.

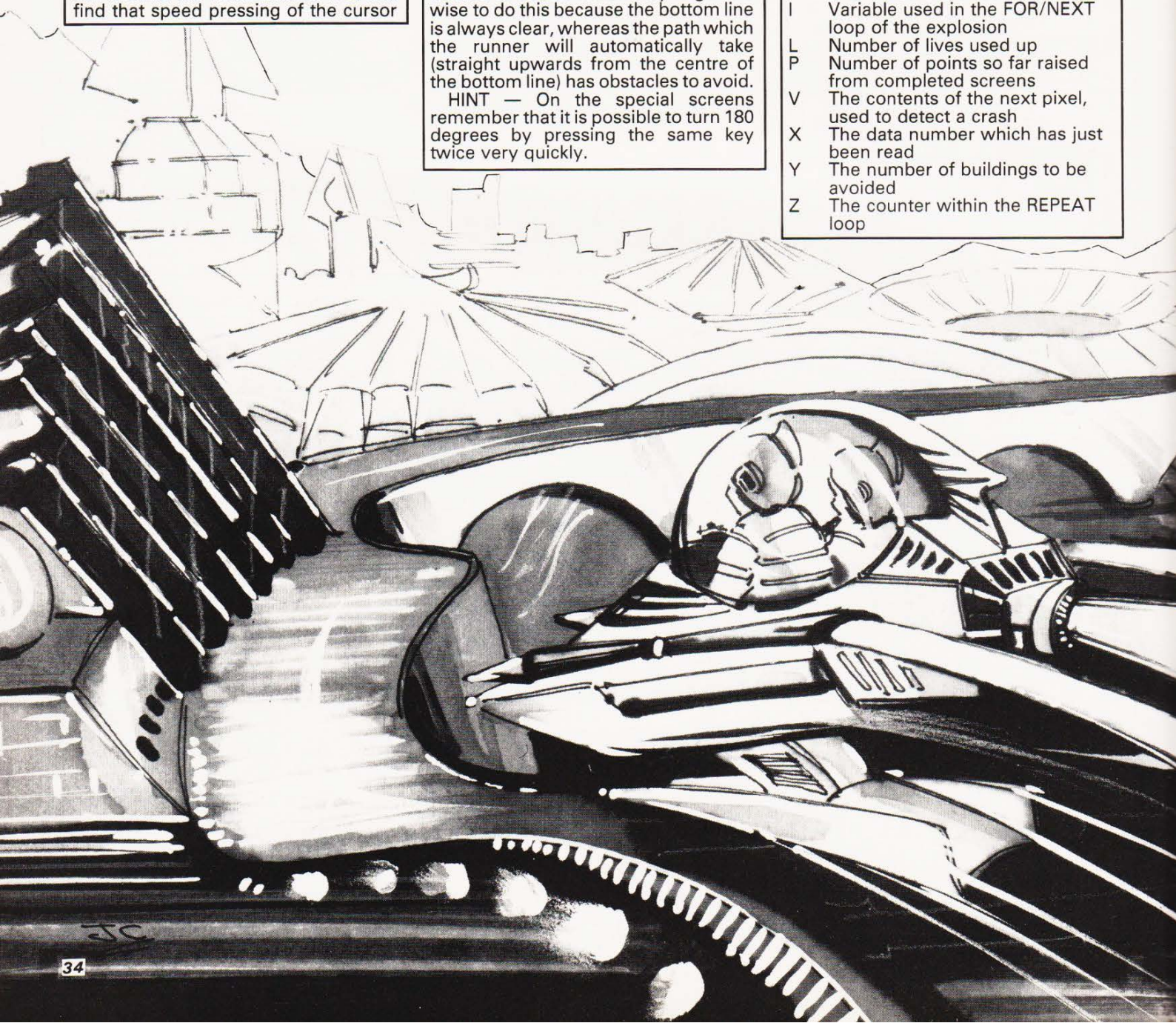
The game uses left and right cursor keys only. But it must be borne in mind at all times that left and right apply to the runner and not to the user!

While the city is being drawn you will be able to decide which way to go. It is wise to do this because the bottom line is always clear, whereas the path which the runner will automatically take (straight upwards from the centre of the bottom line) has obstacles to avoid.

HINT — On the special screens remember that it is possible to turn 180 degrees by pressing the same key twice very quickly.

Variables used

A	Position of the runner on the x-axis
B	Position of the runner on the y-axis
C	Variable used in most of the FOR/NEXT loops
D	The direction of the runner, if: D is 1 then the direction is UP D is 2 then the direction is RIGHT D is 3 then the direction is DOWN D is 4 then the direction is LEFT
I	Variable used in the FOR/NEXT loop of the explosion
L	Number of lives used up
P	Number of points so far raised from completed screens
V	The contents of the next pixel, used to detect a crash
X	The data number which has just been read
Y	The number of buildings to be avoided
Z	The counter within the REPEAT loop



RUNdown

Line	Action
5	Stops the first screen from being one of the harder screens.
10	Defines initial variables and tests keys.
20	Decides which direction to alter position in and tests for a crash.
30	Plots the runner and tests for end of the REPEAT loop.
100-170	Alters direction on key being pressed.
200-230	Alters the position of the runner.
300	Explodes the runner and changes screen colours.
305	Finds out if all the lives are used up.
310-320	Ends game.
500	Draws perimeter.
505	Chooses normal or harder type screen.
510	Draws buildings.
520-530	Prints "Hiresalt City" at the top of the screen.
550	Sets up vertical lines of the special screen.

```
5 IFY=0THENY=Y+1 ELSE IFY>10THENY=Y-1
10 D=1:A=120:B=149:GOSUB500:REPEAT:A$=KEY$:IFA$<>""THENONDGOSUB100,
120,140,160
20 ONDGOSUB200,210,220,230:V=POINT(A,B):IFV=-1 THEN300
30 CURSETA,B,1:Z=Z+1:UNTILZ=1500:P=P+Z:Y=Y+10:PING:Z=0:GOTO5
100 IFA$=CHR$(8)THEND=4 ELSE D=2
110 RETURN
120 IFA$=CHR$(8)THEND=1 ELSE D=3
130 RETURN
140 IFA$=CHR$(8)THEND=2 ELSE D=4
150 RETURN
160 IFA$=CHR$(8)THEND=3 ELSE D=1
170 RETURN
200 B=B-1:RETURN
210 A=A+1:RETURN
220 B=B+1:RETURN
230 A=A-1:RETURN
```

```
300 EXPLODE:FORI=1TO7:PAPERI:CIRCLEI,1:WAIT25:NEXTI:WAIT200
305 L=L+1:IFL<3THENGOTO5
310 TEXT:PRINT"YOU ARE DEAD BUT HAVE MANAGED TO SCORE ";P+Z;" POINT
S"
320 END
500 HIRES:INK1:CURSET60,50,1:DRAW0,100,1:DRAW120,0,1:DRAW0,-100,1:D
RAW-120,0,1
505 IFY/200=INT(Y/200)THENGOTO550
510 FORC=1TOY+50:CURSETRND(1)*113+60,RND(1)*92+50,1:CHARRND(1)*90+3
2,1,1:NEXTC
520 FORC=1TO104STEP8:READX:CURSET C+70,40,0:CHARX,0,1:NEXTC:RESTORE
:RETURN
530 DATA 72,105,114,101,115,97,108,116,32,67,105,116,121
550 FORC=62TO178STEP3:CURSETC,54,1:DRAW0,92,1:NEXTC:GOTO520
```

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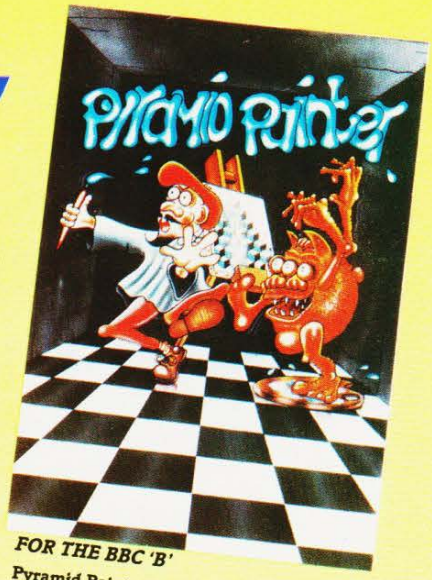

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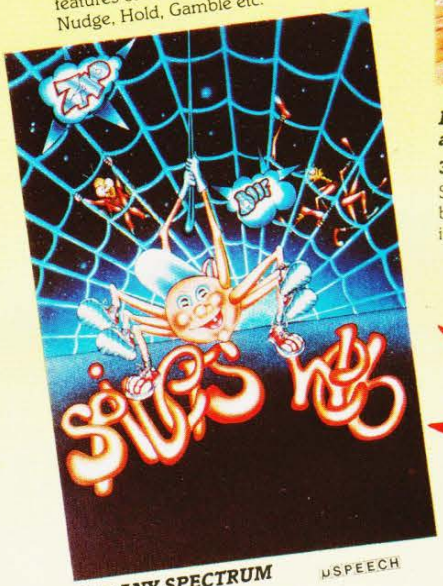

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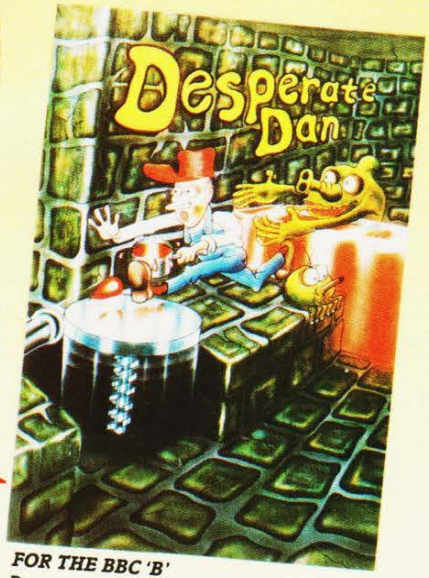

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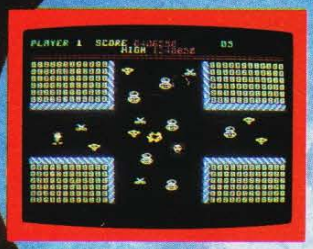

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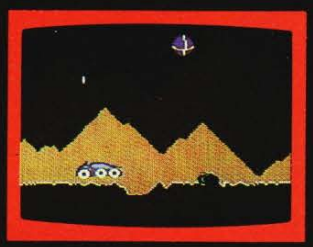

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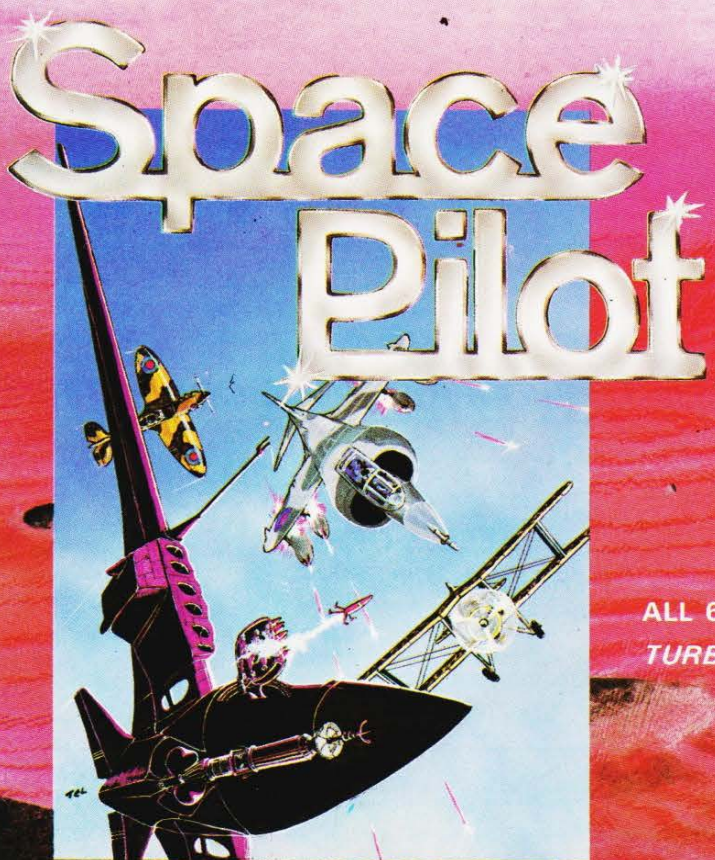

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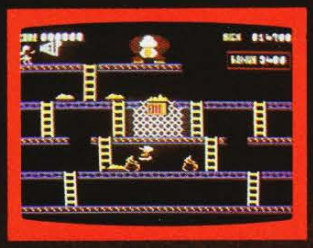

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Your party of six is under attack. As Indians gallop round the cabin, some try to sneak through the roof or window. Aim true or yours will be the last scalp lifted.

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COSMIC COMMANDO

The commandos have been sent to destroy your ammunition dumps. They weave intricate patterns as they advance. There is an extra hazard of target snatchers to hamper your aim. aim.

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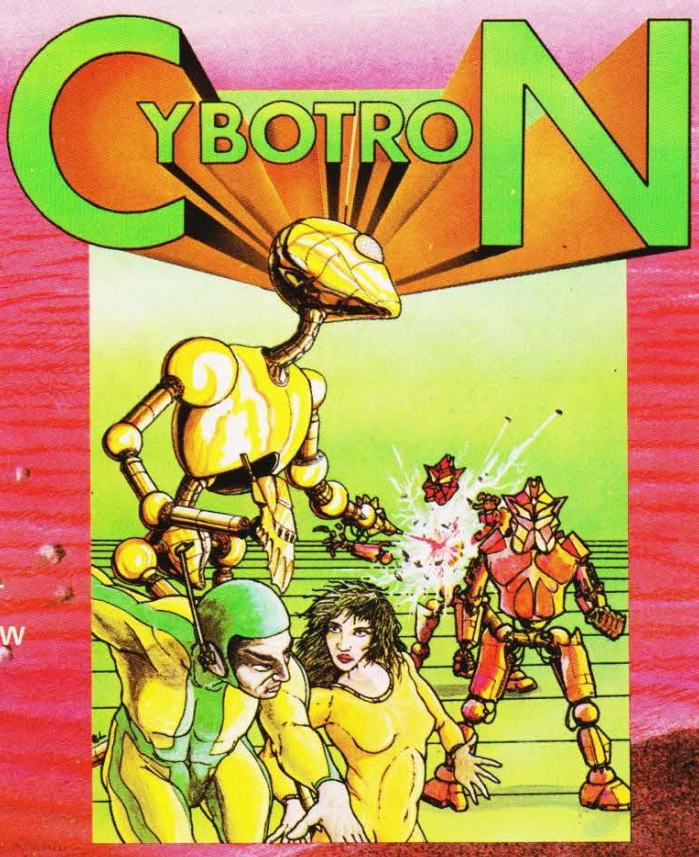

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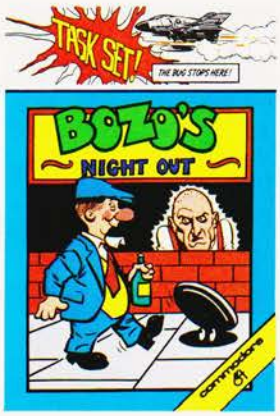

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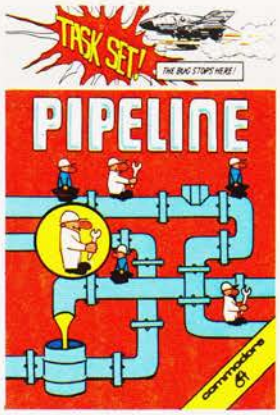

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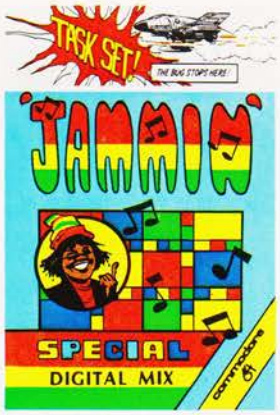

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Just surviving is not good enough in this giant convoy. Control three fighters at once, to defend the huge transporters as they ply between the planets. Only those transports reaching planetfall will gain galactic credits, and no-one expects promotion for losing the entire fleet. Which freighters must be sacrificed to get most cargo to the next planet. Full sound options and hi-score table complete the arcade package.

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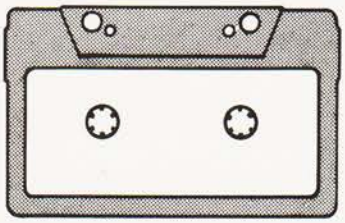

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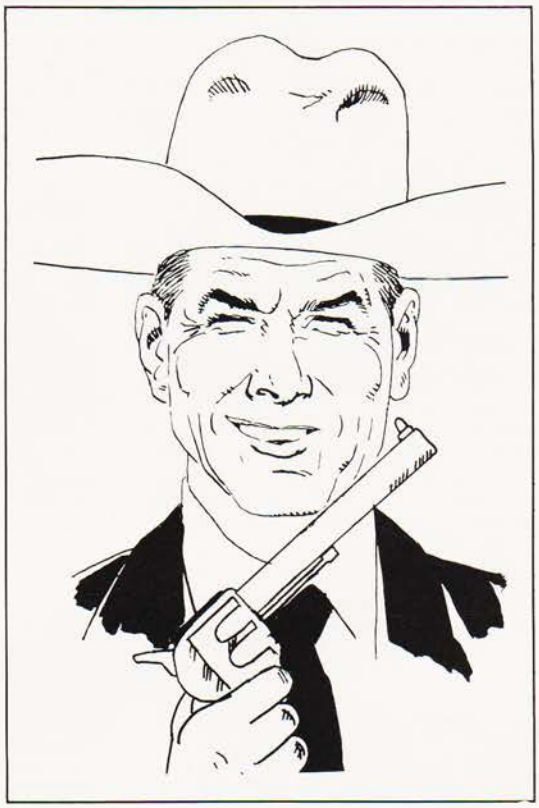

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SOFTWARE

XANAGRAMS

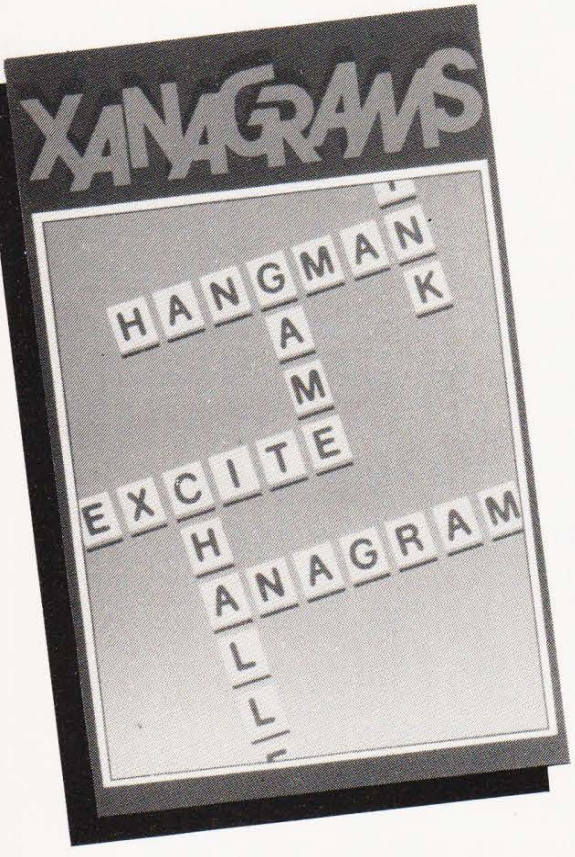
Runs on: Spectrum
Made by: Postern
Price: £6.95

Xanagrams is a game to test your knowledge in words and spelling. It is basically aimed at children who are still at school and could be a great asset to someone who wants to perfect their spelling.

There are three levels of difficulty to choose from. Level one is for junior school children, level two is for senior school children, and level three is aimed at adults. Each level has a selection of words appropriate to that age group.

When you have chosen the level of play you have a choice of the number of words you require, up to five words maximum. If more than one word is chosen the words will be linked together like a crossword puzzle. Blanks will appear on the screen in crossword form indicating the number of letters each word will have. To the right of this display, the letters that go to make up the words in the puzzle are arranged alphabetically. Therefore if more than one word is chosen the game becomes quite difficult because it is impossible to tell which letters are for which word and it is not just a case of rearranging them to form a word. The higher the number of words you choose the more challenging the game becomes and the higher the possible score.

Xanagrams is available for both a 16K and a 48K Spectrum. The memory contains over 5000 different words so the number of different combinations is vast and incalculable. The total dictionary of words is divided into eight lists. If you have a 48K Spectrum, all eight lists will be loaded at once but if you have a 16K Spectrum, one list will be loaded at a time, and after each game you will have the opportunity to load another list.



DANCING FEATS

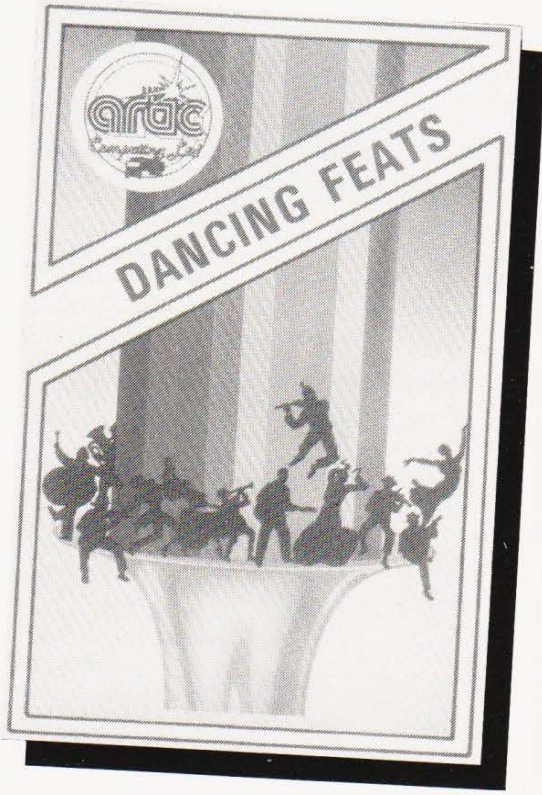
Runs on: Commodore 64
Made by: Artic
Price: £6.95

This is not a game but somehow not a utility either. This is a program designed to explore the excellent sound capabilities of the 64 and uses the joystick as your instrument.

You choose a rhythm and bass backing with options ranging from boogie to beguine with rock, blues, jazz and swing all featured. To this backing you add a melody line by moving the joystick. The computer ensures that only in key notes result so that whatever you play is bound to be tuneful. However by varying the speed and direction of your movements you can play some amazing riffs without any musical expertise. There is also a facility to record your masterwork and save it to tape (or disc if you buy the disc version).

The main drawback is that you can only play in the key of C and as the program limits your selection of notes, chord patterns and "voice", you can't use it like a real instrument.

Not quite a utility then but allowing for some good creative fun and with a novel graphic display of the music as you play which is attractive in itself.



1984

Runs on: Spectrum 48k
Made by: Incentive Software
Price: £5.50

If you have ever fancied being the person in the hot seat, running the country then here's your chance. This is a game where you choose what benefits are to be paid out. This version of a basic theme comes with adequate instructions (a 12 page booklet on running the country) and reasonable loading instructions.

The object is, of course, to last as long as possible. You start with figures balanced and that's the way to keep them. Can you keep unemployment figures down, and stop inflation rising? You have to negotiate wage increases, put up the taxes, benefits and unfortunately just about everything else to survive. Could you survive a general election or even two? Full graphic displays, histograms and annual rating performance make this a good game to buy. A word of warning *do not* increase or decrease anything too much or your resignation will be accepted.

SUPER SKRAMBLE

Runs on: Commodore 64
Made by: Terminal Software
Price: £7.95

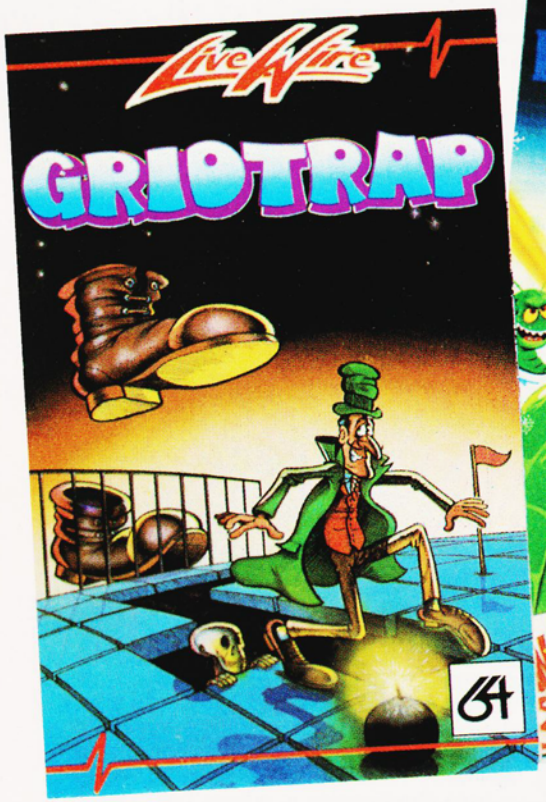
This is a game which involves the skillful piloting of a craft using either a joystick or the keyboard, horizontally over the landscape.

The object being not only to avoid the landscape but also to gain points by destroying the various strategic targets scattered liberally over the ground.

The targets consist of missiles which are at first stationary but with the progression of the game, are then launched and therefore have to be either avoided or destroyed. The other stationary targets include helicopters, fuel dumps, Space Wraiths and a Command Centre.

The firepower of the craft takes the

SOFTWARE



the squares (which disappear once covered) and moving over the bomb. The flags also donate bonus points if crossed by Mr. LiveWire. So far so good. The difficulty arises when another bomb appears once the last bomb has been defused.

As the level of difficulty increases so does the rate at which the bomb ticks away with the added problem of a second bomb once the first has reached a count of 15 seconds to detonation. To add to the excitement (or coronary, whichever comes first) Mr. LW cannot cross squares twice but he can slide along the horizontally unused squares if trapped.

To pass along through each of the 9 Levels he must therefore defuse a total of 5 bombs, avoid the stationary skulls, mobile Boots (the number of which increase as the levels increase, as well as their apparent intelligence).

In conclusion it can be said that that a great deal of attention has been paid to make the graphics and sounds as realistic and stunning as possible (it should be noted that the melody option can be turned on or off according to your preference).

One very useful facility, is the pause feature which allowed the game to be continued after having had a tea-break during my mid-day break!

TWO GUN TURTLE

Runs on: Oric 1
Made by: Lothlorien
Price: £6.95

The idea of this game is to defend a strawberry patch in the middle of a field from differing varieties of bugs. This may sound fairly easy but as the game progresses, the bugs move faster and it becomes harder to stop the fruits disappearing.

At the bottom of the screen a calendar ticks away and during the winter months snowflakes gently fall to the bottom of the screen. Hitting these earns bonus points.

Among the types of bugs are snakes, hedgehogs, ducks, and skulls! Movement around the screen is achieved through joystick or keyboard, and by pressing two keys at once you can move diagonally around the screen.

It is certainly very addictive if only to find out what other creatures inhabit the game! The use of colour and sound is very good and instructions are easy to understand.

Two Gun Turtle is entertaining and original and a machine code arcade game of the highest quality. It makes a nice change not seeing space ships blasting across your video screen!

ALCHEMIST

Runs on: Spectrum
Made by: Imagine
Price: £5.50

You are the Alchemist who has been summoned to destroy the evil Warlock in his castle. To do this you must find four pieces of the magic scroll so that you are able to cast a spell of destruction that will leave the Warlock powerless.

You are able to transform yourself into a golden eagle at will, and various spells can be found around the castle which may assist you in your task, but beware, the Warlock's guardians are out to get you. They will drain all your stamina if you cannot find and eat the food parcels in time. When you run out of stamina you are dead. Nasty.

I found the game interesting with some fascinating graphics, but thought that too little explanation was given on the actual object of the game. Also the line stating how much of the spell of desruction you had collected, would not print up. The Alchemist is controlled by use of confusing keyboard layout which prevents successful initial play until it can be memorised.

The real challenge of Alchemist is obviously discovering exactly what has to be done to defeat the Warlock and stay alive. Once this is achieved the game becomes rather repetitive and looses it's initial interest.

REVIEWS

form of bombs and bullets which are released simultaneously upon the depression of the fire key/button. Each game allows 3 chances to accumulate as many points as possible, from the targets to be found inthe 8 different sectors.

An important factor to be taken into account, while hardware worth millions is casually being destroyed, is the rate at which the fuel is used. This, as far as I could evaluate, was a constant rate which can be replenished by a specific amount each time a fuel dump is destroyed.

After having safely passed through the first sector (which was a challenge in its own right) there follow sectors which include a cave containing 'Space Wraiths', a meteor storm (where the meteors have to be avoided to enter the following sectors). There is also a city of Skyscrapers and finally the Command Centre, which has to be destroyed to attain the maximum points.

The Control keys take a little while toget used to, but the use of a joystick alleviates this problem.

The addictiveness induced by this game increases with each sector as sheer curiosity prompts you to try and find out what lies beyond in the next sector . . .

THE KORTH TRILOGY

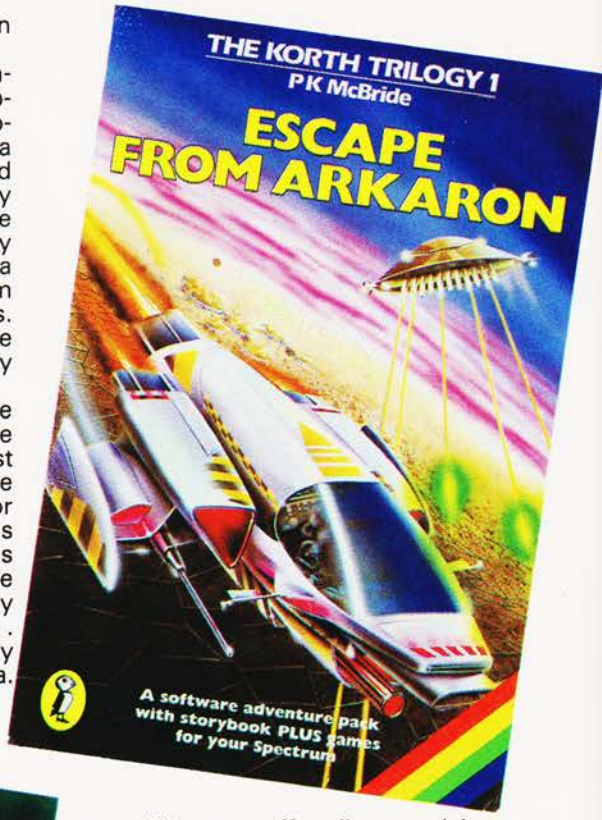
Runs on: Spectrum
Made by: Penguin
Price: £4.95 per pack

The three 'bookware' packs which comprise the Trilogy are concerned with the threat to Earth of the reptilian Korth civilisation.

Escape from Arkaron is accompanied by a cassette with three programs on it; Testrun, which is the program of a Simulator developed for a faster than light space craft called Space Drive 1 which features heavily throughout the trilogy; Prisoner where you have to free a fellow Interplanetary Patrol member, and Raid. Testrun is a low graphic, poor BASIC program which is basically just very tedious. Raid is a non-Real-time arcade-type game (imagine trying to play Jetpac by inputting up to six moves ahead).

Besieged! is where the Korth use robot space craft to lay seige to the Solar system. Parts of this book must be ongue in-cheek, as they are quite hilarious. For example, Professor Heron explaining the current crisis says: "There are certain similarities with some of the languages we have used. The point is, we have definitely found the GOTO command . . ." "So . . . you can sabotage the programs by writing in closed loops!" burst in Xenia. "Exactly," said the Professor, smiling. "We write in lots of lines saying 100 GOTO 100 3000 GOTO 3000 and a few that send the program back to some line at random". Captain Berry was a simple soldier and didn't understand. "But why not just destroy the command post?" he asked.

The three accompanying programs are: Simulator, Landfall, and Alpha. Landfall is a Lunar Lander type program which starts off easily enough but gets progressively harder as your craft develops fuel leaks, and you lose part of your controls. A nice rendering of an old favourite but even this program is spoilt by bugs.



Into the Empire is where Earth tries to turn the tables on the Korth, and is accompanied by three programs: Fog, Oldren and Empire. Will they succeed in their quest?, will Earth be saved? Does anyone care?

The programs are slow BASIC ones, one or two are good, but the majority are not really of commercial standard, and are simply boring. The books are probably good for a few hours entertainment for younger children. But I wouldn't go out and buy this one myself.

GRIDTRAP

Runs on: Commodore 64
Made by: Sumlock
Price: £8.95

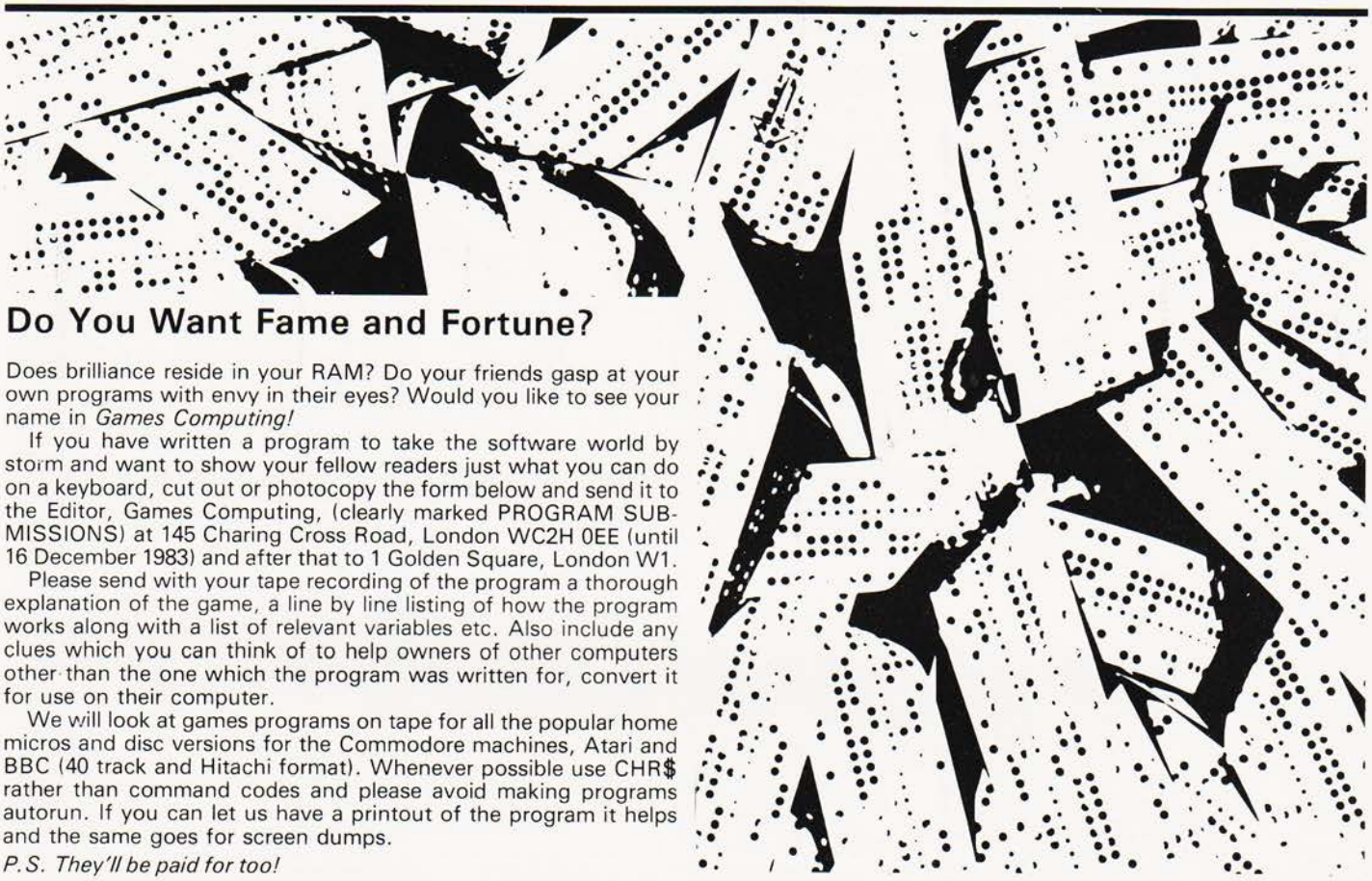
This is an action-packed game that is hard to switch off, for the simple reasons that the graphics and the presentation are so stunning.

At the start of the game there are a few pages of instructions which include the graphical display of the command keys with their associated functions. One very useful feature to note is the use of the 'F1' key to define the users preference of Control Keys.

The object of the game is to defuse the bombs displayed by travelling over

REVIEWS

PROGRAM SUBMISSIONS



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If you have written a program to take the software world by storm and want to show your fellow readers just what you can do on a keyboard, cut out or photocopy the form below and send it to the Editor, Games Computing, (clearly marked PROGRAM SUBMISSIONS) at 145 Charing Cross Road, London WC2H 0EE (until 16 December 1983) and after that to 1 Golden Square, London W1.

Please send with your tape recording of the program a thorough explanation of the game, a line by line listing of how the program works along with a list of relevant variables etc. Also include any clues which you can think of to help owners of other computers other than the one which the program was written for, convert it for use on their computer.

We will look at games programs on tape for all the popular home micros and disc versions for the Commodore machines, Atari and BBC (40 track and Hitachi format). Whenever possible use CHR$ rather than command codes and please avoid making programs autorun. If you can let us have a printout of the program it helps and the same goes for screen dumps.

P.S. They'll be paid for too!

★ PLEASE COMPLETE IN BLOCK CAPITALS

Your Name Age

Program Name

Computer/memory size it runs on

Amount of memory program occupies

Other computers/memory size which your program runs on

Does your game need joysticks? Yes No

Any known bugs? If so, what are they?

Have you sent your game to another magazine Yes No

Is it original/or a variation on a theme?

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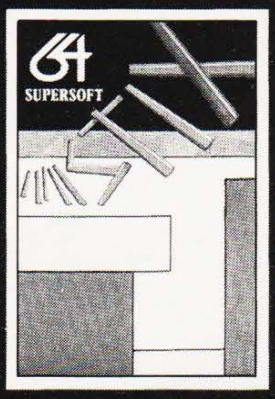

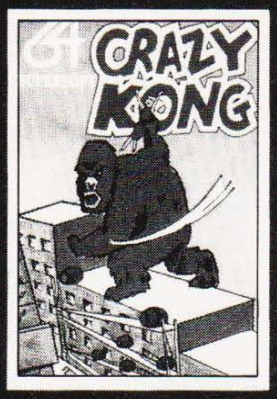

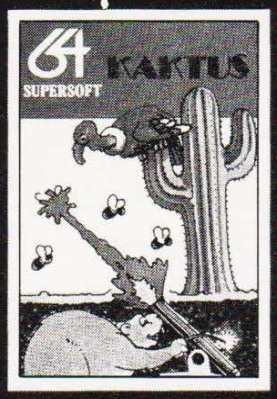

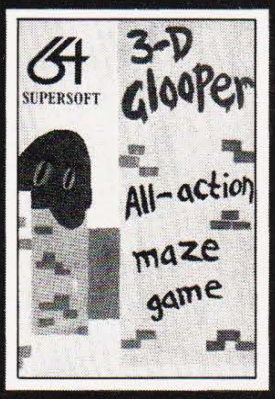

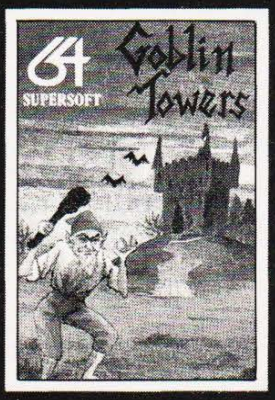

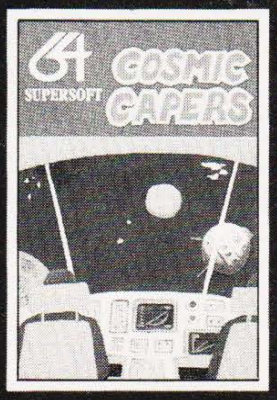

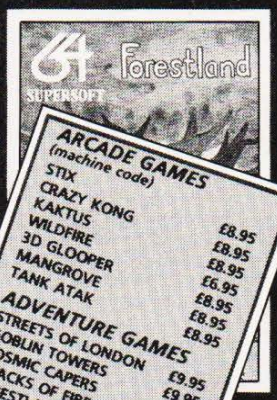

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PUZZLES

Spring is here and romance is in the air . . .

1 NAMING THE DAY

— — — G B I V

Add a boy's name in the missing space to produce a splash of fine rain and a dash of bright sunlight.

2 OPPOSITES ATTRACT

You know the rules — get from a to b in four steps that make sense —

HUGE

_____

_____

_____

_____

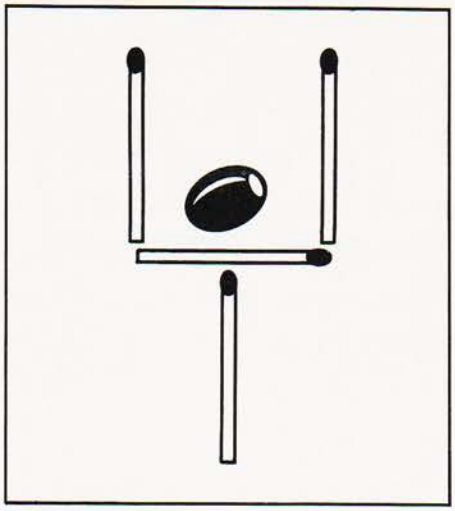
TINY

3 POPPING THE QUESTION

Ask a friend to think of any number under ten million (10,000,000). What is the maximum number of 'yes' or 'no' guesses you would require to identify the exact number? 10,000,000 offers an awful lot of possibilities but the answer is surprisingly small. Can you program your computer to handle this binary sorting?

4 PROPOSING THE TOAST

Arrange four matches to form the outline shape of a glass as shown. Now place an olive in the glass. If there are no olives to hand then use your imagination, or a marble or button. Moving two matches only, rearrange the glass so that the olive is outside.



5 ONE OVER THE EIGHT

The brother of an alcoholic died.
Yet the man who died had no brother.
How is this possible?

6 IN THE SPRING

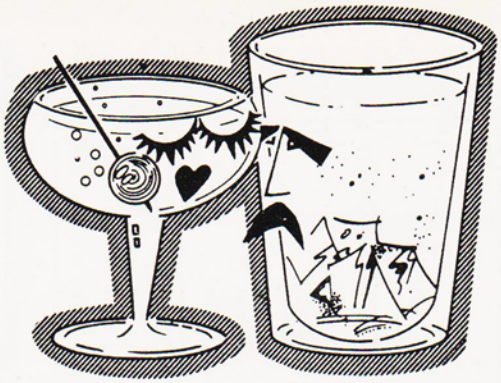
Crack the code and complete the crossword we have started for you. Twenty five letters of the alphabet are used. All words should make sense. When complete, the shaded area should spell out a special message for a certain magazine editor.

13	24	24	2	15	18	23	20	24	14
24	6	21	8	16	24	17	14	3	24
11	15	6	3	6	14	8	12	24	17
4	4	1	8	15	11	9	11	4	12
12	1	11	4	11	19	11	14	12	1
24	8	17	20	6	15	12	4	25	11
12	7	11	14	12	10	21	24	18	17
1 H	6	2	4	1	11	13	17	6	14
11	15	4	22	11	12	1	8	14	2
2	15	11	11	14	24	11	15 L	4	8
24	22	11	14	4	11	8	4	24	14
13	6	4	12	4	11	19	6	15	23 C
4	11	5	12	24	14	10	12	11	11

PUZZLES

7 TWO OVER THE EIGHT

For some rediculously silly reason you have a three pint container and a five pint container. What is the easiest way to measure one pint (without leaving a note for the milkman)? You have as much water, milk or champagne as you could possibly want.



8 ALL IN THE GAME

Hidden in the grid are the names of 24 board games — vertically, horizontally and diagonally — can you unscramble them?

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

9 LONG ENGAGEMENTS

Jumbo Jim, circus owner and ringmaster, arrived in Falkovia with an old proposition for the King. He wanted to hire the Royal Castle for a whole month, starting from April 1st, as a base for his strange and wondrous acts. Jumbo outlined his plans — elephants would roam the Great Hall, tigers would prowl the dungeons, and frollicking freely in the moat would be crocodiles. At this point Jumbo demanded a snap decision of the wily old king.

Being of a gambling disposition Jumbo offered a choice of payment for the considerable inconvenience that housing the circus would cause. But he insisted that the king choose one offer or the other within five seconds or the whole deal would be off and nobody would profit.

Jumbo would either pay 2500 Glucks a day, for each and every day for the month of April. (A gluck at current exchange rates is roughly equivalent to one pound sterling.)

Or, for the first day he would pay 1 Kippo, (100 Kippos = 1 Gluck.) For the second it would be 2 Kippos, 4 for the third day and so on, the amount doubling each day until the end of the month.

The king thought short and hard for five seconds and plumped for the former. The choice seemed good — in a month he would amass a tidy sum — enough to replenish his armoury and stock up on the latest poisons and instruments of torture to indulge his passions.

So, he and the entire retinue moved out to the home of his Chancellor, Pocklington — whose hospitality was abused for the next thrity days.

Did the king make the right choice?

How much did he accumulate?

And how much would the alternative have netted?

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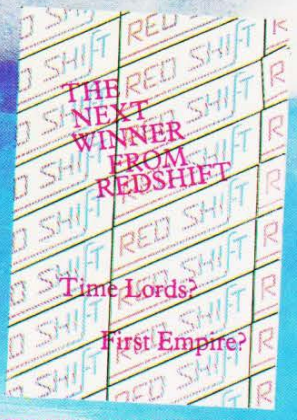

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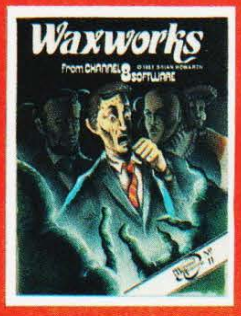

WAXWORKS

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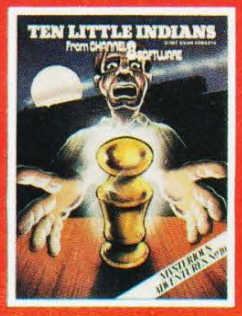

TEN LITTLE INDIANS

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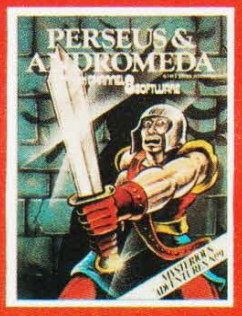

PERSEUS AND ANDROMEDA

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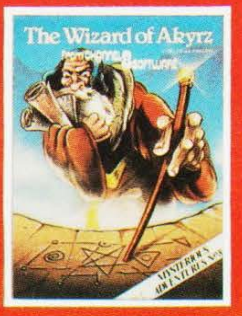

THE WIZARD AKYRZ

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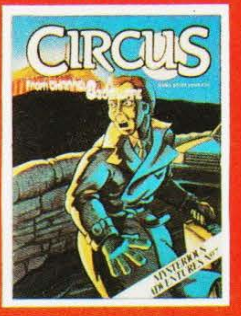

CIRCUS

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THE TIME MACHINE

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FEASIBILITY EXPERIMENT

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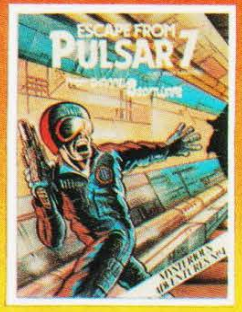

ESCAPE FROM PULSAR 7

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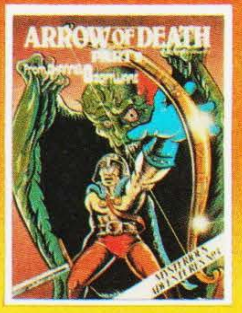

ARROW OF DEATH PART 2

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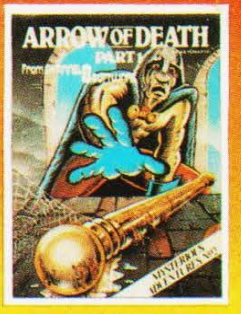

ARROW OF DEATH PART 1

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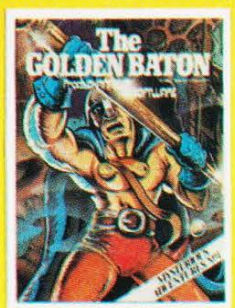

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VIDEO VIEWING

Space Shuttle

Runs on: Atari VCS
Made By: Activision
Price: £29.95

In this game you control a space shuttle and your mission is to launch, rendezvous and dock with a satellite as many times as you can, using the minimum of fuel, and then return safely to earth.

Two training flights may be taken and then it is the real thing! In the Flight Manual provided there is a launch checklist which has to be made before take-off, but after launching the first objective when you enter orbit is to bring the nose of the shuttle down so it is in line with the satellite. The next task is to open the cargo bay doors, otherwise heat builds up.

Shuttle speed and position is the next job so that docking is made possible. A docking sequence is printed in the Flight Manual, including tips to make it easier. After successfully docking with the satellite, the shuttle has to be turned round, the engines fired and decelerated to the right speed. There is a de-orbit sequence in the booklet too.

More manoeuvres have to be done to re — enter the atmosphere; position, altitude, velocity and heading must all be exact to manage the heat build up and correctly position the shuttle for the final approach.

To land at Edwards Air Force Base, descent is critical. Sounds are heard at this stage of the mission, including a sonic boom and the screeching of tyres.

Problems that you may come up against when you are flying are printed in the back of the booklet, together with their solutions. Also, ranks that you may achieve and 'Earning Your Wings' — if you achieve the sixth and final docking with the satellite with a certain number of fuel units left, you can send off for an 'Official Pilot Patch'. useful acronyms and a glossary are also printed.

Graphics are good and also the scene from the shuttle window bounces up and down and gives the effect of movement. There is plenty of noise and colour — the sky becomes lighter and lighter as you get nearer to earth, for example. There are also plenty of dials for trainee astronauts to look at.

One criticism of this game I have is that there should be some way of halting the action as you have to keep looking at the instructions to remind yourself of all the rules and regulations of being a pilot. After much practise there will be no need to do this of course, but in the meantime it is rather monotonous and spoils the game.

Every person who likes playing at spacemen will love this game, although they will need a lot of training to become accomplished astronauts.

Smurf

Runs on: Atari VCS
Made by: CBS Electronics
Price: £29.95

In this game the baddy, Gargamel, has captured Smurfette. You must reach the castle avoiding dangers and rescue her, you being a nimble-footed smurf.

Your first mission after coming out of your mushroom house, is to go through a forest. The forest is dangerous because Gargamel can send out his creatures or play tricks on you, so beware!

You can retrace your steps if you see dangers and go back towards your mushroom house, but some creatures may follow you. When creatures do come out, the right kinds of jumps or ducks have to be made to avoid them.. Short jumps bounce Smurf straight up so he can dodge hawks and bats. Walking then jumping quickly makes a bigger jump. Jumping quickly twice in a row makes the second jump even higher.

If Smurf falls or is knocked down then he may feel too tired to travel farther. Then another Smurf must try to save Smurfette from Gargamel. There is an energy level indicator on the screen and it drops low

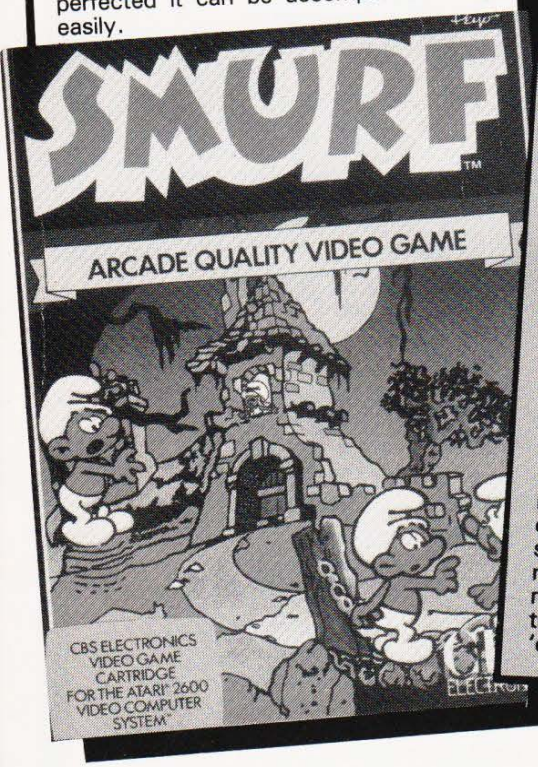
when Smurf's feeling tired after walking a long way, but as soon as he enters a new land his energy is restored.

If Smurf reaches the castle he has to jump on to a chair and then a table, and then finally on to a shelf where Smurfette is guarded by a bat. Points are awarded for jumping over obstacles and for reaching Smurfette. If you earn 10,000 points in a game, you win an extra Smurf.

This a colourful game, but the graphics are not as good as the Colecovision 'Smurf'. For example, Smurf's house does not look like a mushroom in this version. There is music playing all the way through the game which is very similar to the Colecovision version's tune.

There are more dangers in the Atari game, including rivers where Smurf could drown just leaving his hat poking out of the water. Another nice touch is that when Smurf finally reaches his beloved Smurfette a red heart appears over the both of them.

Skill level one is easy, probably for younger games addicts, as there are no creatures out to get you. Level four, the highest level, is difficult, although after much practise when your timing has been perfected it can be accomplished fairly easily.



Snoopy

Runs on: Atari VCS
Made by: Atari
Price: £19.95

In this game you are Snoopy, the Red Baron is firing at you and you have to try and capture foods that the Red Baron drops.

There are sounds all the way through the game — one sound gets higher and lower as the Red Baron's plane gets higher and lower. The graphics are very good, for example Snoopy has a little scarf around his neck, which stretches out behind him in the wind as he flies along his red and white kennel.

On the screen there are hills, clouds and a vivid blue sky. There are several different skill levels, which have different numbers of Snoopys and different numbers of planes that have to be shot down. If the fire button is pressed down, Snoopy can fire at the Red Baron. The plane flashes yellow when it is hit and after it has been hit a number of times it falls to the ground when the lower part of the screen flashes different colours.

If the Red Baron hits your kennel, a bullet hole appears. Once a line of these holes appears, Snoopy and his kennel falls to the ground and another Snoopy has to carry on with the fight. Snoopy automatically loses all the things he has collected — these could include bones, cream buns, pints of lager, popcorn, lollies or hamburgers.

The Red Baron alsp drops a skull occasionally if Snoopy catches these he accidently loses all his food.

Once you shoot down a plane a small one appears at the bottom of the screen and a new one flies in from the background, this is the next one that you have to shoot at. Once you have destroyed all the planes that you are supposed to, the score sheet will appear, this shows the number of points you have gained and clear colourful pictures of, the items you have gained.

This game is good fun to play and all ages will enjoy it, especially the young, as it is very colourful and features a cartoon character. it is also fairly easy to play and lasts for a long time because of the many different foods to collect and planes to shoot down, although, perhaps, because it never seems to end it becomes a bit monotonous after a while. All in all though this game is much more than the average 'dog' fight.

Decathlon

Runs on: Atari VCS
Made by: Activision
Price: £29.95

This ia a very tiring game on the wrist as you have to move the joystick left and right to make the athelete run. One to four people can play this game, but you can practice a heat on your own. This game is an Olympic Games appetiser.

The first heat you come up against is the 100 metres; you have just a single attempt on this, to sprint from start to finish, by shooting out of the starting blocks and giving it all you have by moving the joystick left and right. Long jump is next, three attempts to jump as far as you can, run, and then just before the scratch line press the fire button to jump. If you cross the scratch line disqualification for that attempt is enforced.

In the shot-put contestants put the shot three times; run up to the scratch line and press fire. The high jump event is next; you have three attempts at each height and your turn ends when the same height is missed three times. The 400 metres race is next; as in the 100 metres sprint move the joystick as fast as possible. The faster the race is completed, the more points you will earn. For the 110 metres hurdles, ten hurdles have to be jumped over, you are not disqualified for knocking one over, but it does slow you down so possible points are lost. The discus throw is like the shot-put, because you run up to the scratch line and press fire.

Pole vaulters may attempt each height three times; your turn ends when all three attempts fail at the same height. Plant the pole by pressing fire and continue moving the joystick as you fly through the air, then release the pole at the peak of your vault by pressing fire. Three throws are allowed in the javelin event and the final heat is the 1500 metres race, each decathelete gets one chance in in this exhausting event.

At the start of the game an athelete carries a torch around the track and a musical tribute can be heard when you reach 1000 points. A good instruction booklet is provided which includes the section which states the number of points you have to achieve to be awarded a bronze, silver or gold medal. Also tips from an Activision designer are included

Although after a while your wrist aches, overall this is a good game for any would-be athelete who dreams of taking part in the Olympics.

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WHAT THE EXPERTS SAY

Its wealth of detail is amazing. One of the busiest games for a long time. The graphics are really excellent, well drawn and animated. A complicated, demanding game which I can't see losing its appeal for a long time. Krakatoa is both addictive and hard to play. It takes ages to get any good and the scope for getting better scores each time is enormous — very good, highly recommended. Game of the month.
"Crash Micro"

An amazing piece of programming, a great program. A year ago we would not have believed it was possible to do this.
"Software Supermarket

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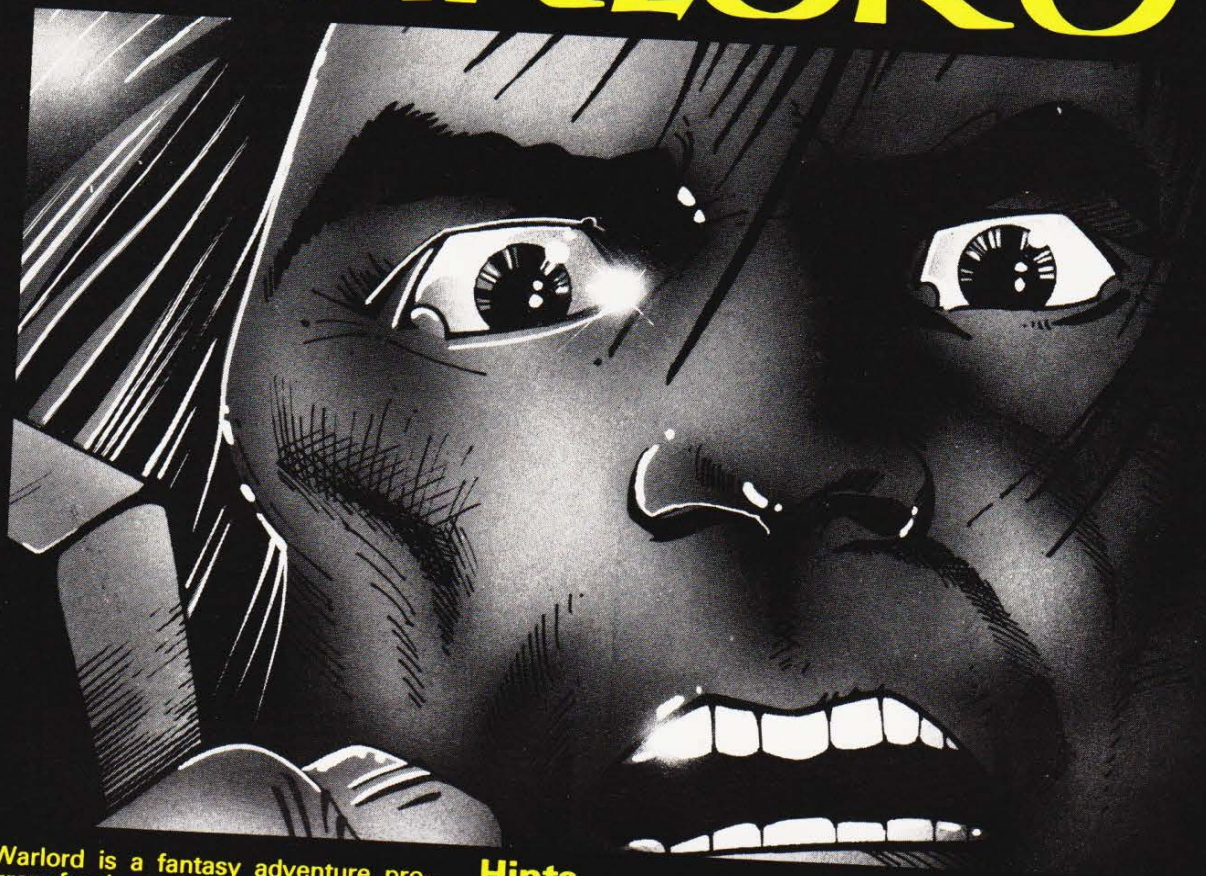
WARLORD

RUNS ON VIC-20 + 8K



Warlord is a fantasy adventure program for the Commodore 64 or VIC 20 with at least 8K memory expansion.

The idea behind Warlord is to recover some gold that a giant has stolen, on the way you will encounter a dragon, a dwarf, a wizard, and many other things that are either dangerous or helpful.

Hints

There are only three or four ways to die, so don't be scared to do something that you think is dangerous, you can always start the game again.
Everything has a use.
When in doubt be nice.
Don't annoy the dwarf.
Don't strain yourself.

Armed with these five gems of wisdom you should be able to survive long enough to get to the giant. Of course you could always shout for help, but no seasoned adventurer would do that, would he?

```
100 GOSUB2040
110 PRINT"□":RESTORE
120 GOSUB2330
130 PRINT"□":ONAGOSUB1600,1630,1670,1710,1750,1790,1820,1880,1910,
    1950,1980,2010
140 PRINTLO$:PRINTLA$
150 FORN=1TO9
160 IFOB(N)=ATHENPRINTOB$(N)
170 NEXT:PRINT
180 INPUT"OHAT SHALL ↘ DO NOW";I$:PRINT"□"
190 FORB=1TOLEN(I$)
200 IFMID$(I$,B,1)<>CHR$(32)THENNEXT
210 A$=LEFT$(I$,(B-1))
220 IFLEN(A$)=1THEN260
230 C=LEN(I$)-B
240.IFC<=0THENPRINTA$;" OHAT?":GOTO180
250 B$=RIGHT$(I$,C):GOTO330
260 IFA$="N"ANDNO<>0THENA=NO:GOTO130
270 IFA$="S"ANDSO<>0THENA=SO:GOTO130
280 IFA$="W"ANDWE<>0THENA=WE:GOTO130
290 IFA$="E"ANDEA<>0THENA=EA:GOTO130
300 IFA$="I"THEN500
310 IFA$="H"THEN550
320 IFA$="L"THENPRINT"↘ SEE NOTHING SPECIAL":GOTO130
330 IFA$="TAKE"ORA$="GET"THEN590
340 IFA$="LEAVE"ORA$="DROP"THEN750
350 IFA$="EXAMINE"THEN790
360 IFA$="LIGHT"THEN840
370 IFA$="CHOP"THEN940
380 IFA$="BUY"THEN1070
390 IFA$="CAST"THEN1130
400 IFA$="OPEN"THEN1220
410 IFA$="UNSCREW"THEN1300
420 IFA$="FEED"THEN1350
430 IFA$="CUT"THEN1440
440 IFA$="UNLOCK"THEN1490
```

The game follows the standard adventure format using two words, a noun and a verb, so you can say things like 'get dagger'. This system, despite its funny sounding syntax, is quite intelligible once you get used to it.

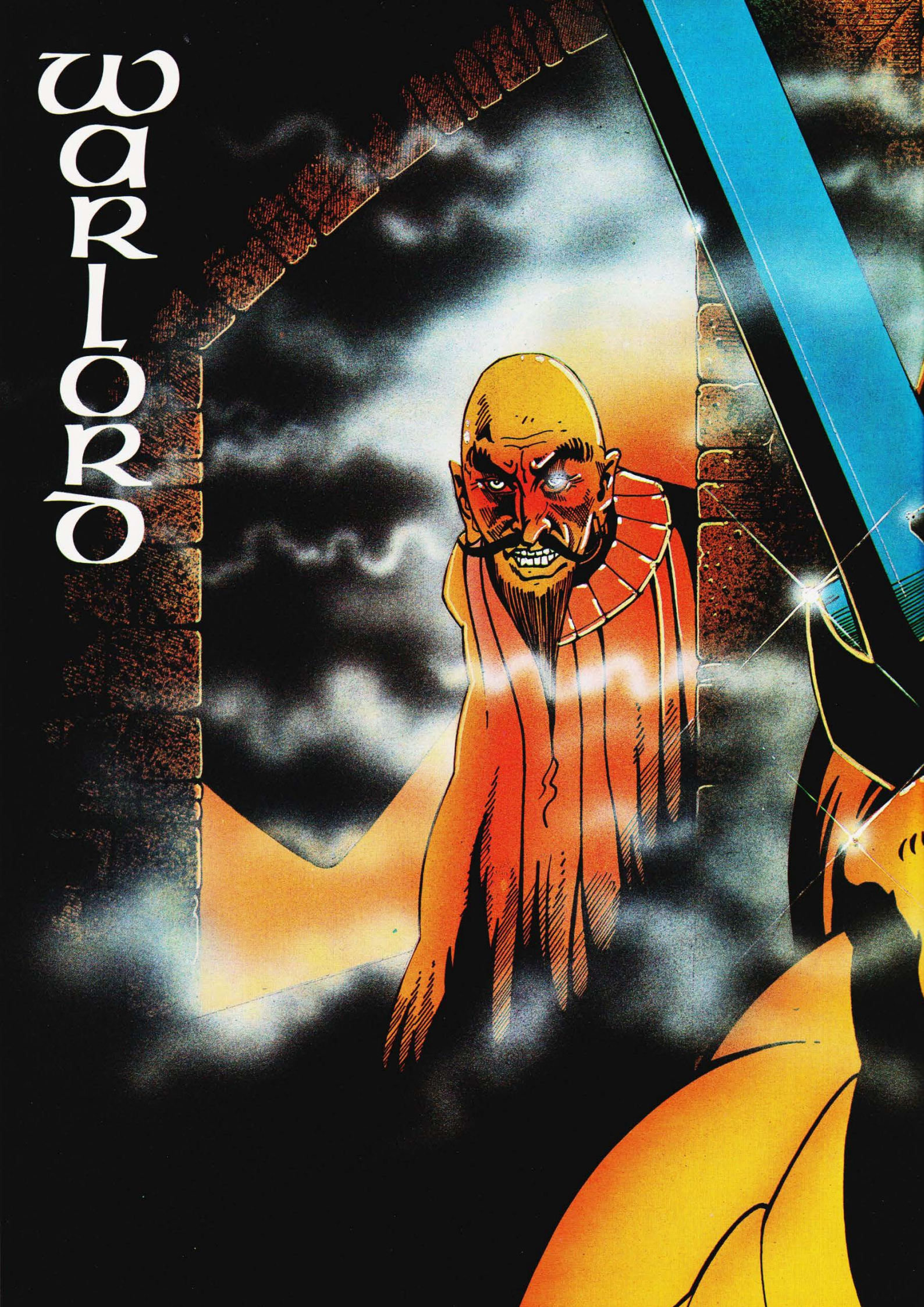
Words understood

N, S, E, W (for the directions North, South, East, and West), I(Inventory), H(Help), L(Look), Q(Quit), Take, Get, Leave, Drop, Examine, Light, Chop, Buy, Cast, Open, Unscrew, Feed, Cut, Unlock, Climb, and Jump.

Conversion clues

The game is compatible with the VIC and the '64, but the VIC may need some adjustment of the screen output to fit its 22 column screen.

This program will run on most computers that use Microsoft type BASIC if the Commodore specific parts are left out. There are not many of these, the reverse field symbols are to do with screen formating and should be converted for your particular computer. Lines 2120, 2200, 2320 wait for a key to be pressed and then proceed, as is line 2540.


WARLORD

```
450 IFA$="CLIMB"THENPRINT"↘'M SCARED OF HEIGHTS!":GOTO180
460 IFA$="JUMP"THEN1570
470 IFA$="Q"THENRUN
480 IFLEN(A$)=1THENPRINT"↗OT THAT WAY.":GOTO180
490 PRINT"↘ DON'T UNDERSTAND ";A$:GOTO180
500 FORN=1TO9
510 IFOB(N)<>0THENNEXT:GOTO180
520 PRINTOB$(N)
530 N=N+1:IFN<9THEN510
540 GOTO180
550 IFA=3THENPRINT" HAVE YOU LIT A FIRE FOR HIM ?":GOTO180
560 IFA=4THENPRINT"↑IMBER!!!!":GOTO180
570 IFA=9THENPRINT"┳ERHAPS HE'S HUNGRY?":GOTO180
580 PRINT"*ORRY BUT ↘ HAVN'T GOT A CLUE!":GOTO180
590 CT=0:FORI=1TO9:IFOB(I)=0THENCT=CT+1
600 NEXT:IFCT<4THEN640
610 IFBB=0THENPRINT"↘ CAN'T CARRY THAT MUCH!!!":BB=1:GOTO180
620 IFBB=1THENPRINT"↘Y BACK IS HURTING":BB=2:GOTO640
630 IFBB=2THENPRINT" OU HAVE BROKEN MY BACK":GOTO2360
640 IFB$="BOX"ORB$="LOG"ORB$="BARREL"ORB$="CHEST"THENPRINT"↘ CAN'T IT'S TO HEAV
Y":GOTO180
650 IFB$="KEY"ANDKEY=1THENPRINT"↘ CAN'T IT'S TIED TO SOMETHING":GOTO180
660 IFB$="SILVER"ANDDWANDKLTHENPRINT"↑HE DWARF GETS ANNOYED AND KILLS YOU!!":GO
T
670 IFB$="SILVER"ANDDWTHENPRINT"THE DWARF IS GRUMPY AND WILL NOT LET YOU!":KL=1
:GOTO180
680 IFA=5ANDGI=1THENPRINT"↑HE GIANT WON'T LET ME":GOTO180
690 IFB$="FIRE"THENPRINT"┌WW ↘'VE BURNT MYSELF TO DEATH!":FORT=1TO3000:NEXT:GOT
700 FORN=1TO9:IFOB(N)<>ATHEN:NEXT
710 IFOB$(N)=B$THENPRINT"OK":OB(N)=0:GOTO180
720 IFN=10THEN740
730 NEXT
740 PRINT"↘T'S NOT HERE!":GOTO180
750 FORN=1TO9
760 IFOB$(N)=B$ANDOB(N)=0THENPRINT"OK":OB(N)=A:GOTO180
770 NEXT
780 PRINT"↘'M NOT CARRYING IT!":GOTO180
790 IFA=6ANDBA=1ANDB$="BARREL"THENPRINT"↑HE LID IS SCREWED ON!"
800 IFA=6ANDBA=0ANDB$="BARREL"THENPRINT"*HOULD ↘ OPEN IT AND LOOK?"
810 IFA=12ANDKE=1ANDB$="KEY"THENPRINT"IT'S TIED TO AN IRON  RING-BOLT WITH STRI
NG":GOTO180
820 IFA=12AND(KE=0OROB(8)=12)THENPRINT"THE STRING IS CUT ALL I NEED DO IS TAKE
THE KEY
830 PRINT"↘ SEE NOTHING SPECIAL":GOTO180
840 IFOB(6)<>0THENPRINT"OHAT WITH?":GOTO180
850 IFB$="FIRE"ORB$="KINDLING"THEN1170
860 IFB$="MATCHES"THENPRINT"LIGHT THEM ONE AT A TIME":GOTO180
870 IFB$<>"MATCH"THENPRINT"↑HAT WILL NOT LIGHT":GOTO180
880 MT=MT-1:IFMT=0THENPRINT"↑HAT'S YOUR LAST MATCH":OB$(6)="":OB$(6)=A
890 PRINT"MATCHES DO NOT LAST    VERY LONG!"
900 IFA=7THENA=11:GOTO130
910 IFA=8THENA=11:GOTO130
920 IFA=10THENA=12:GOTO130
930 PRINT"↗OTHING HAPPENED BUT ↘ DID BURN MY FINGERS!":GOTO180
940 IFOB(7)<>0THENPRINT"OHAT WITH?":GOTO180
950 IFB$="TREE"ANDA<>4THENPRINT"↑HERE ARE NO TREES CLOSE ENOUGH":GOTO180
960 IFB$="TREE"ANDRA=0THENPRINT"↑HERE ARE NO TREES TO CHOP HERE":GOTO180
970 IFB$="TREE"THENPRINT"┌K TIMBER CRASH!":RA=0:GOTO130
980 IFB$="LOG"ANDA<>1THENPRINT"OHAT LOG?":GOTO180
990 IFB$="LOG"ANDOB$(3)<>"LOG"THENPRINT"↗O LOG LEFT":GOTO180
1000 IFB$="LOG"THENPRINT"┌K ↘'VE CHOPED IT UP":OB$(3)="KINDLING":GOTO180
1010 IFB$="BOX"ANDA<>5THENPRINT"OHAT BOX?":GOTO180
1020 IFB$="BOX"ANDA=5ANDGI=1THENPRINT"↑HE GIANT WILL NOT LET ME":GOTO180
1030 IFB$="BOX"ANDA=5THENPRINT"↗O POINT IT'S NOT LOCKED":GOTO180
1040 IFB$="BARREL"ANDA<>6THENPRINT"OHAT BARREL?":GOTO180
1050 IFB$="BARREL"THENPRINT"↘T'S TO WELL BUILT TO CHOP":GOTO180
1060 PRINT"↘ CAN'T CHOP THAT":GOTO180
1070 IFOB(9)<>0THENPRINT"OHAT WITH.":GOTO180
1080 IFB$<>"SPELL"THENPRINT"↘T'S NOT FOR SALE":GOTO180
1090 IFA<>2THENPRINT"↘T'S NOT HERE":GOTO180
1100 IFMA=0THENPRINT"↘T'S NOT HERE":GOTO180
1110 PRINT"┌K THE MAGICIAN SELLS YOU THE SPELL AND HE DISSAPEARS!"
1120 MA=0:OB$(9)="":OB(9)=A:OB$(5)="SPELL":OB(5)=0:GOTO180
1130 IFOB(5)<>0THENPRINT"↘ DON'T HAVE IT":GOTO180
1140 IFA=5THENPRINT"┌K THE GIANT IS ASLEEP":GI=0:OB$(5)="":OB(5)=1:GOTO180
1150 IFA=9THENPRINT"┌K THE DRAGON IS ASLEEP":DR=0:OB$(5)="":OB(5)=EA=10:GOTO180
1160 PRINT"┌K, IT SEEMS TO HAVE NO EFFECT":OB$(5)="":OB(5)=A:GOTO180
1170 IFOB(3)<>0THENPRINT"↑HERE'S NOTHING ↘ CAN LIGHT ":GOTO180
1180 PRINT"┌K, ↘'VE LIT A FIRE":OB$(3)="FIRE":OB(3)=A
1190 IFA=3THENDW=0
1200 MT=MT-1:IFMT=0THENPRINT"↑HAT'S MY LAST MATCH":OB$(6)="":OB(6)=A
1210 GOTO180
1220 IFB$="BARREL"ANDA<>6THENPRINT"OHAT BARREL?":GOTO180
1230 IFB$="BARREL"ANDBA=1THENPRINT"↘ CAN'T THE LID IS SCREWED ON TIGHT":GOTO180
1240 IFB$="BARREL"ANDBA=0THENPRINT"┌K I'VE OPENED IT":OB$(4)="FOOD":GOTO180
1250 IFB$="BOX"ANDGI=1THENPRINT"↑HE GIANT WON'T LET ME":GOTO180
1260 IFB$="BOX"THENPRINT"┌K ↘'VE OPENED IT":OB$(1)="DAGGER":OB$(2)="SCREWDRIVER
"
1270 IFB$="CHEST"ANDA<>5THENPRINT"OHAT CHEST?":GOTO180
1280 IFB$="CHEST"THEN2420
1290 PRINT"OHAT ARE YOU TALKING ABOUT.":GOTO180
1300 IFA$="BARREL"ANDA<>6THENPRINT"OHAT BARRREL?":GOTO180
1310 IFB$="BARREL"ANDOB(2)<>0THENPRINT"OHAT WITH?":GOTO180
1320 IFB$="LID"ANDOB(2)<>0THENPRINT"OHAT WITH?":GOTO180
1330 IFB$="BARREL"ORB$="LID"THENPRINT"┌K ↘'VE UNSCREWED IT":BA=0:GOTO180
1340 PRINT"↘ DON'T UNDERSTAND":GOTO180
1350 IFOB(4)<>0THENPRINT"↘'VE GOT NO FOOD! ":GOTO180
1360 IFB$="DRAGON"ANDA<>9THENPRINT"OHAT DRAGON? ":GOTO180
1370 IFB$="DRAGON"THENPRINT"↖UNCH ↖UNCH ↖UNCH":DR=0:EA=10:GOTO180
1380 IFB$="GIANT"ANDA<>5THENPRINT"OHAT GIANT ":GOTO180
1390 IFB$="GIANT"THENPRINT"MUNCH MUNCH MUNCH":OB$(4)="":OB(4)=A:GOTO180
```

WARLORD

RUNS ON VIC-20+8K

```
1400 IFB$="DWARF"ANDA<>3THENPRINT"OHAT DWARF?":GOTO180
1410 IFB$="DWARF"THENPRINT"MUNCH MUNCH MUNCH":OB$(4)="":OB(4)=A:GOTO180
1420 PRINT"DISCOVERED THE MISSING GOLD"
1430 PRINT"ARDON?":GOTO180
1440 IFB$="STRING"ANDA<>12THENPRINT"OHAT STRING?":GOTO180
1450 IFB$="STRING"ANDOB(1)=0THENPRINT"K \'VE CUT IT":KE=0:GOTO180
1460 IFB$="STRING"ANDOB(7)=0THENPRINT"HE AXE IS TO BLUNT":GOTO180
1470 IFB$="STRING"THENPRINT"\'VE NOTHING TO CUT IT WITH":GOTO180
1480 PRINT"\ CAN'T CUT THAT":GOTO180
1490 IFB$="BOX"ANDA<>5THENPRINT"OHAT BOX?":GOTO180
1500 IFB$="BOX"THENPRINT"\T'S NOT LOCKED" GOTO180
1510 IFB$="BARREL"ANDA<>6THENPRINT"OHAT BARREL?":GOTO180
1520 IFB$="BARREL"THENPRINT"\T'S NOT LOCKED EXAMINE IT!":GOTO180
1530 IFB$="CHEST"ANDA<>5THENPRINT"OHAT CHEST?":GOTO180
1540 IFB$="CHEST"ANDOB(8)<>0THENPRINT"\ HAVEN'T GOT A KEY":GOTO180
1550 IFB$="CHEST"THENPRINT"LICK!":CH=0:GOTO180
1560 PRINT"NLOCK WHAT?":GOTO180
1570 IFB$="RAVINE"ANDA<>4THENPRINT"OHAT RAVINE?":GOTO180
1580 IFB$="RAVINE"THENPRINT"K HERE WE GO OH NO IT'S TO FAR!":FORT=1TO3000:NEXT

1590 PRINT" OU'RE LIVING IN A FANTASY!":GOTO180
1600 LO$="\'M IN A WOOD"
1610 LA$="HERE IS A CAVE TO THE NORTH."
1620 NO=6:SO=2:WE=4:EA=0:RETURN
1630 LO$="\'M IN A CLEARING IN A WOOD,THERE IS A  HUT TO THE EAST"
1640 IFMA=1THENLA$="HERE IS A MAGICIAN  HERE WITH A SPELL  FOR SALE"
1650 IFMA=0THENLA$=""
1660 NO=1:SO=0:WE=0:EA=3:RETURN
1670 LO$="\'M INSIDE A SMALL HUT"
1680 IFDW=1THENLA$="HERE IS A COLD DWARF"
1690 IFDW=0THENLA$="HERE IS A WARM DWARF"
1700 NO=0:SO=0:WE=2:EA=0:RETURN
1710 LO$="\'M ON THE EDGE OF A DEEP RAVINE"
1720 IFRA=1THENLA$="HERE IS A LARGE TREE OVERHANGING THE  RAVINE":WE=0
1730 IFRA=0THENLA$="HERE IS A RECENTLY FELLED TREE ACROSS THE RAVINE.":WE=5
1740 NO=0:SO=0:EA=1:RETURN
1750 LO$="\'M IN A FIELD, THERE IS A LARGE BOX AND A CHEST"
1760 IFGI=1THENLA$="HERE IS A GIANT HERE GUARDING IT"
1770 IFGI=0THENLA$="HERE IS A SLEEPING GIANT"
1780 NO=0:SO=0:WE=0:EA=4:RETURN
1790 LO$="\'M IN A CAVE THERE IS AN OPENING IN THE EAST WALL."
1800 LA$="HERE IS A BARREL ON THE GROUND"
1810 NO=0:SO=1:WE=0:EA=7:RETURN
1820 LO$="\'M AT THE ENTRANCE TO A TUNNEL"
1830 LA$="\T'S TO DARK TO SEE"
1840 NO=0:SO=0:WE=6:EA=0:RETURN
1850 LO$="\'M AT THE ENTRANCE TO A TUNNEL"
1860 LA$="\T'S TOO DARK TO SEE"
1870 NO=0:SO=0:WE=0:EA=9:RETURN
1880 LO$="\'M AT THE ENTRANCE TO A TUNNEL"
1890 LA$="\T'S TO DARK TO SEE"
1900 NO=0:SO=0:WE=0:EA=9:RETURN
```

```
1910 LO$="\'M IN A LIGHT AIRY CAVERN. \ CAN SEE A DARK ALCOVE EAST"
1920 IFDR=1THENLA$="HERE IS A DRAGON IN THE WAY":EA=0
1930 IFDR=0THENLA$="HERE IS A SLEEPING DRAGON":EA=10
1940 NO=0:SO=0:WE=3:RETURN
1950 LO$="\T'S TOO DARK TO SEE IN THE ALCOVE"
1960 LA$=""
1970 NO=0:SO=0:WE=9:EA=0:RETURN
1980 LO$="\'M INSIDE A TUNNEL"
1990 LA$="HERE ARE EXITS EAST AND WEST"
2000 NO=0:SO=0:WE=7:EA=8:RETURN
2010 LO$="HERE DOESN'T SEEM TO BE A LOT HERE!"
2020 LA$=""
2030 NO=0:SO=0:WE=9:EA=0:RETURN
2040 PRINT"C**********************"
2050 PRINT"**********************"
2060 PRINT"**                    **"
2070 PRINT"**      O             **"
2080 PRINT"**                    **"
2090 PRINT"**********************"
2100 PRINT"**********************"
2110 PRINT"WHEN READY PRESS A KEY"
2120 POKE198,0:WAIT198,1:POKE198,0
2130 PRINT"ALL THE FOLLOWING MUST BE ENTERED AS SINGLE LETTERS."
2140 PRINT"NORTH                 SOUTH"
2150 PRINT"WEST                  EAST"
2160 PRINT"LOOK                  HELP"
2170 PRINT"INVENTORY             QUIT"
2180 PRINT:PRINT
2190 PRINT"WHEN READY PRESS A KEY"
2200 POKE198,0:WAIT198,1:POKE198,0
2210 PRINT""
```

```
2220 PRINT"**********************"
2230 PRINT"*                    *"
2240 PRINT"*                    *"
2250 PRINT"*    AN YOU FIND     *"
2260 PRINT"*                    *"
2270 PRINT"*  HE MISSING GOLD   *"
2280 PRINT"*                    *"
2290 PRINT"*                    *"
2300 PRINT"**********************"
2310 PRINT"WHEN YOU ARE READY PRESS A KEY"
2320 POKE198,0:WAIT198,1:POKE198,0:RETURN
2330 FORN=1TO9:READOB$(N),OB(N):NEXT
2340 DATA" ",5," ",5,LOG,1," ",6," ",2,MATCHES,3,AXE,11,KEY,12,SILVER,3
2350 A=1:GI=1:RA=1:MA=1:DW=1:DR=1:KE=1:MT=6:BA=1:CH=1:KL=0:RETURN
2360 PRINT"WHAT WASN'T VERY SMART"
2370 PRINT"ANOTHER GO Y/N?"
2380 GETA$:IFA$=""THEN2380
2390 IFA$="Y"THENRUN110
2400 IFA$="N"THENPRINT"":END
2410 GOTO2380
2420 PRINT"    HE CHEST IS FINALLY OPEN AND YOU"
2430 PRINT"           DISCOVERED THE LOST GOLD"
2440 PRINT"                 ELL DONE!"
2450 POKE198,0:WAIT198,1
2460 PRINT"":END
READY.
```

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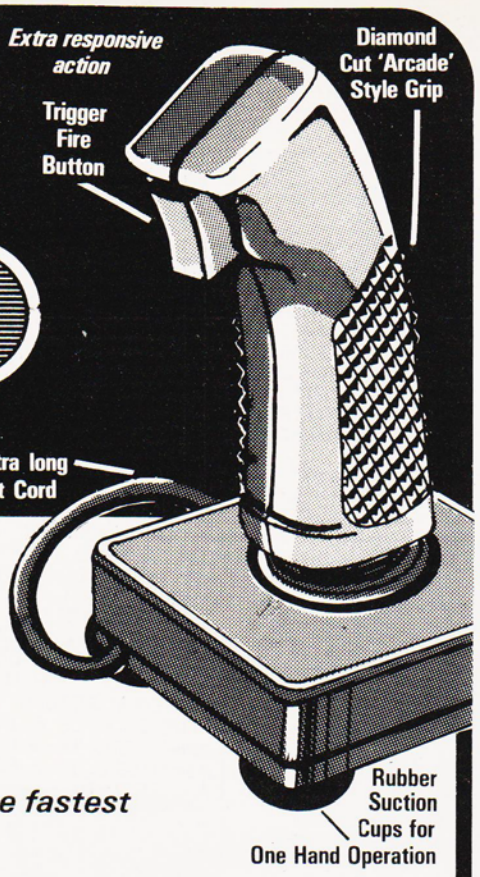

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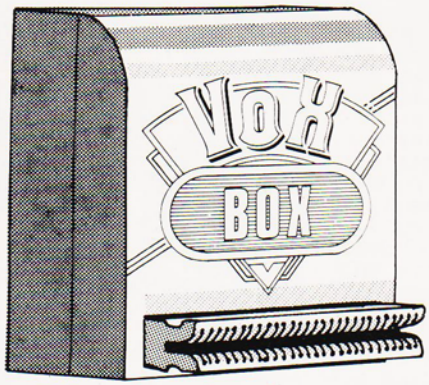

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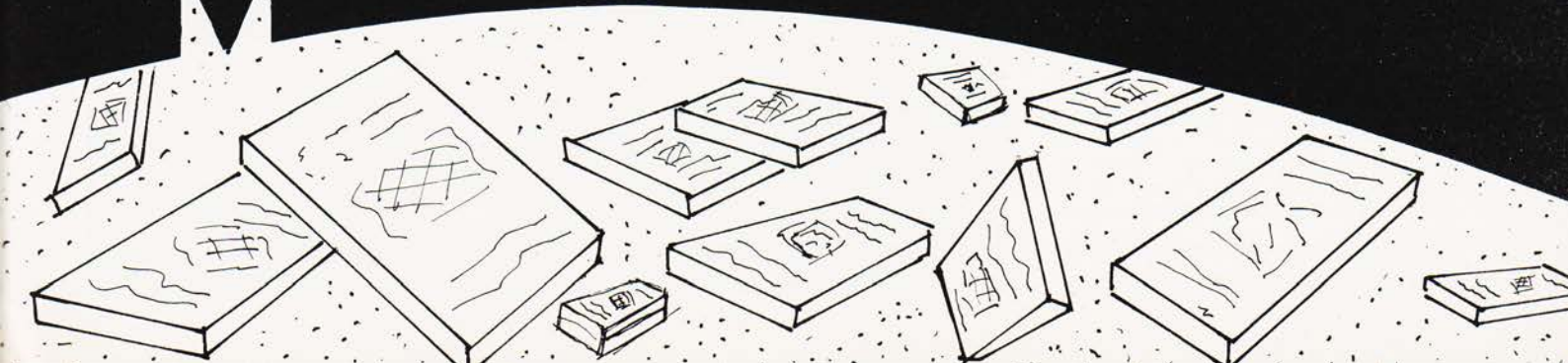
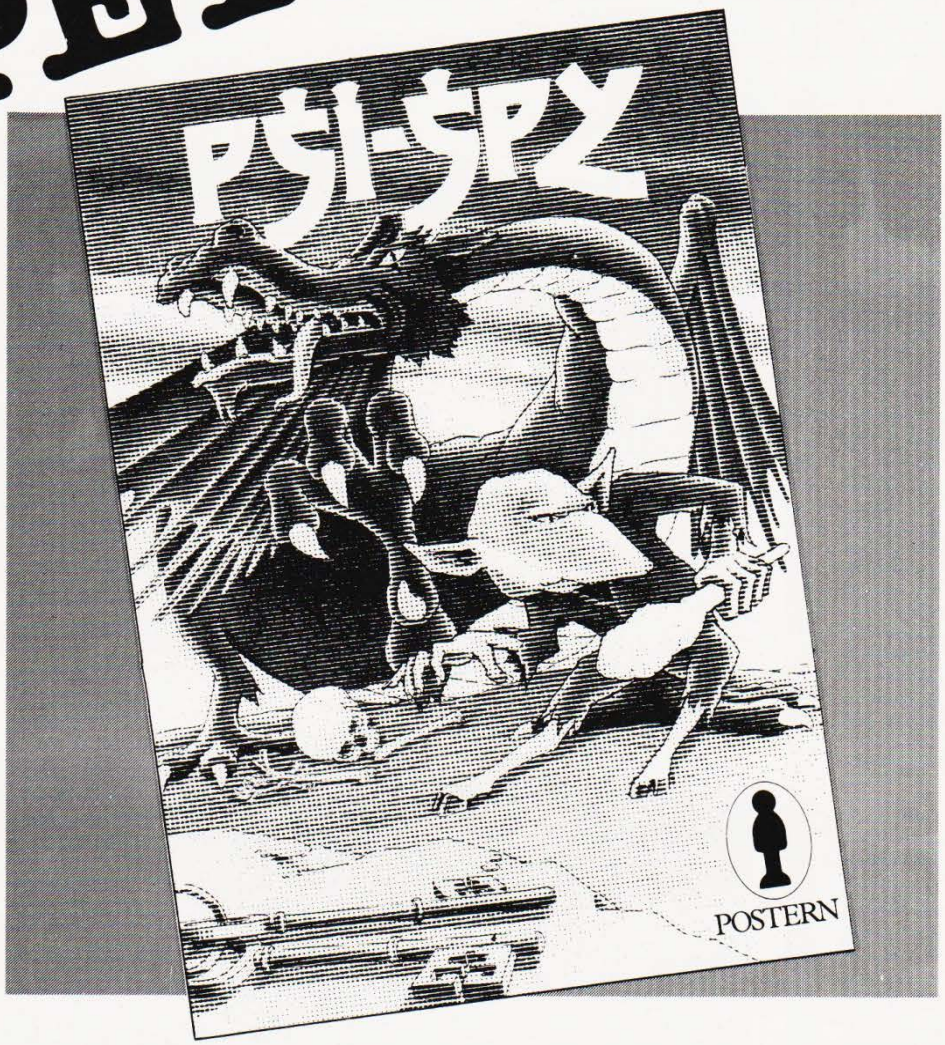


COMPETITION



O.K. you gang. Do you want bigger and better things out of your computer? Well, in conjunction with top games software maker **Postern** we are giving you the chance to win a Commodore 64 home compouter.

This is surely an opportunity *not* to be missed. Many people are billing the Commodore 64 to be *the* computer of '84 and software sales certainly reflect this belief. The reason that this machine is fast becoming so popular is that lots of software producers have got a move on and brought out some excellent games to run on the Commodore 64.

But what you need to win your Commodore 64 is a Spectrum. Yes, it sounds a bit cock-eyed but that's the way it goes. Postern, the firm which brought out the innovative game of last year, 3 Deep Space, have just launched a brand new game which they reckon will be as huge a success as 3 Deep Space. it's called Psi-spy — a real tongue-twister of a title to tackle. Names aside, Psi-spy promises to be a superb arcade adventure game.

Somewhere in the dark labyrinths of Psy-spy lies the final secret that will enable our hero to complete his difficult mission. That secret is the magical psi-score — somewhere between 15,000 and 20,000. You must find the special psi-score by playing the game — and don't worry, when you stumble across it you'll know it all right! Then when you've found the psi-score write it down on a postcard and send it to *Games Computing* at our Golden Square address.

More Prizes

As well as the Commodore 64 to win Postern are also giving away two **Kempston joysticks**for the runners up and many other **prizes of great Postern software valued up to £500.**

You'll be able to buy a copy of Psi-spy from mid-March for £7.95. And it's worth every penny because you'll find the game a great challange requiring every ounce of mental energy you possess. The first phase of the game is in arcade style and the points you accrue during that part of it dictates what level of play you begin the Adventure phases of Psi-spy in which you have to challenge guards keeping vigil over the dark labyrinths. Patricia Constantine of Postern says the game is: ''exciting, challenging and you really have to be on the ball with so much action happening so quickly''.

So, there you have it. If you want the acclaim of finding the super psi-score and win a Commodore 64, rush out and buy a copy of Psi-spy now — if of course you haven't done so already.

Once you've found the score you must save it on the special game save feature on the program for verification purposes.

Send your entry to: GAMES COMPUTING/POSTERN COMPETITION No. 1 Golden Square, London W1.

Name . . . . . Age . . . . . .

Address . . . . . .

. . . . . .

. . . . . .

COMPETITION RULES

1. This competition is open to all UK readers of Games Computing, except employees of Argus Specialist Publications Ltd, their printers and distributors, employes of Postern or anyone connected with them.
2. As long as the correct coupon is used for each entry there is no limit to the number of entries per person, but photocopies will not be accepted.
3. All entries must be postmarked before May 31, 1984.
4. The prizes will be awarded to the first entries judged to be correct by the editor.
5. No correspondence will be entered into with regard to the competition results and it is a condition of entry that the editor's decision is final.
6. The winners will be notified by post and the results will be published in a future issue of Games Computing.
7. Your score must be stored using the Psi-spy game save feature and sent to us on tape for verification purposes.

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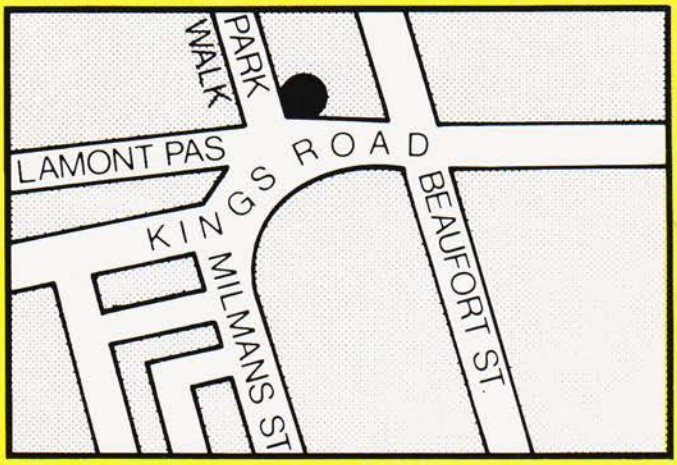


Come in and see us, today!

ALADDIN

Once upon a time in a land far far away lived a young boy named Aladdin. He was very poor and since his parents died, he lived with the widow 'Twanky' not far from the Sultan's palace, where the Sultan lived with his beautiful daughter. It had always been Aladdin's dream that one day he would marry the princess and live in a magnificent palace of his own.

One day a knock came on the door and when Aladdin answered it, he found a magician standing there with a magic ring. Now this magician was both evil and greedy and knew that there was a magic lamp which was far more powerful than his ring. 'Please help me' he said to Aladdin, 'go into the caves and find for me a rusty lamp which I lost many years ago for I am too old to explore the caves.'

Aladdin was not stupid enough to fall for this and made his mind up to find the lamp for himself.

In this version, you play the part of Aladdin and must try to find the lamp and marry the Sultan's beautiful daughter.

You must give the computer instructions in the form of two word sentences such as GET LAMP.

RUNS ON BBC/B ELECTRON

Words Understood

N,S,E,W,UP,DOWN,IN, OUT, ON, OFF (for directions), GO, LOOK, RUB, SAVE, SCORE, GET, TAKE, GRAB, DROP, LEAVE, PUT, INVENTORY, EAT, DRINK, PRAY, KISS, PULL, ROW, SAIL, SWIM, READ, HELP, ATTACK, KILL, DESTROY, ASK, SAY, TALK, GIVE, LEND, SEARCH, EXAMINE, UNITE, WEAR, REMOVE, POISON, HIDE, PRESS, OPEN, JUMP, CRAWL, FILL.

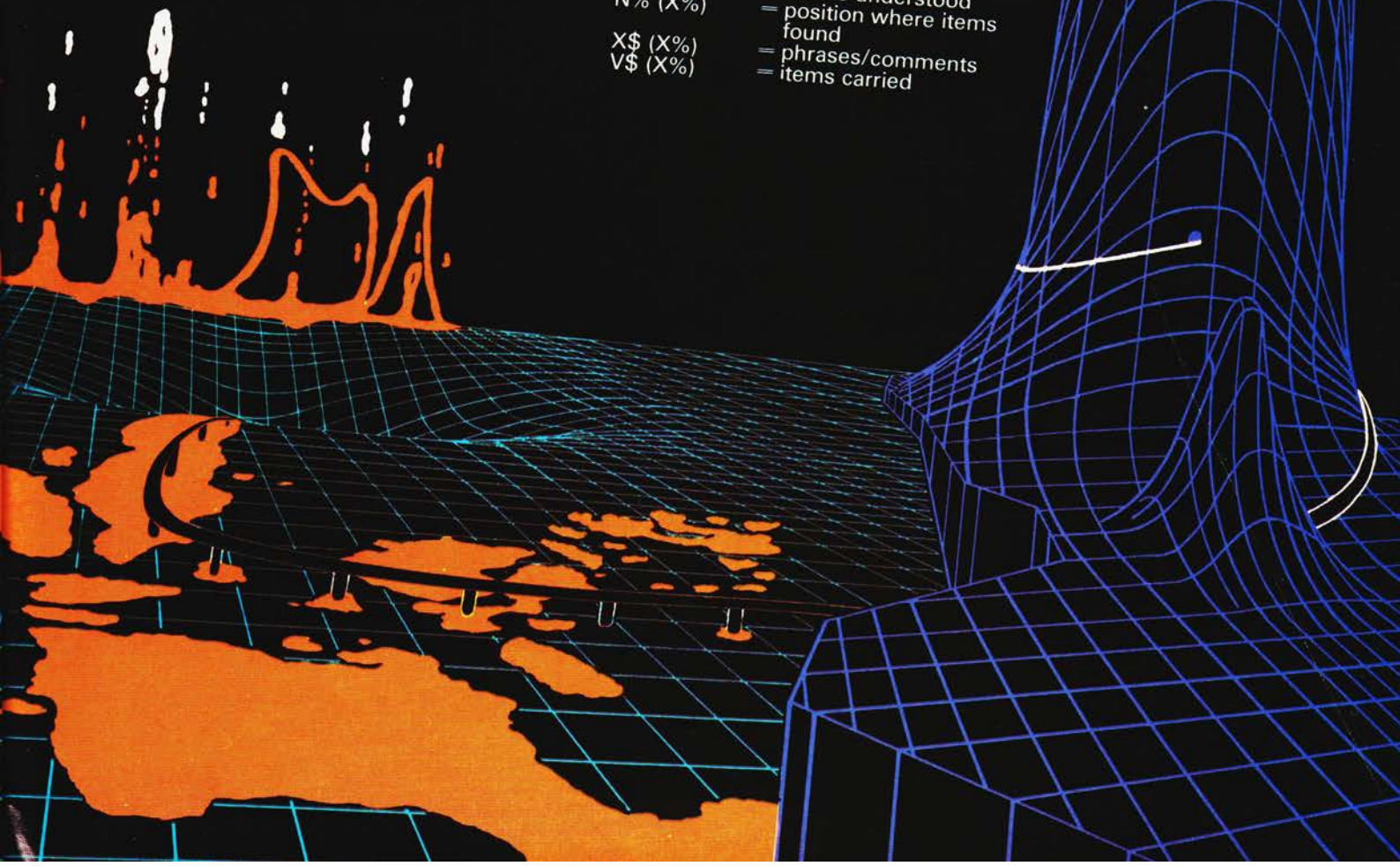
1. This game was written with the intention that it should run in both the BBC model B and the Acorn Electron.

2. Using READ/DATA is very inefficient in its use of memory in the BBC/ELECTRON and therefore I decided to store all the data for the game in a Data file.
3. This data file must be created initially using the program 'FILER'. The file may be saved on either tape or disc.
4. The SAVE game routine in the main program is used to create an updated data file (which is loaded as Part 3).
5. In the BBC micro, the game will run in MODE 7, whereas in the Electron, it will run in MODE 6 with blue background colour. (line 60)
6. The program was written on a machine with BASIC 2 and in order to make the tape compatible with all versions, the keyword OPENUP was used in the file saving programs. Users with BASIC 1 will need to change this to OPENOUT.
7. In order to make the response time of the game almost as good as machine code, integer variables are used throughout. (A% runs much faster than A)

8. The program loads in 3 parts:
part 1: — gives instructions
part 2: — is the main program which loads the data file
part 3: — is the data file

Variables used

P%	= current positon
S%	= score
AA-AZ	= flags which are set when certain events occur.
Q$ (X%)	= description of locations
S% (X%, Y%)	= map of locations
G$ (X%)	= objects which you find
B% (X%,1)	= position of objects
N$ (X%)	= words understood
N% (X%)	= position where items found
X$ (X%)	= phrases/comments
V$ (X%)	= items carried



Warning

These should only be read when you are totally stuck!

1. Wolves are very fond of a certain type of toad!
2. If you rub the ring or the lamp, you should ask for HELP (only once!)
3. The Widow Twanky holds the secret of the lamp . . . try asking her.
4. You will need a knife to kill the toad.
5. Deep in the maze, you will find a lever which controls the drawbridge.
6. The lake is good for swimming in!
7. Watch out for the Pit . . . you may be able to jump across it.
8. The woodcutter has put a wire across the path somewhere, you should just be able to crawl under it.
9. If you find the boat, you will need to untie the rope and wait around awhile.
10. The servants of the castle will mind your lamp for you.
11. You will need to kill the magician before you can live happily ever after and will need to find some poison.
12. Once you have poisoned his wine, you will need to hide quickly, or he might find you.
13. You will need to have a disguise if you are to get past the palace guards.
14. If you reach the woodcutter's cottage, watch out or he may mistake your identity! Make sure that you fill his bucket!

ALADDIN

```
  10 REM *** ALADDIN....an adventure loosely based upon the fairy tale  **
  20 REM *** By S.W. Lucas  February 1984 ***
  30 REM *** will run in either BBC micro in mode 7 or Acorn Electron in mode 6
***
  40 REM *** and will also work from disc ***
  50  REM DISABLE BREAK AND ESCAPE KEYS
  60 *KEY 10 OLD|M RUN|M
  70 *FX229,1
  80  MODE6
  90  VDU19,0,3,0,0,0,19,1,4,0,0,0
 100 PRINTTAB(15,2)"ALADDIN"'''"an adventure game for the BBC and Acorn Electro
n microcomputers."
 110 PRINT'''SPC4" By Steve W. Lucas   Feb 1984"
 120  RESTORE:FORX=1TO18:READD:SOUND1,-15,D,5:NEXT
 130 PRINT'''"This game loosely follows the plot of    the fairy tale and to sol
ve the game,    you must try to find the beautiful    Princess."
 140 PRINT''SPC(2)"Press <SPACE BAR> for instructions."
 150  REPEAT UNTIL GET=32
 160 CLS
 170 PRINT"Once upon a time in a land far far away lived a young boy named Alad
din."'"He lived in a small cottage with the    widow 'Twanky' not far from the S
ultan'spalace."
 180 PRINT'"The Sultan had a very beautiful daughterand it was Aladdin's dream
that one day he would be able to marry the her and    live in a palace of great b
eauty."
 190 PRINT''"One day a knock came to the door and    when Aladdin answered it,
he found a    magician standing there with a magic    ring. Now this magician wa
s both evil    and greedy and he knew that hidden in"
 200 PRINT"some nearby caves was a lamp with far    more power than his little r
ing."
 210 PRINT''SPC2"Press <SPACE BAR> to continue."
 220  REPEAT UNTIL GET=32
 230 CLS:PRINT"'Help me dear Aladdin' said the evil    magician. Please go to t
he caves and    find an old rusty lamp which I lost    there many years ago."
 240 PRINT''"Now Aladdin was not that stupid to fall for this, but made his min
d up to visit the caves anyhow."
 250 PRINT''"In this version of Aladdin, you will    take on the roll of Aladdi
n and must    instruct the computer what to do by"
 260 PRINT"giving instructions in the form of two  words  such as GET LAMP, GO
NORTH etc.  Note :- these instructions must be in    Capital letters."
 270 PRINT''SPC2"Press <SPACE BAR> to continue."
 280  REPEAT UNTIL GET=32
 290 CLS:PRINTSPC2"Please wait for the game to load."
 300 PRINT''"NOTE:- when the game has finished    loading you will be asked
to insert the data file. This should have been createdby the program FILER."
 310  PRINT''"In the BBC micro, the game will run in  mode 7 with coloured text
, whereas in    the Electron, mode 6 will be used."
 320 PRINT'';
 330  REM *** MAKE SURE THAT YOU SAVE THE GAME WITH THE FILENAME "ALAD" ! ***
 340 CHAIN "ALAD"
 350  END
 360 DATA53,61,53,69,61,73,69,61,53,101,109,101,117,109,121,117,109,101
```

```
  10  REM ** ALADDIN:- This program creates the data file used as part 3 **
  20  REM ** an adventure game for the BBC micro and Acorn Electron **
  30 REM ** By 1984 Steve W. Lucas **
  40  REM ** DISABLE BREAK AND ESCAPE KEYS .... ONLY TYPE IN WHEN PROGRAM HAS B
EEN FULLY DEBUGGED ! **
  50  *FX229,1
  60  *KEY10 OLD|M RUN|M
  70  REM ** Disc users should omit the next line if they want to save file to
disc **
  80  *TAPE
  90  MODE6
 100  P%=24:S%=0:AA=0:AB=0:AC=0:AD=0:AE=0:AF=0:AG=0:AH=0:AI=0:AJ=0:AK=0:AL=0:AM
=0:AN=0:AO=0:AP=0:AQ=0:AR=0:AS=0:AT=0:AU=0:AV=0:AW=0:AX=0:AY=0:AZ=0
 110  VDU19,0,1,0,0,0
 120  PRINTTAB(15,2)"ALADDIN"
 130  PRINT''"An adventure game for the BBC model B  and Acorn Electron Micro
Computers."
 140 PRINT''"By Steve W. Lucas   February 1984"
 150  PRINT''"Please wait for the data to be read intothe arrays."
 160 PRINT''"This program writes a data file which  should be loaded as part 3
of the game."
 170  DIM D$(84),S%(84,4),G$(30),B%(30,1),N$(30),N%(30),X$(50),V$(4)
 180  FOR X%=1TO84:READD$(X%):FORY%=1TO4:READS%(X%,Y%):NEXTY%,X%
 190    FORX%=1TO24:READG$(X%),B%(X%,1):NEXT
 200    FORX%=1TO27:READ N$(X%),N%(X%):NEXT
 210    FORX%=1TO50:READX$(X%):NEXT
 220    FORX%=1TO4:V$(X%)=""
 230      NEXT
 240    PRINTTAB(2,24)"Press <Space Bar> when ready to save "
 250    REPEAT UNTIL GET=32
 260    CLS:PRINT"Ready to save data file to tape now"'''"MAKE SURE THAT YOU HA
VE INSERTED TAPE    INTO THE RECORDER READY TO RECORD."
 270    PRINT'''"Press <SPACE BAR> when you are ready."
 280    REPEAT UNTIL GET=32
 290    X=OPENOUT("DATA")
 300    FOR X%=1 TO 84: PRINT#X,D$(X%): FORY%=1 TO 4:PRINT#X,S%(X%,Y%):NEXTY%,X
%
 310      FORX%=1TO24:PRINT#X,G$(X%),B%(X%,1):NEXT
 320      FORX%=1TO27:PRINT#X,N$(X%),N%(X%):NEXT
 330      FORX%=1TO50:PRINT#X,X$(X%):NEXT
```

RUNS ON BBC/B ELECTRON

```
 340       PRINT#X,P%,S%,AA,AB,AC,AD,AE,AF,AG,AH,AI,AJ,AK,AL,AM,AN,AO,AP,AQ,AR,A
S,AT,AU,AV,AW,AX,AY,AZ
 350       FORX%=1TO4:PRINT#X,V$(X%):NEXT
 360       CLOSE#X
 370       CLS:PRINTTAB(2,4)"The data file has been created now"'''"Would you lik
e to save another copy" "<Y/N>?"
 380       REPEAT
 390         AA$=GET$
 400         UNTIL AA$="Y" OR AA$="N"
 410       IF AA$="Y" THEN290
 420       PRINT'''"GOODBYE..."
 430       END
 440       DATAin a small dark cavern. Water drips downfrom above,0,0,3,0,inside
a gloomy cavern. The entrance is closed,3,0,0,0,in a small chamber. A Beam of li
ght      shines in from a slit high overhead,4,2,11,1,in a dimly lit passage,5,3,
0,0
 450       DATAin a maze of dark gloomy passages,6,4,10,5,in a maze of dark gloom
y passages,7,5,9,6,in a maze of dark gloomy passages,7,6,7,7,in a cavern full of
 exotic carvings,0,9,0,0,in a maze of dark gloomy passages,9,10,14,5,by a deep dark pit. Th
ere is a golden   drawbridge on the far side,0,0,0,3,in a maze of dark gloomy pa
ssages,12,13,12,12,in a maze of dark gloomy passages,13,14,14,10,on a solid gold draw
 470       DATAin a maze of dark gloomy passages,15,0,0,0,in an enormous chamber full
bridge,0,16,0,11,by a dark underground lake,15,0,0,0,in an enormous chamber full
 of caskets  of jewels. There is a lake stretching   as far as the eye can see,0
,0,0,0
 480       DATAon a footpath winding its way across   rugged mountain terrain,19
,0,20,0,at the entrance to a large gloomy cavern,0,18,0,0,on the gentle foothill
s of a steep      mountain track,0,0,21,18,by a weatherbeaten signpost,0,23,22,2
0
 490       DATAstuck in quicksand',22,22,22,22,by a garden gate,21,0,24,0,outside
 a small cottage,0,0,0,23,inside the badly furnished cottage. The widow TWANKY i
s stood here with a brush in her hand,0,26,0,0
 500       DATAin a large kitchen. There is a pan on   the fire and an old fashio
ned mangle    is to be seen in the corner,25,27,0,0,at the south end of a kitche
n which is  cluttered with dirty clothes; half eatenfood and dirty cutlery,26,0,
0,0
 510       DATAon a mountain plateau. There is no way  down from here,0,0,29,0,on
 a footpath   leading into a golden   palace,0,0,30,28,at the entrance to a beau
tiful golden   palace,0,0,31,29
 520       DATAat the edge of a mountain plateau. We   seem to be way above the c
louds here!,0,0,0,30,at the Western end of the Golden Hall,0,0,33,0,in a vast ha
ll full of statues of solid gold,30,0,34,32
```

```
 530       DATAin a wide corridor. The walls are lined with rich velvet,0,35,0,33
,in a narrow corridor,34,0,36,0,in a winding passage with a glass roof,0,37,0,35
,at the bottom of a marble staircase,36,0,0,0
 540       DATAat the top of a flight of stairs.      Another flight of stairs l
eads up from   here,41,0,0,0,at the top of a flight of stairs,0,0,40,43,in the Pr
incess's boudoir,0,0,0,39,on a balcony overlooking a courtyard,0,38,0,0
 550       DATAin a small room which is full of Weddinggifts,0,43,0,0,in a vast c
hamber with silver flowers  hanging from above,42,44,39,0,in a store cupboard.
It is full of lamps,43,0,0,0
 560       DATAin a dark forest,45,47,48,46,by the woodcutter's hut. It is locked
,45,47,48,0,by a well,46,0,0,0,on the banks of a canal. There is an oldbarge her
e,0,0,49,46,on the canal bank.,0,0,49,48,on an old barge,0,51,0,0
 570       DATAon an old barge. The barge is moored    to the bank by a stout rop
e,50,0,0,0,sailing on a barge along a canal,0,0,0,0,on an old barge which is moo
red by an    old mill,0,0,0
 580       DATA0,on a canal bank. There is an old barge  moored here,0,55,0,0
 590       DATAoutside an old mill,54,0,56,0,in a field of corn,0,0,63,55,in the
miller's living room. There is a dusty table and an old chair in the room,0,0,58
,0,in the doorway of an old mill,0,59,0,57,at the bottom of a spiral staircase,5
8,0,0,0
 600       DATAon a narrow plank leading round the edgeof the mill. A spiral stai
rcase leads   down,0,0,62,61,on a narrow plank leading round the edgeof the mill
,0,0,60,62
 610       DATAon a narrow plank leading round the edgeof the mill. I can reach o
ver to the    sails from here,0,0,61,60,in a field of corn. There is a styal to
the East,0,0,64,56,by a dry stone wall. There is a styal   over the wall,0,69,0,
63
 620       DATAin a field of cows. There is a styal to the west,0,0,0,64,in a cle
aring deep in the heart of a    gloomy forest,0,67,0,0
 630       DATAin a gloomy forest,66,72,67,68,in a gloomy forest,68,71,67,69,in
a gloomy forest,64,70,68,69,in a gloomy forest,69,74,71,70,in a gloomy forest,68
,71,72,70,in a gloomy forest,67,72,72,71
 640       DATAin a gloomy forest,73,75,73,74,in a gloomy forest,70,74,73,74,at t
he edge of a forest. The spires of  the golden palace can be seen in the   dist
ance,73,0,76,0,by the palace gates,0,0,0,75,inside the palace gates,76,0,0,78
 650       DATAin a hall full of gold statues,0,79,77,0,in a small corridor. The
magician is    is here but I don't think he has seen meThere is a glass of wine
on a table,78,0,80,0,in a chamber full of glasses,0,0,0,79
 660       DATAin a small corridor. There is a dead    magician here,79,0,82,83,i
n the princess's boudoir,0,0,0,81,in an arcade with a beautiful glass domeat the
 centre,0,84,0,0,in a golden room. The princess is here!,83,0,0,0
```

```
 670       DATAa large lever,8,a small toad,4,a casket full of jewels,0,a rusty r
ing,1,an old lamp,17,a tree,22,an old pot,26,a kitchen knife,26,a servant,30,a g
old bar,42,some new lanterns,44,a switch,36, a rope,51,a bucket,46,a button,52
 680       DATAa miller's outfit,62,the palace guards,76,the evil magician,79,the
 beautiful princess,84,a glass of wine,79,a wild wolf,67,some poison mushrooms,6
6,an old sack,52,a pile of leaves,46
 690       DATA LEVER,1,TOAD,2,CASKET,3,JEWELS,3,RING,4,LAMP,5,TREE,6,POT,7,KNIFE
,8,SERVANT,9,GOLD,10,LANTERNS,11,SWITCH,12,ROPE,13,BUCKET,14,BUTTON,15,MILLER,16
,OUTFIT,16
 700       DATA GUARDS,17,MAGICIAN,18,PRINCESS,19,GLASS,20,WINE,20,WOLF,21,MUSHRO
OMS,22,SACK,23,LEAVES,24
 710       DATA O.K.,not likely,you must be joking!,how am I supposed to do that?
,don't be an idiot,something happened,nothing happened,I see something,I can't s
ee anything special,there's nothing here to read,It says 'Danger Quicksand'
 720       DATAthe GENIE appears,Wow,I'm sorry I don't understand you (my   engl
ish isn't very good),It's stuck,I hear a distant rumbling,the cave entrance snap
s shut behind me,'What is your command O Master',I climb up,I climb down,I go in
 730       DATA I go out,it could do with a good polish,the barge drifts,it looks
 dirty,I think this will be useful,they won't let me in,I can't get past,they ne
ed a bribe,she's beautiful,he's evil,I wear the outfit. It is a good disguise
 740       DATAThat's not the right approach,How dare you speak to me like that?,
What do you have to say for yourself?,It's too heavy!,it's locked,I need the key
,someone sneaks up behind me,I am dead,would you like another game <Y/N> ?
 750       DATAwhat do I do now,I can see,I can go,It's too dark to see,That's a
stupid idea,the path's blocked,He dies,He attacks me,not yet!
 760       END
 770       REM *** THIS PROGRAM CREATES A DATA FILE WITH FILE NAME "DATA" which
is then loaded as part 3 of the game
```

ALADDIN

```
  10 REM *** ALADDIN ... an adventure game for BBC model B and Acorn Electron
**
  20 REM *** This program will automatically load a data file which should be
created by FILER ***
  30 REM ***   By S.W. Lucas   February 1984 ***
  40 ON ERROR PROCerror
  50 *FX229,1
  60 MODE7:VDU19,0,4,0,0,0
  70 DIM0$(84),S%(84,4),G$(24),B%(24,1),N$(27),N%(27),X$(50),V$(4)
  80 CLS:PRINTTAB(15,2)"Aladdin"''''"please wait for the data file to load"
  90 X=OPENIN("DATA")
 100 FORX%=1TO84:INPUT#X,0$(X%):FORY%=1TO4:INPUT#X,S%(X%,Y%):NEXTY%,X%
 110    FORX%=1TO24:INPUT#X,G$(X%),B%(X%,1):NEXT
 120    FORX%=1TO27:INPUT#X,N$(X%),N%(X%):NEXT
 130    FORX%=1TO50:INPUT#X,X$(X%):NEXT
 140    INPUT#X,P%,S%,AA,AB,AC,AD,AE,AF,AG,AH,AI,AJ,AK,AL,AM,AN,AO,AP,AQ,AR,AS,
AT,AU,AV,AW,AX,AY,AZ
 150    FORX%=1TO4:INPUT#X,V$(X%):NEXT
 160    CLOSE#X
 170    CLS:RESTORE1480:FORX=1TO14:READ D:SOUND1,-15,D,3:NEXT
 180    REPEAT
 190      IFP%=51THENS%=50
 200      IFP%=22THENA0=A0+1:PRINTCHR$134"HELP!  I am sinking fast!":IFA0>10THEN
X$="I sink below the surface.":PROClose
 210      IFP%=52THENS%=55
 220      IFP%=37ANDAX<1THENX$=X$(45)+" I trip and break my neck":PROClose
 230      IFP%=66THENS%=80 ELSEIFP%=79THENS%=90 ELSEIFP%>80THENS%=95
 240      IFP%=73THENPRINT"There is a deep pit to the South."
 250      IFP%=64THENPRINT"A thin wire stretches across the path  to the South.
"
 260      PRINTCHR$131"I am ";0$(P%):A$="":IFS%(P%,1)>0THENA$="North"
 270      IFS%(P%,2)>0ANDLEN(A$)>0THENA$=A$+",South"ELSEIFS%(P%,2)>0THENA$="Sout
h"
 280      IFS%(P%,3)>0ANDLEN(A$)>0THENA$=A$+",East"ELSEIFS%(P%,3)>0THENA$="East"
 290      IFS%(P%,4)>0ANDLEN(A$)>0THENA$=A$+",West"ELSEIFS%(P%,4)>0THENA$="West"
 300      IFP%=25THENA$=A$+", Out"
 310      IFA$=""THENA$="there must be somewhere!"
 320      PRINT''CHR$130;X$(44);" :- "'A$''
 330      E=0:FORT%=1TO24:PP%=0:IFB%(T%,1)=P%THENPP%=1
 340        IFPP%=1THEN360
 350        NEXT:GOTO380
 360      IFE=0THENPRINTCHR$134;X$(43);" :-"
 370      PRINTG$(T%):E=E+1:GOTO350
 380      PRINTCHR$133;X$(42):INPUTZ$:B$=LEFT$(Z$,2):C$=LEFT$(Z$,3):D$=LEFT$(Z$,
4)
 390      IFAW>0THENAW=AW+1
 400       CLS:VDU7
 410      IFP%=67ANDAS<1THENX$="The Wolf attacks me!!":PROClose
 420      IFP%=44ANDAV=1THENPRINT"I hear the shout of 'OLD LAMPS FOR NEW!'"'"and
one of the servants rushes out with the lamp and gives it to the evil       magi
cian."''"Suddenly I find myself transported to a strange place":P%=45
 430        K=0:IFC$="LOO"THENK=1 ELSEIFC$="RUB"THENPROCrub ELSEIFC$="SAV"THENPRO
Csave
 440      IFC$="SCO"THENPRINTCHR$129;"You have scored ";S%;" %":K=1
 450      IFB$="FU"ORB$="PI"ORB$="BU"THENPROCswea ELSEIFC$="THR"THENPROCthrow
 460       IFC$="GET"ORC$="TAK"ORC$="GRA"THENPROCget ELSEIFC$="DRO"ORC$="LEA"ORC
$="PUT"THENPROCdrop ELSEIFC$="INV"THENPROCinventory
 470      IF(B$="S"ORD$="GO S")ANDP%=73THENX$="I fell into the pit":PROClose
 480      IF(B$="S"ORD$="GO S")ANDP%=64THENX$="I walk straight into the trip wir
e and  cut myself.":PROClose
 490      IF(B$="E"ORD$="GO E")ANDP%=46ANDAY<2THENX$="The woodcutter rushes over
 and says.      "I've told you before about being lazy.. You've still not fetched
the water!":PROClose
 500        IF(B$="N"ORD$="GO N")THENK=1:IFS%(P%,1)<>0THENP%=S%(P%,1)
 510        IF(B$="S"ORD$="GO S")THENK=1:IFS%(P%,2)<>0THENP%=S%(P%,2)
 520        IF(B$="E"ORD$="GO E")THENK=1:IFS%(P%,3)<>0THENP%=S%(P%,3)
 530        IF(B$="W"ORD$="GO W")THENK=1:IFS%(P%,4)<>0THENP%=S%(P%,4)
 540      IFC$="EAT"THENPRINT"I see nothing to eat":K=1 ELSEIFC$="PRA"THENPRINTX
$(1)'X$(7):K=1 ELSEIFC$="KIS"THENPRINTX$(5):K=1
 550      IFB$="U"ORB$="UP"ORD$="GO U"ORC$="CLI"THENPROCup  ELSEIFC$="DOW"ORD$="
GO D"ORB$="D"THENPROCdown
 560      IFC$="PUL"THENPROCpull ELSEIFC$="ROW"ORC$="SAI"THENPRINTX$(5);" There'
s no boat here!":K=1
 570      IFC$="SWI"THENPROCswim ELSEIFC$="REA"THENPROCread ELSEIFC$="IN"ORD$="G
O I"THENPROCin ELSEIFC$="OUT"ORD$="GO O"THENPROCout
 580      IFC$="HEL"THENPROChelp ELSEIFC$="ATT"ORC$="KIL"ORC$="DES"THENPROCkill
 590      IFC$="ASK"ORC$="SAY"ORC$="TAL"THENPROCask ELSEIFC$="GIV"ORC$="LEN"THEN
PROCgive
 600      IFC$="SEA"THENPROCsearch ELSEIFC$="EXA"THENPROCexamine
 610      IFB$="ON"ORD$="GO B"THENPROCboat ELSEIFC$="OFF"ORD$="DISE"THENPROCbank
 620      IFC$="UNT"THENPROCuntie ELSEIFC$="WAI"THENPROCwait
 630      IFC$="WEA"THENPROCwear ELSEIFC$="REM"THENPROCremove
 640      IFC$="POI"THENPROCpoison ELSEIFC$="HID"THENPROChide
 650      IFC$="PRE"THENPROCpress ELSEIFC$="OPE"THENPROCopen
 660      IFC$="JUM"THENPROCjump ELSEIFC$="CRA"THENPROCcrawl
 670      IFC$="FIL"THENPROCfill
 680      IFK=0ANDLEN(Z$)>0THENPRINTX$(14)
 690      IFP%=79ANDAW=2THENX$="He turns round and sees me poisoning hisdrink!":
PROClose
 700      UNTILP%=84
 710    PROCwin
 720     END
 730     DEFPROCget
 740     K=1:PROCcheck
 750     IFL%<>1THENENDPROC
 760     E%=0
 770     FORH%=1TO24:IFB%(H%,1)=P%ANDB%(N%(R),1)=P%THENE%=1
 780       NEXT
 790     IFE%=0THENPRINTCHR$131"I can't see it here!":K=1:ENDPROC
 800     IFR=1THENPRINTX$(15):ENDPROC ELSEIFR=2ANDAT<>1THENPRINT"It jumps out of
the way!":ENDPROC
 810     IFR=2THENAS=2
 820     IFR=7THENPRINTX$(4):ENDPROC ELSEIFR=10THENPRINTX$(3):ENDPROC ELSEIFR=13T
HENPRINT"It's fastened to the wall!":ENDPROC
 830     IFR=19THENPRINTX$(5):ENDPROC ELSEIFR=20THENPRINTX$(3):ENDPROC ELSEIFR=21
THENPRINT"I can't do that till I've married her!":ENDPROC
 840     IFR=24THENPRINTX$(4):ENDPROC
 850     IF(R=3ORR=4)THENAA=1 ELSEIFR=5THENAB=1 ELSEIFR=6THENAC=1 ELSEIFR=8THENX
$="How dare you steal my best pot?'                says the widow 'TWANKY'":PROClose  E
LSEIFR=9THENAE=1
 860     IFR=11THENAF=1 ELSEIFR=12THENAG=1 ELSEIFR=14THENAH=1 ELSEIFR=15THENAI=1
ELSEIFR=16THENX$="There is a loud explosion":SOUND0,-15,100,20:PROClose
 870     IFR=25THENAM=1 ELSEIFR=26THENAN=1 ELSEIFR=27THENAO=1
 880     IFR=22ORR=23THENX$="He turns round and strikes me down dead!":PROClose
 890     IFR=17ORR=18THENAK=1
 900     E%=0:FORD%=1TO4:IFV$(D%)=""THENV$(D%)=G$(N%(R)):E%=1:D%=5
 910       NEXT
 920     IFE%=0THENPRINT"I'm sorry....my arms are full!":K=1:ENDPROC
 930     B%(N%(R),1)=0:ENDPROC
 940     DEFPROCcheck
 950     L$="":XX=INSTR(Z$," ")
 960     L$=RIGHT$(Z$,(LEN(Z$)-XX))
 970     R=0:L%=0:IFLEN(L$)<2THENENDPROC
 980     FORH%=1TO27:IFLEFT$(N$(H%),LEN(L$))=L$ THEN L%=1:R=H%
 990       NEXT
1000     ENDPROC
1010     DEFPROCdrop
1020     K=1:PROCcheck
1030     IFL%<>1THENPRINT"I can't see a ";L$:ENDPROC
1040     E%=0
1050     FORD%=1TO4
1060       IFV$(D%)=G$(N%(R)) THEN V$(D%)="":E%=1
1070       NEXT
1080     IFE%<>1THENPRINT"I haven't got it !!!":ENDPROC
1090     B%(N%(R),1)=P%
1100     CLS
1110     IFAY=1ANDP%=46ANDR=15THENAY=2:PRINT"The woodcutter rushes over and says
   'Whoops.... sorry wrong identity...          I thought it was my son!'"
1120     IF(R=3ORR=4)THENAA=0 ELSEIFR=5THENAB=0 ELSEIFR=6THENAC=0 ELSEIFR=8THENAD
=0 ELSEIFR=9THENAE=0
1130     IFR=11THENAF=0 ELSEIFR=12THENAG=0 ELSEIFR=14THENAH=0 ELSEIFR=15THENAI=0
ELSEIFR=16THENAJ=0
1140     IFR=17ORR=18THENAK=0:AR=0
1150     IFR=22ORR=23THENAL=0 ELSEIFR=25THENAM=0 ELSEIFR=26THENAN=0 ELSEIFR=27THE
NAO=0
1160     IFR=2ANDP%=67THENPRINT"The wolf rushes over, grabs it and runs away!":AS
=1:G$(2)="":ENDPROC ELSEIFR=2THENAS=0
1170     ENDPROC
1180     DEFPROCinventory
1190     K=1:PRINTCHR$129"I am carrying :-"
1200     F%=0
1210     FORH%=1TO4
1220       IFV$(H%)<>""THENPRINTV$(H%):F%=1
1230       NEXT
1240     IFF%=0THENPRINT"Nothing at all!"
1250     PRINT:ENDPROC
1260     DEFPROCsave
1270     K=1:PRINT"PRESS <SPACE BAR> WHEN READY TO SAVE":REPEAT UNTIL GET=32
1280      X=OPENOUT("DATA")
1290      FORX%=1TO84:PRINT#X,0$(X%):FORY%=1TO4:PRINT#X,S%(X%,Y%):NEXTY%,X%
1300        FORX%=1TO24:PRINT#X,G$(X%),B%(X%,1):NEXT
1310        FORX%=1TO27:PRINT#X,N$(X%),N%(X%):NEXT
1320        FORX%=1TO50:PRINT#X,X$(X%):NEXT
1330        PRINT#X,P%,S%,AA,AB,AC,AD,AE,AF,AG,AH,AI,AJ,AK,AL,AM,AN,AO,AP,AQ,AR,A
S,AT,AU,AV,AW,AX,AY,AZ
1340        FORX%=1TO4:PRINT#X,V$(X%):NEXT
1350      CLOSE#X
1360      CLS:PRINTTAB(2,4)"The data file has now been saved"''"Would you like t
o save another copy ?"
1370      REPEAT
1380        AA$=GET$
1390        UNTILAA$="Y"ORAA$="N"
1400      IFAA$="Y"THEN1270
1410      ENDPROC
1420      DEFPROCwin
1430      CLS:PRINTCHR$131"Well done....you have killed the evil"'CHR$131"magic
ian and found the beautiful"'CHR$131"princess."
1440      PRINT''CHR$129"You live happily ever after in your"'CHR$129"beautiful
palace."''''CHR$134"GOODBYE.... thank you for playing."
1450      RESTORE1480:FORX=1TO14:READ D:SOUND1,-15,D,3:NEXT
1460      END
1470     ENDPROC
```

RUNS ON BBC/B ELECTRON

```
 1480      DATA193,185,177,193,185,177,185,177,193,177,101,109,117,121
 1490      DEFPROCup
 1500      K=1:IFP%=22THENPRINT"I'm sinking fast and can't do that!":ENDPROC
 1510      IFP%=37THENP%=38:PRINTX$(1):ENDPROC ELSEIFP%=38THENP%=39:PRINTX$(1):EN
DPROC
 1520      IFP%=64THENP%=65:PRINTX$(1):ENDPROC ELSEIFP%=65THENP%=65:PRINTX$(1):EN
DPROC
 1530      IFP%=59THENP%=60:PRINT"What a trudge!":ENDPROC
 1540      PRINTX$(4):ENDPROC
 1550      DEFPROCdown
 1560      K=1:IFP%=60THENP%=59:PRINTX$(1):ENDPROC ELSEIFP%=39THENP%=38:PRINTX$(1
):ENDPROC ELSEIFP%=38THENP%=37:PRINTX$(1):ENDPROC
 1570      PRINTX$(4):ENDPROC
 1580      DEFPROCpull
 1590      AU=1
 1600      K=1:IFP%<>8THENPRINTX$(3):ENDPROC
 1610      PRINTX$(16):S%=10:IFAP=0THENAP=1:S%(11,3)=15:O$(11)="by a deep pit. A
drawbridge spans the   pit.":ENDPROC
 1620       IFAP=1THENAP=0:S%(11,3)=0:O$(11)="by a deep dark pit":ENDPROC
 1630       DEFPROCswim
 1640      K=1:IFP%<16ORP%>17THENPRINTX$(5):ENDPROC
 1650      PRINTX$(1)'"Brrrr It's very cold!"
 1660      IFP%=16THENP%=17 ELSEIFP%=17THENP%=16
 1670      ENDPROC
 1680      DEFPROCrub
 1690      K=1:IFAB=1ORAC=1THENPROCrubring ELSEPRINTX$(46):ENDPROC
 1700      ENDPROC
```

```
 1710      DEFPROCrubring
 1720      K=1:IFP%<17THENPROCring :C$="":ENDPROC
 1730      IFAC<1THENPRINT"The ring's power has almost gone!":ENDPROC
 1740      IFP%>17ANDP%<28THENPROClamp1 :ENDPROC
 1750      PRINTX$(7)
 1760      ENDPROC
 1770      DEFPROCread
 1780      K=1:IFP%<>21THENPRINTX$(4):ENDPROC
 1790      PRINTCHR$131"It reads 'DANGER QUICKSAND!'":ENDPROC
 1800      DEFPROClose
 1810      CLS:PRINT''X$''''''"Oh dear you seem to have got me killed!"
 1820      RESTORE1480:FORX=1TO14:READ D:SOUND1,-15,D,3:NEXT
 1830      PRINT'''"Would you like another game ? <Y/N>"
 1840       REPEAT AA$=GET$
 1850        UNTILINSTR("YNyn",AA$)
 1860      IFAA$="Y"ORAA$="y"THEN RUN ELSEPRINT"GOODBYE... Thanks for playing":EN
D
 1870       ENDPROC
 1880      DEFPROCin
 1890      K=1:IFP%=24THENP%=25:PRINTX$(21):ENDPROC ELSEIFP%=19THENPRINTX$(21)'X$
(17):P%=2:ENDPROC ELSEIFP%=55THENPRINTX$(21):P%=58:ENDPROC
 1900      IFP%=30THENPRINT"'WELCOME TO YOUR NEW CASTLE O MASTER "'"Says the serv
ant'"'"Let me have your lamp to clean it and   keep it safely! ":P%=33:ENDPROC
 1910      IFP%<76THENPRINTX$(5):ENDPROC
 1920      IFAR<1THENPRINTX$(27):ENDPROC ELSEP%=77:PRINTX$(1)''"Welcome dear Mil
ler' says one of the   guards.":ENDPROC
 1930      DEFPROCout
 1940      K=1:IFP%=77THENPRINTX$(1):P%=76:ENDPROC ELSEIFP%=58THENP%=55:PRINTX$(2
2):ENDPROC ELSEIFP%=25THENP%=24:PRINTX$(22):ENDPROC ELSEIFP%=2THENPRINTX$(4)''"Th
e entance has closed!":ENDPROC
 1950      PRINTX$(5):ENDPROC
 1960      DEFPROCring
 1970      PRINTX$(1);" WOW!''''"X$(12)''CHR$131;X$(18)':INPUTZ$:C$=LEFT$(Z$,3)
 1980      IFC$="HEL"THENPRINTX$(1)''"'I shall get you out of here O MASTER"''"N
ow go and find the Widow Twan%y...for   she shall help you !''':P%=19:ENDPROC
 1990      PRINT"I'm sorry I can't do that at the moment":ENDPROC
 2000      DEFPROChelp
 2010      K=1:IFP%<17THENPRINT"I've heard of the famed 'GENIE of the   LAMP'!":E
NDPROC
 2020      IFP%=11THENPRINT"There must be some way of getting the   drawbridge do
wn!":ENDPROC
 2030      IFP%=51THENPRINT"We are still tied to the banks!":ENDPROC ELSEIFP%=52T
HENPRINT"There's not much to do at the moment   except hang around to see what
happens.":ENDPROC
 2040      IFP%<28ANDP%>22THENPRINT"The widow 'TWANKY' knows more than you might
think!":ENDPROC
 2050      PRINT"I'm sorry I don't have a clue!":ENDPROC
 2060      DEFPROCkill
 2070      K=1:IFAE<>1THENPRINT"I have no weapon!":ENDPROC ELSEIFP%=4THENG$(2)="a
DEAD toad":AT=1:PRINTX$(1)''"When I look carefully at it, I can see  that it is
the sort that Wolves like to eat!":ENDPROC
 2080      PRINT"Don't be absurd!!":ENDPROC
 2090      DEFPROCask
 2100      K=1:IFP%=25ANDAU=0THENPRINT"The widow 'TWANKY' says:-"''"'Go and find
the caves and search for   the famed LAMP of MAGIC'":ENDPROC
 2110      IFP%=25THENPRINT"She says :-"''"Make sure that you take  all you need
  for there will be no second chance." "Rub the lamp and say the magic word
'ZOBLINSKOVA'":ENDPROC
 2120      PRINT"I talk but nobody seems to listen to me":ENDPROC
 2130      DEFPROClamp1
 2140      CLS:PRINTCHR$131"WOW ! ";X$(12)''X$(18):INPUTZ$
 2150      IFZ$<>"ZOBLINSKOVA"THENX$="The genie is not amused by your demands":PR
OClose
 2160      PRINTX$(1);" O master.""Your password has given you a golden   oppor
tunity."
 2170      PRINT''"I shall give you wealth and fortune and give unto you a great
palace."'''"BUT BEWARE of the EVIL magician''!, for he will take all!"
 2180      PRINTTAB(2,22)"Press <space bar> when ready."
 2190      P%=28
 2200       REPEAT UNTIL GET=32:CLS:S%=30:ENDPROC
 2210      DEFPROCgive
 2220      IFP%=30ORP%=33THEN2230ELSEK=1:ENDPROC
 2230      K=1:IFP%=33ORP%=30THENPRINT"The servant says 'Thank you. I will   gu
ard it with my life and clean it like new":S%=40:FORX%=1TO4:IFV$(X%)=O$(5)THENV$
(X%)=""
 2240          NEXT:AV=1:ENDPROC
 2250      DEFPROCboat
 2260      K=1:IFP%=48THENPRINTX$(1):P%=50:ENDPROC ELSEIFP%=54THENP%=53:PRINTX$(1
):ENDPROC ELSEPRINTX$(46):ENDPROC
```

```
 2270      DEFPROCbank
 2280      K=1:IFP%=50THENP%=48:PRINTX$(1):ENDPROC ELSEIFP%=53THENP%=54:PRINTX$(1
):ENDPROC
 2290      IFP%=51ORP%=52ORP%=53THENX$="I've fallen in the water and drowned!":PR
OClose
 2300      PRINT"Don't be ridiculous!":ENDPROC
 2310      DEFPROCuntie
 2320      K=1:IFP%<>51THENPRINTX$(4):ENDPROC ELSEPRINTX$(1)''"The barge drifts in
to the centre of the canal. There is a steady current here!":P%=52:ENDPROC
 2330      DEFPROCwait
 2340      K=1:PRINTX$(1):TIME=0:REPEAT UNTIL TIME>100
 2350      IFP%<>52THEN ENDPROC
 2360      P%=53:PRINT"The barge drifts into the banks of the  canal.":ENDPROC
 2370      DEFPROCwear
 2380      K=1:IFAK<>1THENPRINT"I have nothing to wear!":ENDPROC
 2390      PRINTX$(32):AR=1:ENDPROC
 2400      DEFPROCremove
 2410      K=1:IFAR=1THENPRINTX$(1):AR=0 ELSEPRINTX$(4):ENDPROC
 2420      ENDPROC
 2430      DEFPROCpoison
 2440      K=1:IFP%<79THENPRINTX$(46):ENDPROC
 2450      IFAM<>1THENX$="The magician sees me and waves his evil wand at me... A
AAAGGGHHH the agony.":PROClose
 2460      PRINTX$(1)''"I put some of the mushrooms into his   glass.":AW=1
 2470      ENDPROC
 2480      DEFPROChide
 2490      K=1:IFP%<>79THENPRINTX$(5):ENDPROC
 2500      P%=80
 2510      IFAW>0THENAW=0:PRINT"I hear the magicain drink his wine.    There is
a thud and a wail of agony!":G$(18)="the evil magician...He is dead.":S%(79,2)=8
1:ENDPROC
 2520      DEFPROCpress
 2530      K=1:IFP%=36THENPRINT"The light comes on":AX=1:ENDPROC
 2540      IFP%=52THENX$="There is a loud explosion":SOUND0,-15,100,20:PROClose
 2550      PRINTX$(46):ENDPROC
 2560      DEFPROCopen
 2570      K=1:PROCcheck
 2580      IFR=26ANDAN<>1THENPRINT"I don't have it!":ENDPROC
 2590      IFR=26THENX$="A poisonous spider crawls out!":PROClose
 2600      PRINTX$(50):ENDPROC
 2610      DEFPROCsearch
 2620      K=1:IFP%=52THENX$="A poisonous spider crawls out of the   sack!":PROC
lose
 2630      PRINTX$(9):ENDPROC
 2640      DEFPROCexamine
 2650      K=1:PROCcheck
 2660      IFR=3ORR=4THENPRINT"Looks valuable!":ENDPROC
 2670      IFR=5THENPRINTX$(23):ENDPROC
 2680      IFR=24THENX$=X$(39):PROClose
 2690      PRINTX$(9):ENDPROC
 2700      DEFPROCswea
 2710      K=1:PRINTX$(34)'X$(35)
 2720      INPUTZ$:IFLEFT$(Z$,3)<>"SOR"THENX$=X$(34):PROClose
 2730      PRINT"I'll let you off this time!":ENDPROC
 2740      DEFPROCthrow
 2750      K=1:IFAH<1THENPRINTX$(50):ENDPROC
 2760      PRINTX$(1)'X$(7)
 2770      ENDPROC
 2780      DEFPROCjump
 2790      K=1:IFP%=73THENP%=75:PRINTX$(1):ENDPROC ELSEIFP%=28ORP%=31THENX$="I fa
ll and break my neck!":PROClose
 2800      IFP%>50ANDP%<52THENX$="I fall into the water and drown!":PROClose
 2810      IFP%=64THENX$="I trip and break my neck":PROClose
 2820      PRINTX$(46):ENDPROC
 2830      DEFPROCerror
 2840      K=1:X$=X$(39):PROClose
 2850      ENDPROC
 2860      DEFPROCcrawl
 2870      K=1:IFP%=64THENPRINT"Made it safely under the trip wire!":P%=69:ENDPRO
C
 2880      PRINTX$(1)''"Well wasn't that fun!":ENDPROC
 2890      DEFPROCfill
 2900      K=1:IFP%<>47THENPRINTX$(4):ENDPROC
 2910      IFAI<>1THENPRINT"I have no bucket!":ENDPROC
 2920      PRINTX$(1):G$(14)="a bucket full of water":FORX%=1TO4:IFV$(X%)="a buck
et"THENV$(X%)="a bucket full of water":AY=1
 2930       ENDPROC
```

PSION OF THE TIMES

Simon Rockman visited Psion Software and discovered what they are up to . . .

Saloon Sally and Chequered Flag are the very latest games to come out of Psion Software's unusual production line. Along with a string of titles including a range of no less than 14 games tape packages Psion's trump card in writing games software is the use of mini-computers.

Now this may sound strange when you consider that the games Psion produce are commercially sold for home computers like the Spectrum, BBC B and more recently the Sinclair QL.

The brains behind Psion believe that they can write better games by using a large system which up to 16 people can use at the same time. Psion chose the DEC VAX 11/70 mini-computer system as their central computer because of the greater flexibility it affords to program development of this kind.

NEW PRODUCTS

At the moment Psion is working on a brand new tennis game for the Spectrum and this is being written in a high level language which is a sort of 'super Basic' called C. The beauty of C is that although you type the language into the computer au naturel, it is churned out at the other end in machine code via a special interface for whichever home computer you want the program to run on. Clever, eh?

Another trick of Psion's trade is to use the specially created development tools like standard routines, careful planning, and good documentation. By doing so this helps to increase programmer productivity. It is a waste of valuable manpower to have different programmers, working on different games for different computers but all writing the same routines. If someone writes, say, a bit of machine code to simulate sprites on the Spectrum he lets the others know about it in the form of documentation so that they don't have to waste vital time dreaming up their own routines.

SUPER COUP

To date Psion consider their set of 4D programs which come with the Sinclair QL to be their best achievement as far as programming goes. By using the VAX system Psion were able to simulate the QL and start working on programs long before an actual QL was in their possession. In fact the firm did not even see a QL until one month before the machine's launch!

Psion pulled off a coup about 18 months ago by signing a formal agreement with Sinclair Research to offer any program they write for Sinclair machines to Sinclair first. If they want a Psion program Sinclair takes charge of marketing and stamp its well-known name on the product. Psion can't fail to benefit from the link. But they are very cagey about naming specific figures for production or sales of products.

To ensure high sales for Psion games the firm has a strict policy of heavy duty testing. Any bug is bound to be found if a game is played as thoroughly and as often as most Psion games. And this also allows for games to be improved and changes made long after the initial concept was first thought of.

In the new tennis game ball boys have been incorporated into the play and there are a multitude of skill levels including the most difficult, probably to be called 'the Brat' after a notoriously temparmental tennis player. Original little touches such as these are what go to make a good, best selling computer game.

THE ROAD TO THE SHELVES

Program development takes about three months from conception to production. One, or maybe two, programmers will start individually on a project which may grow into a larger team effort as production deadlines approach and the game needs to be tested.

Chequered Flag is a motor racing simulation game. This was an idea which Psion had harboured for some time and when they had the manpower available they started work on it. Before they started the programming two programmers sat down and worked out what they themselves would want from a racing car game. To move the background requires a lot of processing so a mathematical foundation on which to build the graphics was established.

Then the twiddly bits were put in, the use of gears, a choice of tracks and cars. This variety makes Chequered Flag a game which can be played by both a novice and an expert without it becoming too difficult or boring. Because it uses such good graphics a lot of the software had to be written in Z80 rather than C.

WHAT'S NEXT

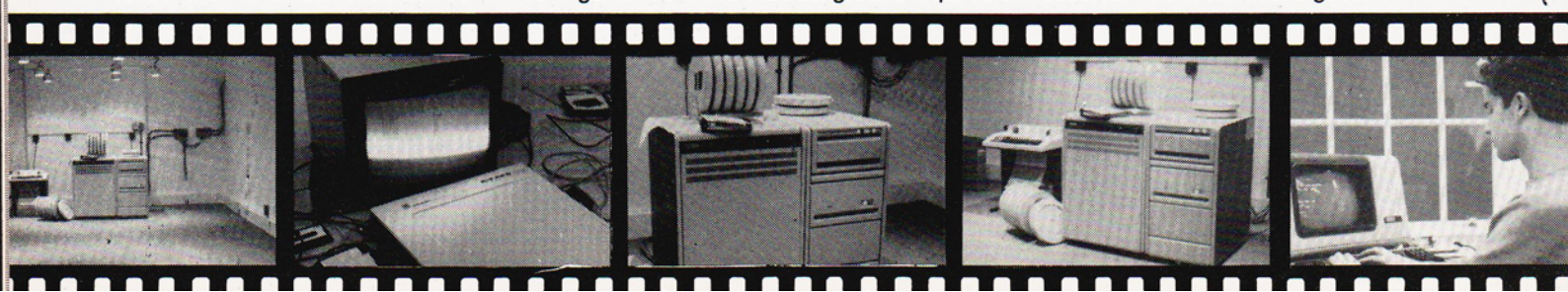
Psion's next simulation is the tennis program in full 3D, with a variety of opponents to provide differing levels. It is worth noting that all Psion programs will use Sinclair Interface2 joysticks where appropriate. Scrabble is one of Psion's more spectactular programs. It was originally written by Dr. Peter Turcan as a University project on an ICL 1904 in PASCAL. It was later adapted and sold to a software house called Little Genius who now own the rights to the name. Psion then bought the rights to produce it on Sinclair computers along with the algorithm and techniques and then did the necessary coding for a Spectrum machine.

On the Apple Scrabble took up 80K of disc space, but in a Spectrum you only have half that to play with. Psion managed to cram a 12,000 word vocabulary into the black box and claim that it could be much larger. However the international rules for Scrabble stipulate a two minute time limit and so, being perfectionists, Psion have adhered to this.

The need to write such clever code meant that most of the programming had to be done in assembler, rather than C, and made Scrabble a labour intensive project. Psion reckons that this program represents 3 man-years of programming. The result is impressive. The Spectrum plays a very good game, and has beaten some first rate players. The QL version should be stunning. So far 43,000 copies of Scrabble have reortedly been sold.

All Psion's software is developed in-house, not because they will only sell their own programs but because they have not yet seen any from outside which they feel come up to the Psion standard.

Psion have come a long way in a short time. In four years they have sold over 3½ million programs and the staff has nearly doubled. The future looks good.



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Written by Mike Wacker

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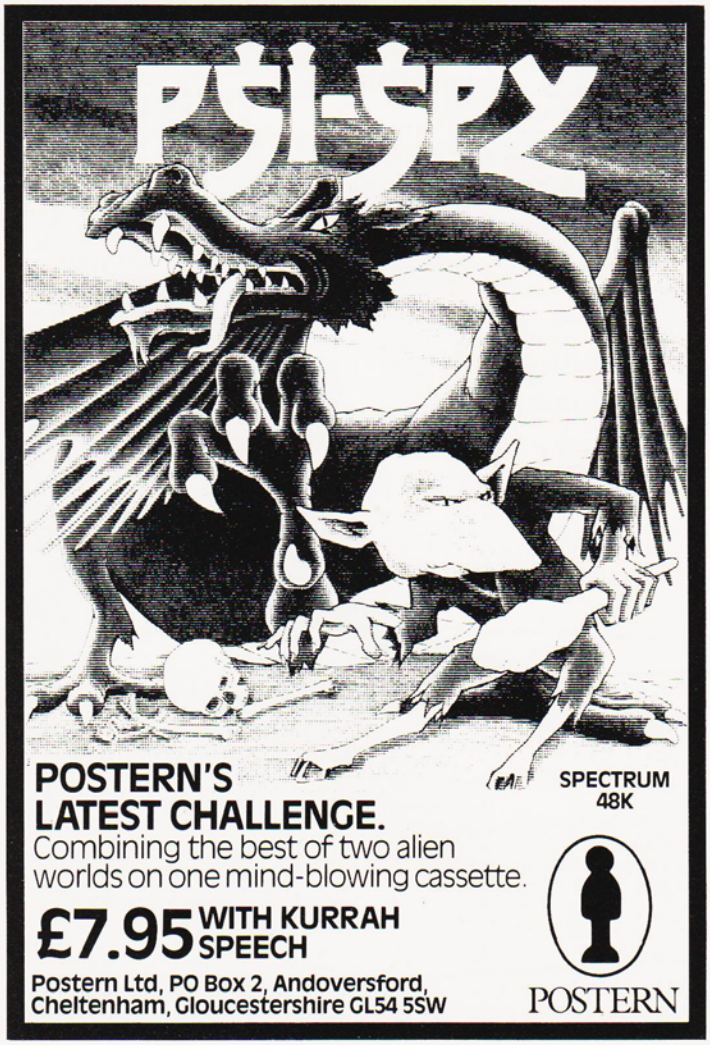

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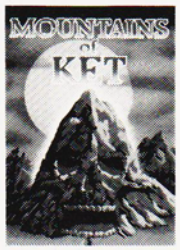

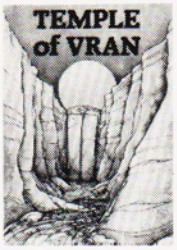

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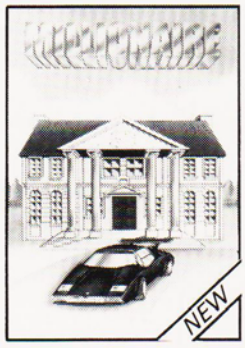

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COLLISION COURSE

Collision Course is a fast moving full colour and sound game for the Atari range of home computers.

Full use of sprites and machine code are only two of the features that this game has, but enough of this, on with the plot.

Mr J.J. Jake always has a rough time, somebody is always trapping him in a room. Fortunately with your help he should be able to get out of any room finds himself in. Unfortunately if he collides with anything it will kill him.

In this one player game the object is to get Jake out of any room he may get put in. The faster he gets out of a room the more points he gets, but the more rooms he goes through the greater the difficulty factor is. He has three lives after which the game is over.

The only thing to note in the listing is that anything that is in italics should be typed in in inverse video. The machine code should be checked thoroughly and the program SAVEd before use as any mistake will cause the machine to crash.

Conversion clues

Very difficult as machine code and sprites are used. Atari owners that have no joysticks could convert it for keyboard use by altering the following lines: 7, 160, and changing the machine code between lines 1000 and 1035.

```
1 DIM A$(20)
2 GOTO 10
5 IF PEEK(HZ)>200 THEN POP :RETURN
6 IF PEEK(P0PF)>0 THEN POP :RETURN
7 IF STICK(0)=15 THEN RETURN
8 SOUND 3,10,10,12:SOUND 3,0,0,0:RETURN
10 SPEED=208:PMG=203:SPEEDTEMP=205:VT=206:HZ=207:CHAR=1784:PMBASE=54279:RAMTOP=1
06:I=PEEK(RAMTOP)-8:HPOSP0=53248
11 POKE PMBASE,I:ZZZ=I:I=I*256+512:POKE PMG+1,INT(I/256):POKE PMG,I-INT(I/256)*2
56:GRACTL=53277:DMACTL=559
12 HITCLR=53278:P0PF=53252:FOR I=1536 TO 1678:READ A:POKE I,A:NEXT I
13 FOR I=CHAR TO CHAR+7:READ A:POKE I,A:NEXT I
14 A=ZZZ*256+16:FOR I=0 TO 495:POKE A+I,PEEK(57856+I):NEXT I:POKE 1670,ZZZ
18 X=USR(1536):POKE VT,70:X=USR(1542)
19 GRAPHICS 2+16:POKE DMACTL,46:SETCOLOR 4,1,0
20 POSITION 1,0:? #6;"####################"
25 POSITION 1,1:? #6;"# collison course#"
26 POSITION 1,2:? #6;"####################"
30 POSITION 2,4:? #6;"BY E.H.BERESFORD"
40 POSITION 1,8:? #6;"     press TRIG"
45 POSITION 1,9:? #6;"      to start"
130 POKE GRACTL,3:POKE DMACTL,46:POKE 704,255:POKE SPEEDTEMP,1:POKE SPEED,1
135 FOR I=44 TO 186:SOUND 0,I,10,6:POKE HZ,I:NEXT I:SETCOLOR 1,3,8
150 FOR I=186 TO 44 STEP -1:SOUND 0,I,10,6:POKE HZ,I:NEXT I:SETCOLOR 1,4,14
160 IF STRIG(0)=1 THEN GOTO 135
161 POKE SPEED,2:POKE 77,0
162 SCORE=0:LEVEL=0:LIVES=3:ROOM=1
170 GRAPHICS 2+16:POKE DMACTL,46:SETCOLOR 4,4,0
171 ON ROOM GOSUB 6000,6010,6020
175 POSITION 0,2:? #6;"**collision*course**"
176 POSITION 1,5:? #6;"get ready FOR THE"
177 POSITION 2,7:? #6;A$
178 POSITION 6,11:? #6;"level ";LEVEL
179 POKE VT,90:X=USR(1536)
```

RUNS ON ATARI

```
180 FOR A=1 TO 175:POKE HZ,A+10:SOUND 0,RND(0)*A,10,8:POKE 708,A:NEXT A:SOUND 0,
0,0,0
185 FOR A=1 TO 400:NEXT A
190 POKE HZ,54:POKE VT,70:X=USR(1536)
200 GRAPHICS 1+16:POKE DMACTL,46:SOUND 0,0,0,0:REM MAIN PROGRAM START
205 DL=PEEK(560)+256*PEEK(561):POKE 54286,128:POKE 512,132:POKE 513,6:POKE 54286
,192
210 POKE DL+7,134:POKE DL+3,71
212 POSITION 0,0:? #6;"**collison*course**"
215 POSITION 0,1:? #6;"SCORE  LIVES  level"
220 COLOR 147:PLOT 0,3:COLOR 135:PLOT 19,3:COLOR 156:PLOT 0,23:COLOR 133:PLOT 19
,23:COLOR 148:PLOT 1,3
225 DRAWTO 18,3:PLOT 1,23:DRAWTO 18,23:COLOR 254:PLOT 0,4:DRAWTO 0,22
230 PLOT 19,4:DRAWTO 19,10:PLOT 19,16:DRAWTO 19,22
240 POSITION 1,2:? #6;SCORE:POSITION 9,2:? #6;LIVES:POSITION 16,2:? #6;LEVEL
400 POKE HITCLR,0:POKE 77,0
401 TIME=ROOM*100+LEVEL*200
405 ON ROOM GOSUB 2000,3000,4000
410 IF PEEK(P0PF)>0 THEN GOSUB 7000
411 IF TIME>0 THEN SCORE=SCORE+INT(TIME)
412 IF PEEK(P0PF)=0 THEN ROOM=ROOM+1:LEVEL=LEVEL+1:IF ROOM=4 THEN ROOM=1
415 IF LIVES>0 THEN GOTO 170
420 GOTO 8000
1000 DATA 76,118,6,0,0,0,104,160,16,162,6,169,6,76,92,228,216,198,205,208,94,165
,208,133,205
1005 DATA 24,165,206,105,7,168,169,0,145,203,136,16,251,173,120,2,73,255,168,41,
1,201,1,208
1010 DATA 4,198,206,198,206,152,41,2,201,2,208,4,230,206,230,206,152,41,4,201,4,
208,4,198
1015 DATA 207,198,207,152,41,8,201,8,208,4,230,207,230,207,165,206,41,127,133,20
6,24,165,206,105
1020 DATA 7,168,162,7,189,248,6,145,203,136,202,16,247,165,207,141,0,208,76,95,2
28
1030 DATA 104,160,133,169,0,145,203,136,192,255,208,249,96,0
1031 DATA 72,169,226,141,10,212,141,9,212,104,64
1035 DATA 62,42,62,8,127,28,20,34
2000 N=10:SETCOLOR 0,4,8:SETCOLOR 2,3,8:SETCOLOR 4,3,2:SETCOLOR 1,12,8
2006 FOR NN=1 TO (LEVEL+1)*10:A=3+RND(0)*15:I=4+RND(0)*18:COLOR 2:SOUND 0,A*I/3,
10,8
2007 PLOT A,I:SOUND 0,0,0,0:NEXT NN
2008 FOR NN=1000 TO 400 STEP -1:SOUND 0,0,0,0:IF NN/20=INT(NN/20) THEN SOUND
0,N
N/4,10,12
2009 TIME=TIME-1*LEVEL:GOSUB 5:NEXT NN
2010 COLOR 2:FOR A=18 TO 2 STEP -1
2015 IF A/2=INT(A/2) THEN GOSUB 2200
2016 IF PEEK(HZ)>200 THEN RETURN
2020 IF A/2<>INT(A/2) THEN GOSUB 2100
2021 IF PEEK(HZ)>200 THEN RETURN
2030 NEXT A
2100 FOR I=4 TO 22:COLOR 2:PLOT A,I:GOSUB 5
2106 SOUND 0,I*A/2,10,8
2110 COLOR 0:PLOT A,I
2111 SOUND 0,0,0,0
2112 TIME=TIME-1*LEVEL
2115 NEXT I:RETURN
2200 FOR I=22 TO 4 STEP -1:COLOR 2:PLOT A,I:GOSUB 5
2211 SOUND 0,I*A/2,10,8
2215 COLOR 0:PLOT A,I
2216 SOUND 0,0,0,0
2217 TIME=TIME-1*LEVEL
2220 NEXT I:RETURN
3000 FOR A=7 TO 19 STEP 4:COLOR 50:PLOT 3,A:DRAWTO 8,A:PLOT 11,A:DRAWTO 16,A
3010 SOUND 0,A*10,10,8:FOR I=1 TO 20:NEXT I:SOUND 0,0,0,0:POKE HZ,54:NEXT A
3020 COLOR 0:FOR A=7 TO 19 STEP 4:FOR N=1 TO 20
3030 SOUND 0,N*A,10,8:NEXT N:SOUND 0,0,0,0:FOR ZZZ=1 TO 10:NEXT ZZZ:NEXT A
3040 A=5+INT(RND(0)*5)*4:FOR I=15 TO 4 STEP -1:COLOR 18:PLOT I,A:FOR ZZZ=1 TO 2:
SOUND 0,ZZZ*10,10,6
3050 GOSUB 5:NEXT ZZZ:COLOR 0:PLOT I,A:SOUND 0,0,0,0:NEXT I
3060 TIME=TIME-1*LEVEL
3070 GOTO 3040
4000 SETCOLOR 4,9,2:SETCOLOR 0,10,10
4001 FOR A=4 TO 16 STEP 4:COLOR 66:PLOT A,7:DRAWTO A,19:FOR ZZZ=1 TO 10:SOUND 0,
A*ZZZ,10,8:NEXT ZZZ
4002 SOUND 0,0,0,0:FOR ZZZ=1 TO 10:NEXT ZZZ:NEXT A
4010 A=(PEEK(HZ)-50)/8+1
4015 IF A<2 THEN A=2
4016 IF A>18 THEN A=18
4017 Z=15/LEVEL
4020 FOR I=5 TO 22:COLOR 66:PLOT A,I:SOUND 0,I*4,10,6:COLOR 0:PLOT A,I:FOR N=1 T
O Z:NEXT N
4024 NEXT I:IF PEEK(P0PF)>0 THEN RETURN
4025 GOSUB 5
4100 TIME=TIME-1*LEVEL
4200 GOTO 4010
6000 A$="HEARTLESS HEARTS":RETURN
6010 A$="COURAGEOUS CLUBS":RETURN
6020 A$="DEADLY DIAMONDS ":RETURN
7000 FOR A=1 TO 100:SETCOLOR 4,15,15:SOUND 0,A,10,8:SETCOLOR 4,0,0:SOUND 0,0,0,0
:NEXT A
7999 TIME=TIME/20:LIVES=LIVES-1:RETURN
8000 GRAPHICS 2+16:POKE DMACTL,46
8005 POKE HZ,173:POKE VT,36:X=USR(1536)
8010 POSITION 3,1:? #6;" GAME OVER "
8020 POSITION 0,4:? #6;" your score ";SCORE
8030 POSITION 0,6:? #6;" high score:";HIGH
8040 IF SCORE>HIGH THEN HIGH=SCORE:POSITION 1,8:? #6;"WELL DONE  YOUVE"
 0,10:? #6;"BEATEN THE TOP SCORE"
8050 FOR A=17 TO 255:POKE 708,A:POKE 709,A-5:POKE 710,A-17:POKE 711,A-7:SOUND 0,
A,10,8:NEXT A
8999 GOTO 18
```

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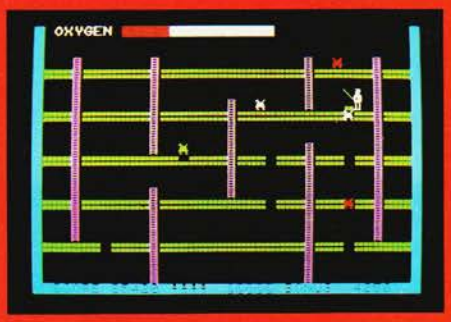

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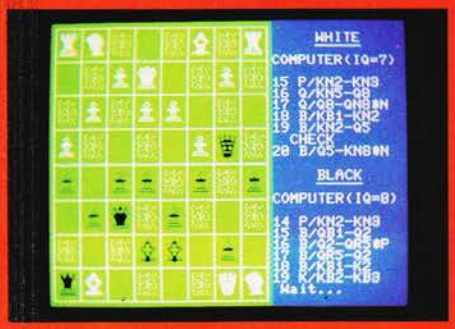

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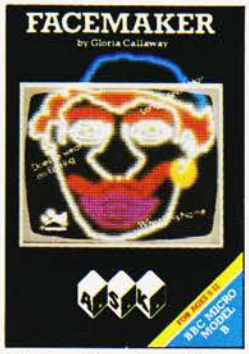

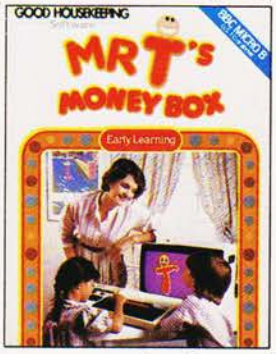

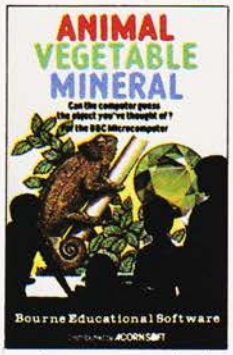

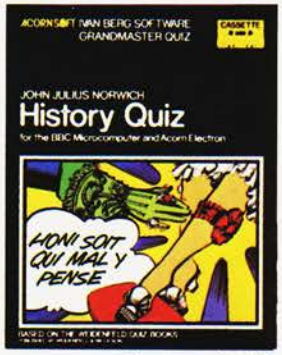

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With the Animal, Vegetable, Mineral program, the children can get the computer guessing.

They think of an object. The BBC Micro has to decide what it is.

If it doesn't come up with the answer, the children can keep giving it hints.

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The program also encourages them to consult reference books so that they can ask the computer increasingly tough questions.

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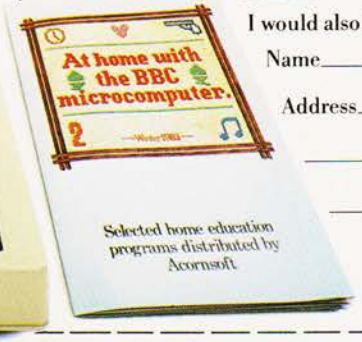

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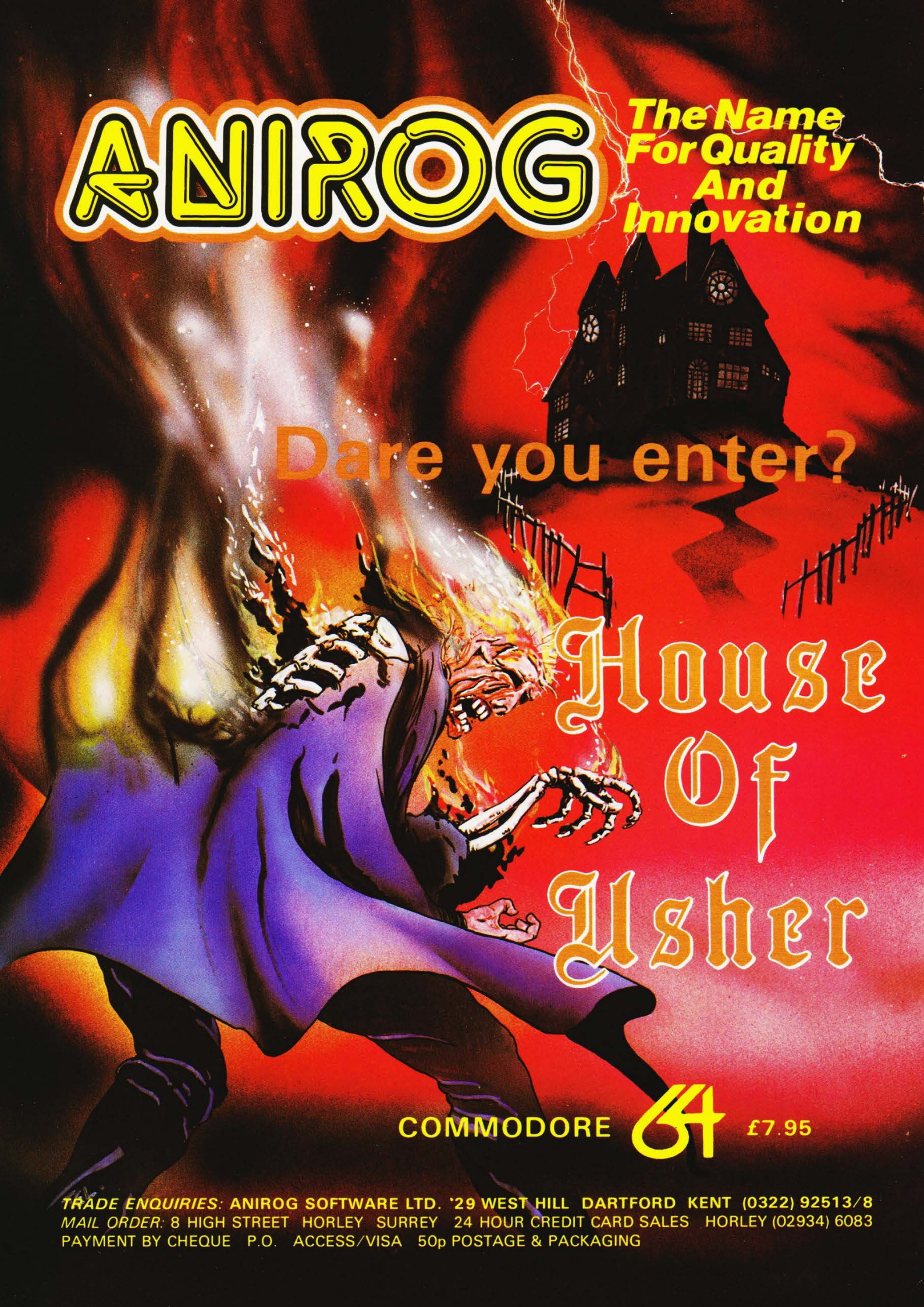
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SOFTWARE

2002

Runs on: BBC
Made by: Superior Software
Price: £7.95

Anyone who has seen the film "2001: A SPACE ODYSSEY" might remember at the beginning the scene where there is a shuttle docking with a revolving space station. In this game you have to do this too. You are in control of a shuttle and your job is to safely dock with the station. There are six skill levels with the user starting at a greater distance from the orbiting station and with more things to correct before docking. As the pilot, you have full control over forward, lateral, and, vertical movements and control over the pitch, yaw, and roll of the shuttle. These can be controlled using either the ACS (Attitude Control System) which gives fine control over the shuttle, or the OMS (orbital manoeuvering system) which provide 50 times the thrust of the ACS.

The cassette comes with a comprehensive manual and a function key overlay. The only criticism I have is the slow response time but this is understandable considering the number of things that have to be calculated.

JACKPOT

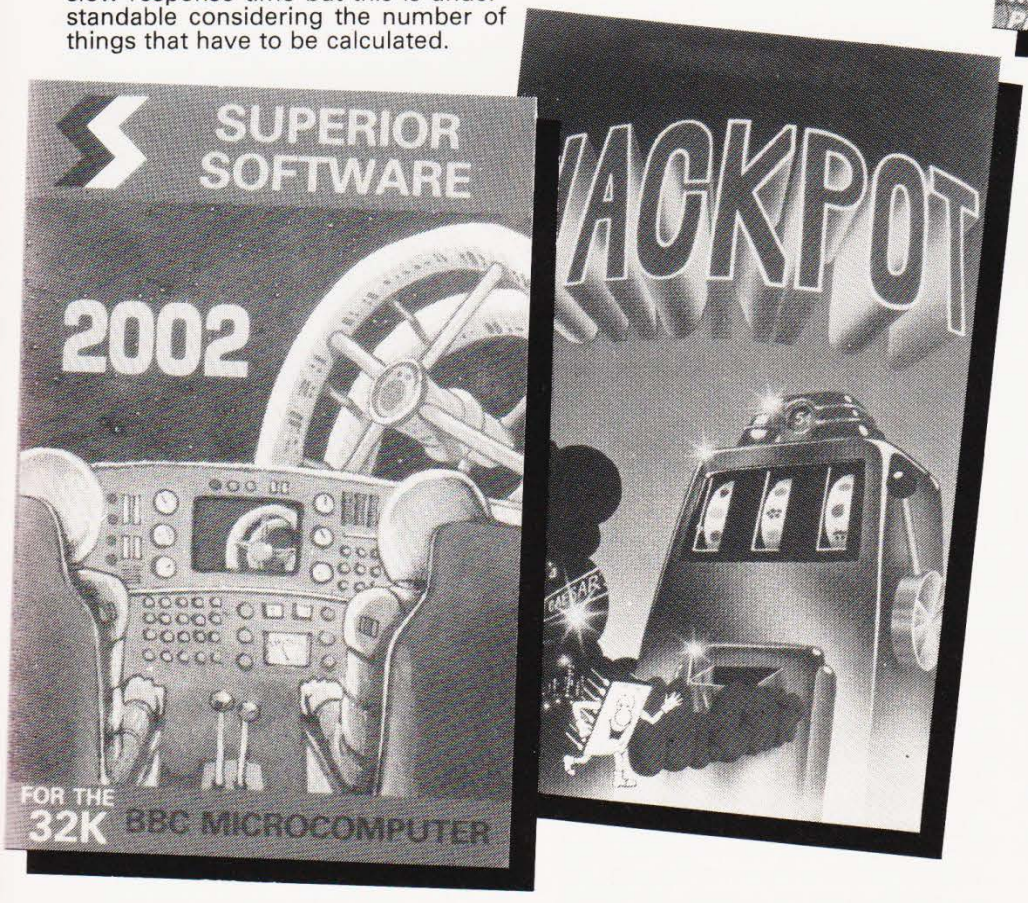
Runs on: VIC 20
Made by: Mr Chip Software
Price: £5.50

A colourful title page puts you in the mood for gambling. You may lose the game but not your own money.

This one armed bandit takes on a new dimension in your own home. The uncluttered display is easy to work out with gamble hold and nudge facilities. There are a number of tunes when collecting, nudging, or getting £2.00 in a win which make this a must for fruit machine addicts.

I have found this one of the best games for the unexpanded VIC 20. I did find some drawbacks though, when loading the game the title page says 'hit a key', when you do there is no indication of anything happening but the game starts to load.

The documentation is good but all the function keys have to be used for various things and it is a good idea to learn what every one of them does.



PARATROOPERS

Runs on: Commodore 64, VIC 20, Spectrum
Made by: Rabbit Software
Price: £5.95

Enemy Paratroopers are attacking your base, it is your task to defend it by shooting at each paratrooper as he heads downwards from his helicopter towards the bunker where you are hiding.

You are in a fixed position but can turn and fire within a cone of approximately 120 degrees. Any number of Paratroopers can come down at any time so to gain the maximum score you must always be alert and on your toes. Firing at the helicopters only decreases your score so save your missiles for the descending men.

If they avoid your attack and land safely they appear to pose no immediate threat until they join forces. It only takes three troopers to drive a tank, with which they will heartlessly wipe you out.

The game incorporates the added advantage of the choice of whether or not to define your own keys to turn left

REVIEWS

SOFTWARE

or right and fire. Alternatively you can use the cursor keys with key A to fire.

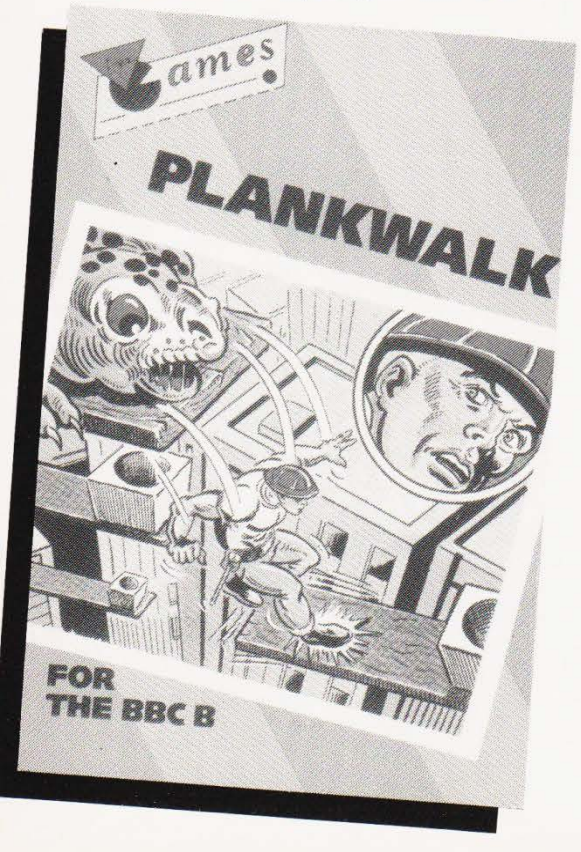
This particular program is available for Commodore 64, VIC 20, and both the 48K and 16K Spectrum and can be used with a Protek Joystick if desired. The actual game has no variations and is very similar to arcade type space invaders, the difference being that you are firing at oncoming paratroops rather than flying saucers and other oddities from space. Paratroopers is relatively uncomplicated, requires little or no instruction and is fun to play.

PLANKWALK

Runs on: BBC
Made by: Virgin Games
Price: £7.95

The first few times I played PLANKWALK I found it — to say the least — boring. As I became more and more accustomed to its concept I grew to like it. You control scaffolding Sid, who is situated at the top of a clumsily built scaffolding frame. You must jump from plank to plank in a downward direction as the screen scrolls up. Your progress is hampered by a monster who chases you. Your task isn't made easier by gaps and invisible planks which can send you plummeting off the screen beneath. By the way, moving or falling off any part of the screen loses you a life.

There are four skill levels (1-4) and that defines the quantity of cherries (bonus points if eaten) which appear. The graphics aren't anything special but this doesn't hamper your fun. Sound is rather weird but produces a good effect. All in all, the game is a fun one suitable for younger enthusiasts.



SPACE SHUTTLE

Runs on: BBC
Made by: Microdeal
Price: £8.00

This is a series of five games losely based around the taking off and landing of an American space shuttle.

In the first part you have to pilot the shuttle through the escape window. This part of the action takes place in less than a quarter of the screen with the rest of the screen going unused and involves moving a steadily extending line into a small box.

In the second part you have to park the shuttle close to an orbiting satellite. This part uses slightly more of the screen, but is less responsive to the controls. The third part involves retrieving this satellite and was the only section I could do after playing the game for two consecutive evenings.

The fourth part is the re-entry of the shuttle into the atmosphere. This uses the same controls and part of the screen that the launch used. The final part is the landing on the runway and gives quite a nice view as seen from the pilots seat of the shuttle.

The manual supplied with the cassette is poorly written and contradictory.

3-D SEIDDAB ATTACK

Runs on: Spectrum
Made by: Hewson Consultants
Price: £5.95

You are the commander of a modern tank or "Drone". Your task is to patrol the city streets destroying any Seiddabs that venture within your range.

The screen shows the front of your "Drone" advancing down the city streets. The buildings are drawn in perspective which gives a three-dimensional effect showing the buildings receeding into the distance. Also displayed on the screen is a small square enclosing a plan view of the city area which is provided by your short range radar. You appear on this plan as a flashing white dot and the Seiddabs are shown as steady white dots.

This is often confusing as it is difficult to tell yourself from the Seiddabs as your dot is not easily distinguished from the others.

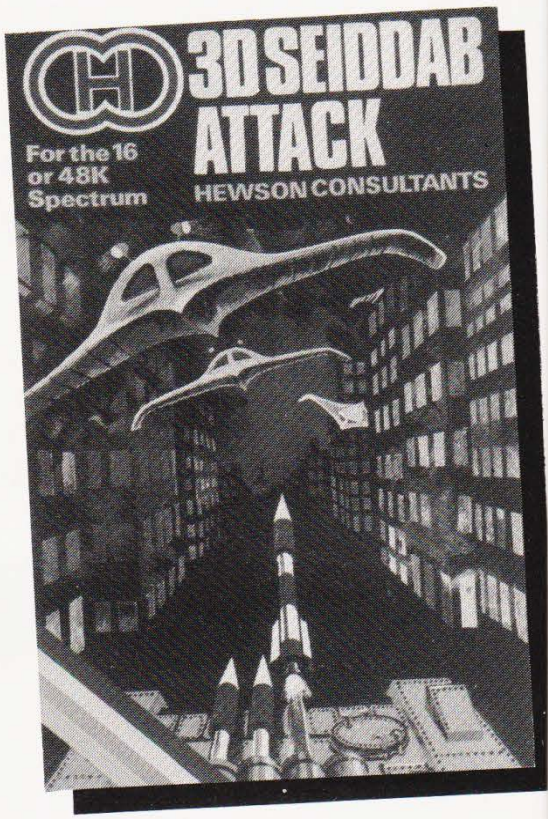
The lower left of the screen shows the number of your current Drone, you are allowed three of these per game, and the number of missiles left if less than, or equal to ten.

The lower right of the screen shows the current score of each player and the highest score to date. If you succeed in clearing the first screen, your Drone is transported to the countryside where the Seiddabs attack in mass formation dropping bombs as they pass.

Your Drone moves forward automatically and you can move left and right using the cursor keys. Movement in these directions is restricted except at junctions. The target area of your missiles can be moved up and down and key zero fires missiles.

3D Seiddab Attack has an unusual addition of a two player option and is compatible with a Kempston Joystick if preferred to the keyboard option.

A fast moving arcade type game which can be used on any spectrum.



KICK-OFF

Runs on: Commodore 64
Made by: Bubble Bus
Price: £6.99

Many of the games currently appearing on shop shelves turn out to be simply variations on tried and tested arcade themes. It is therefore a welcome change to encounter an exception.

In this game, based on table football, scoring goals replaces scoring aliens and the reward for a good shot is seeing the ball evade your opponent's keeper and roll unstoppably into the net.

There is a choice of playing a two player version or against the computer. Not that the computer actually moves the opposing team but rather biases the ball so that it has a demonic determination to roll towards your goal. Level of difficulty is determined by the speed of the ball but even at slow speeds you have to be quick and accurate to move from row to row of your team and keep control.

STARSHIP ESCAPE

Runs on: VIC 20 + 16K
Made by: Sumlock
Price: £9.95

A graphical adventure with a text title page giving you options of play. You and the aliens are in hi-res but your space ship is in keyboard graphics. While cruising through space, your ship is captured by a 'force cloud entity' which disassembles your ship and hides the pieces around its own space ship. You have to explore the entity's craft and re-assemble your space ship in the airlock assisted only be a laser and your faithful hound K9.

There are various aliens and hints if you get stuck. The sonics were not impressive and there is no save facility. Joystick or keyboard can be used, the game is on cassette, and your VIC must have at least 16K expansion.

You control a spaceship moving across the screen above a smooth vertically-scrolling background of stars. Suddenly, out of nowhere, there appears an army of alien creatures. These creatures fly around in random-fashion, each dropping clusters of missiles. To combat this, your spaceship is armed with three missile launchers — one in the centre and two on the wings — which fire alternatively and extemely fast. With this rapid fire action it is possible to clear one wave in a couple of seconds.

Joystick response is good and fast, so that dodging the creatures and their missiles is made easier.

Once you have destroyed ten waves of the same creature, you space warp to another part of the galaxy (with a sound reminiscent of Star Raiders) to fight ten waves of a different creature.

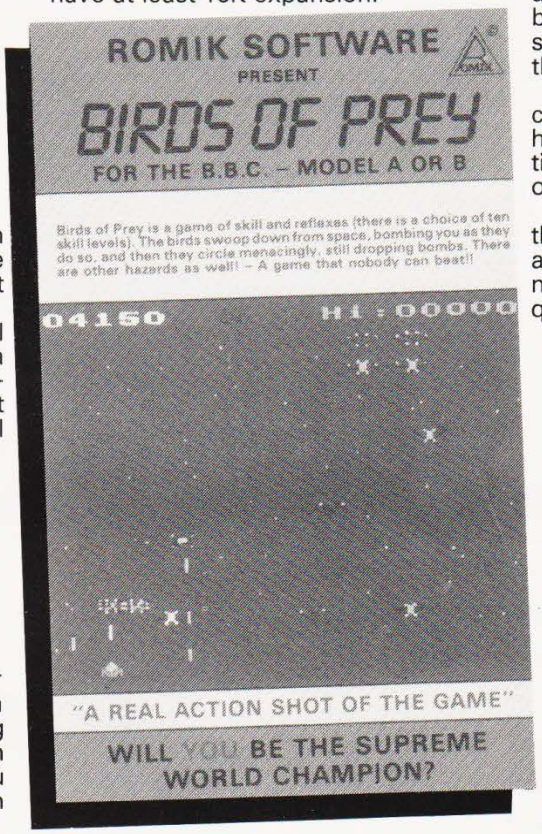
You can select either a one or two player game, demonstration-mode, and the speed of the alien creatures can be slow, fast or very fast. All these are selected by the joystick and 'fire' starts the game, albeit rather abruptly.

If you start off badly in a game you can start again without clearing the high score. Hyperblast! is a very addictive invader-style game which stands out from the crowd.

Not including both players' scores (in the two-player game) on the screen is an unfortunate oversight, but this does not detract from the high arcade-quality of the game.

The graphics are good and the action realistic, particularly the crowd scene on the title page. Definitely reminiscent of a Saturday on the Kop.

This is a joystick only game and I found the level of dexterity required a bit beyond me with the computer winning 8 to 0 on most occasions — but then I never mastered the original either!



BIRDS OF PREY

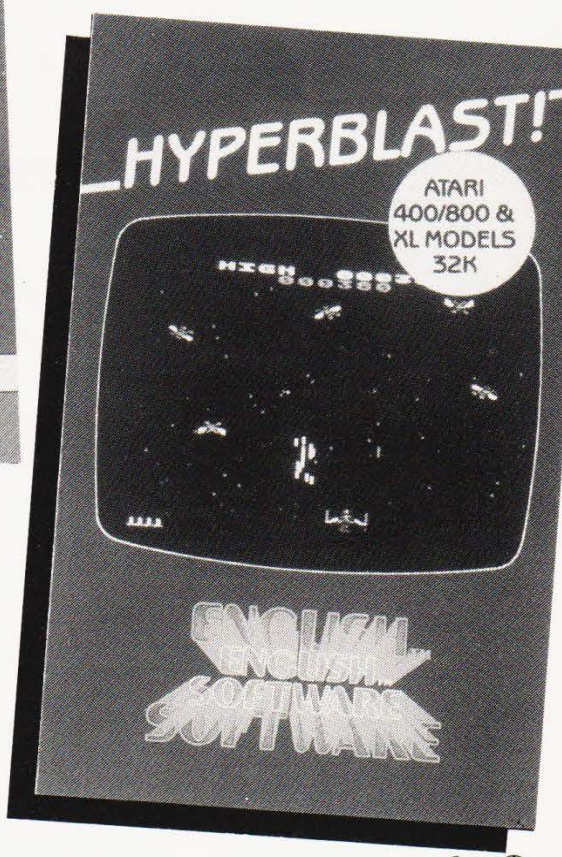
Runs on: BBC
Made by: Romik
Price: £6.99

Yet another variation on "GALAXIANS". The aliens fly in formation at the top of the screen moving from side to side. Some will then decide to fly ina circle above where you move, all the time dropping bombs on you.

Aside from the birds in formation and the birds circling there are also kamikaze birds. These peel off from the formation and then attack you as they descend. If they miss you they go off the bottom of the screen and re-appear at the top.

Periodically you are attacked by death bombs. If you do not shoot them before they reach the bottom of the screen, you lose a life. You start off with three lives and gain an extra one every fourth screen that you clear.

I found that the keys are a little too close together for comfort, but this version of the arcade game is certainly playable.



HYPERBLAST!

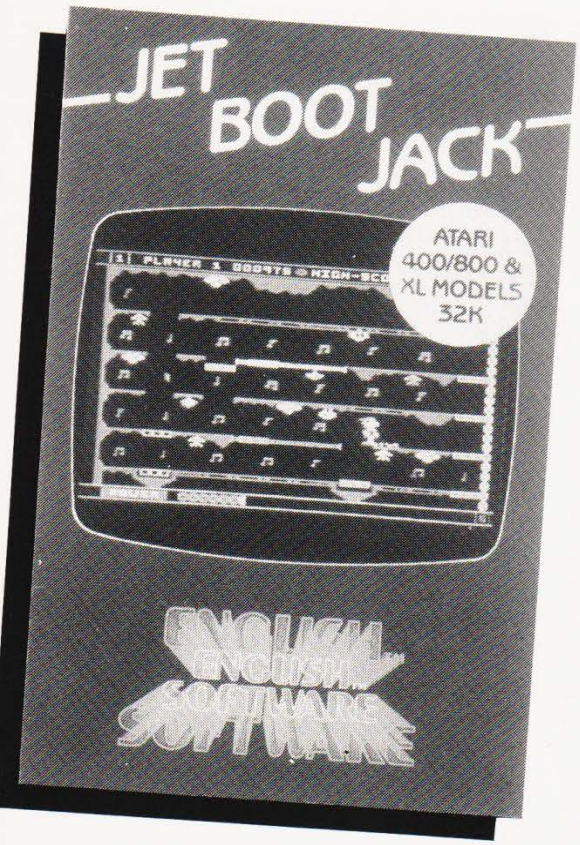
Runs on: Atari
Made by: English Software Company
Price: £9.95

This game, which is similar to Space Firebird, shows high resolution arcade-action at its best on a home computer.

As with Jet Boot Jack there is a loading screen which includes a countdown. When the game has loaded you are greeted by a pleasant little tune which also plays after each game.

REVIEWS

SOFTWARE



JET BOOT JACK

Runs on: Atari
Made by: English Software Company
Price: £9.95

Jack is an amiable figure, donning cap and headphones, who is collecting musical notes, aided by his jet-powered boots.

While the game is loading you watch a colourful screen which includes a countdown. After that there is a title screen which scrolls horizontally to present the high score as well as diferent options in bubble characters à la Preppie. One thoughtful feature is the ability to jump screens already conquered.

The playing screen consists of five storeys of a record-pressing plant, with musical notes hanging in the air on each storey. You propel Jack around the screen using a joystick. He can hitch a lift on sliding platforms and conveyor belts. To move to another storey you need to get on a lift. If you attempt to get on a lift while it is in motion, Jack loses one of his five lives. He also dies if you miss a slide, collide with a low hanging rock, run out of jet fuel for Jack's boots (which loses all remaining lives) or if you hit one of the different species of bugs (what are they doing in a record factory?!). To avoid hitting a rock or bug Jack can duck with a carefully co-ordinated press of the trigger.

Points are scored for each note collected, and for each bug killed there is a random bonus. To kill a bug, Jack has to go to the floor above it and then jump up and down so that it falls down. To refuel he has to pass through a purple pod suspended from the ceiling.

There are six levels of play, including a practice mode, which is clear of bugs (the creepy-crawly type). Each level consists of ten screens. Completing the tenth screen takes you back to the first screen but on the next highest level.

Just one small criticism is the similarity between the numbers '2' and '3' on the playing screens scorer.

In this game there is certainly enough to keep you occupied, and not just on the higher levels. The graphics are good and the colours are well-contrasted. Jack looked almost human!

All round, this game is excellent. With this game compatible with the new Atari XL range I am sure English Software has made a game which will sell extremely well.

ALIEN BREAK IN

Runs on: BBC
Made by: Romik
Price: £6.99

An "INVADERS/GALAXIANS" game with a difference. You have been left to defend the Earth's supply of uranium from the oncoming Zargon fleet. Above flys a mother ship laying pods that hatch on landing, or if shot split into two normal (?) ships. These ships drop bombs on you and if they make a hole in your defenses large enough, dive towards the opening. If they make it through the hole they mutate into a mothership, which in turn lays more pods.

You can make holes in your own defenses to trap the hatched pods, but you can only do this a maximum number of five times. You start with three lives and gain an extra life and an extra go at making a hole every 10000 points.

This program incorporates a feature that I would like to see in other programs, it allows the user to define what keys to use as controls. This means you can choose what keys you feel comfortable with.

While loading the main program it plays a tune to stop you getting bored.

CASTLE BLACKSTAR

Runs on: Spectrum
Made by: SCR
Price: £8.95

I was very impressed by this new adventure game by SCR Adventures. As the name suggests the adventure is set within Castle Blackstar.

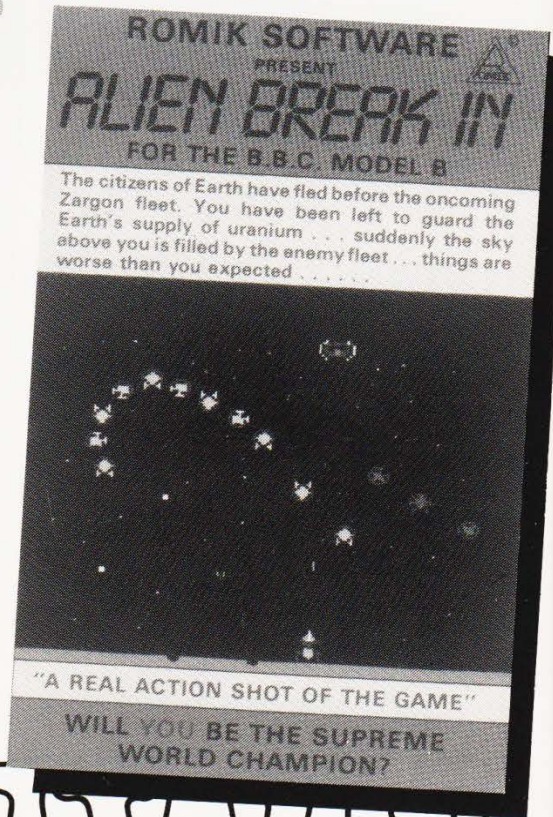
You have been sent on a mission to recover the lost power orb from the labyrinth of passages and caverns beneath the castle. To do this there are a number of puzzles which must be solved, many clues are situated within and under the castle to help you solve these puzzles.

Throughout the adventure you will discover much opposition, all of which can be overcome with the right knowledge and equipment.

Castle Blackstar possesses a wide vocabulary of words and phrases and my efforts to communicate were often rewarded with witty comments. To succeed I would say that the player requires a logical mind and much dedication to the game. Even if you are unable to find the orb, the large number of puzzles and traps that await you are sure to give much enjoyment.

A useful leaflet giving background information on the game is provided to help you start off.

I would certainly recommend this game to any would be adventurer.



REVIEWS

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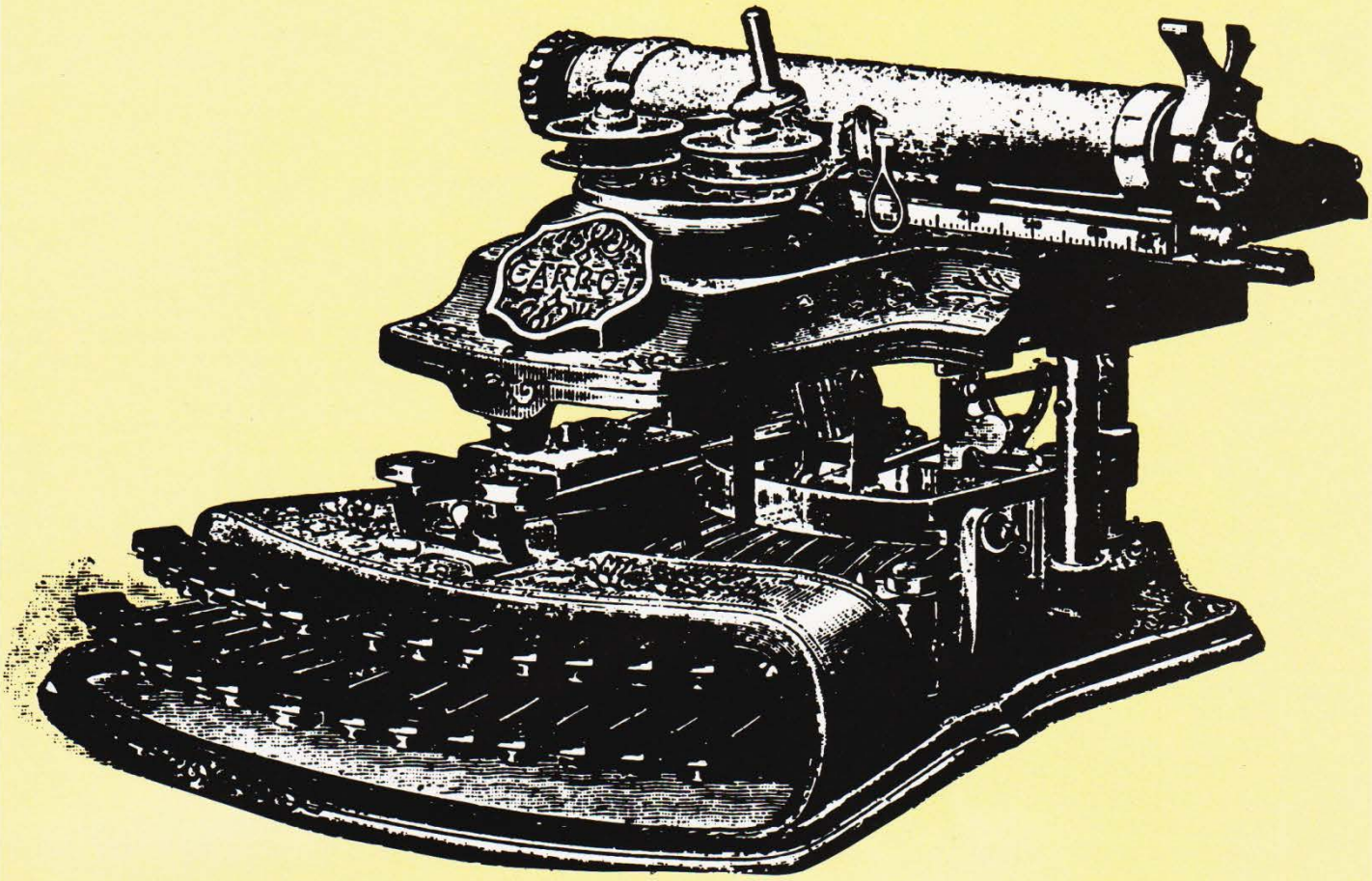

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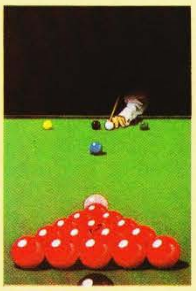

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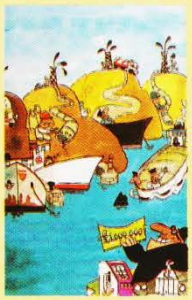

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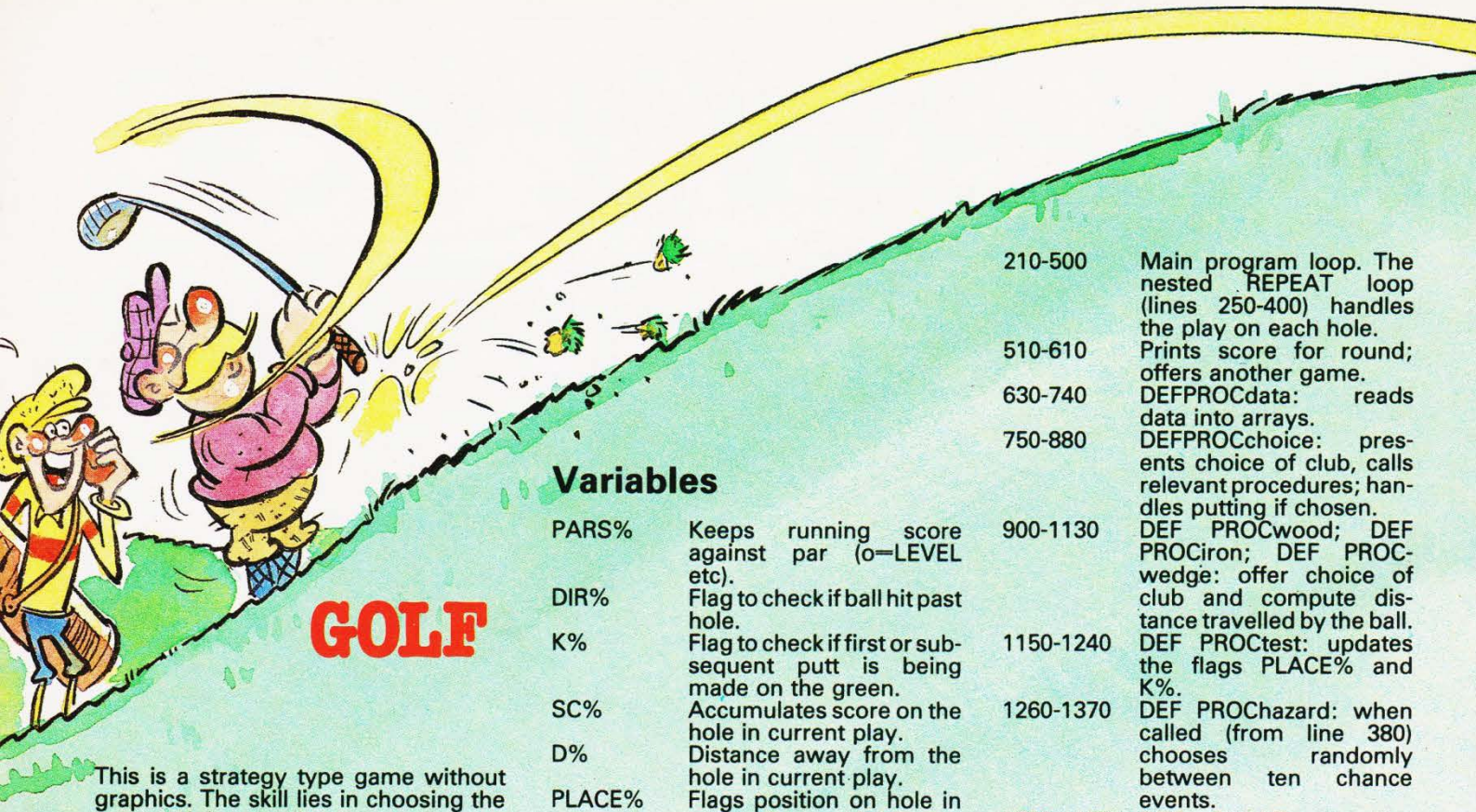


GOLF

This is a strategy type game without graphics. The skill lies in choosing the correct club according to your distance away from the hole. Random processes determine variation in the distance travelled by each club around its average, and whether or not hazards are encountered. The mixture of skill and luck provides a fairly accurate simulation of a club golfer's experience. The course record in the author's household is 67 or 3 under par for the round. Good luck!

Arrays

PAR%	Contains the par score for each hole.
DESC$	Contains the name of each hole.
SCORE%	Contains the score achieved on each hole.
DIS%	Contains the length of each hole.

Variables

PARS%	Keeps running score against par (o=LEVEL etc).
DIR%	Flag to check if ball hit past hole.
K%	Flag to check if first or subsequent putt is being made on the green.
SC%	Accumulates score on the hole in current play.
D%	Distance away from the hole in current play.
PLACE%	Flags position on hole in play: 1-tee; 2-fairway; 3-green; 4-in hole.
TT%	Total score for round.
C1$,C$	Choice of club.
W%	Number of wood chosen.
I%	Number of iron chosen.
E%	Playing strength of wedge chosen.
P%	Playing strength of putter chosen.
Di%	Distance travelled by last shot played.
PR%	Par for hole in current play.

RUNdown

Lines	Action
10-200	Calls introductory procedures; prints card of course.
210-500	Main program loop. The nested REPEAT loop (lines 250-400) handles the play on each hole.
510-610	Prints score for round; offers another game.
630-740	DEFPROCdata: reads data into arrays.
750-880	DEFPROCchoice: presents choice of club, calls relevant procedures; handles putting if chosen.
900-1130	DEF PROCwood; DEF PROCiron; DEF PROCwedge: offer choice of club and compute distance travelled by the ball.
1150-1240	DEF PROCtest: updates the flags PLACE% and K%.
1260-1370	DEF PROChazard: when called (from line 380) chooses randomly between ten chance events.
1380-1410	DEF FNPAR: function returning string from the value of PARS%.
1420-1500	DEFPROCinstruct: optional instructions.
1510-1600	DEF PROChole: provides sound effect and message when the ball is holed.
1610-12660	DEF PROCheader: title and choice of instructions.

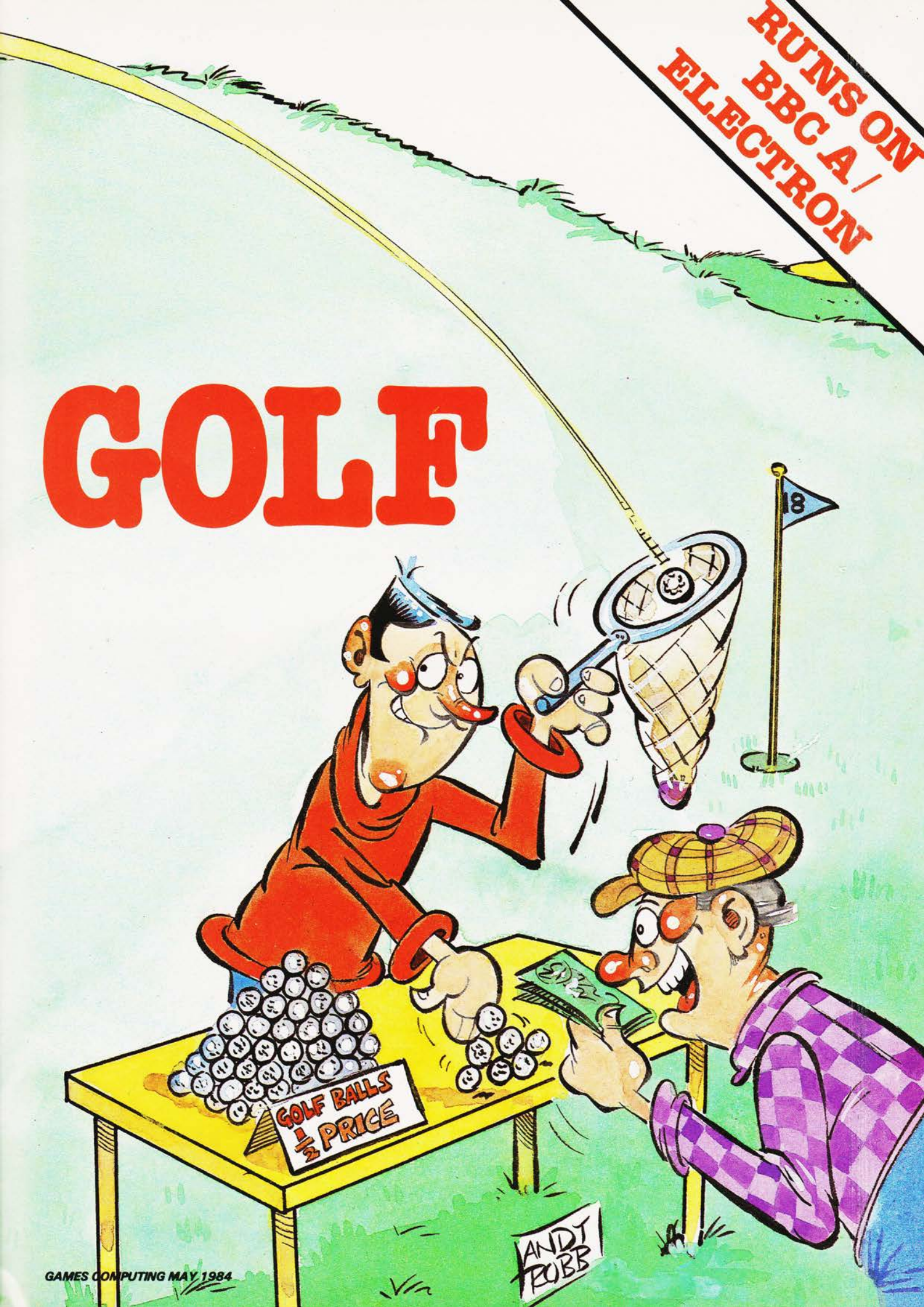
Conversion clues

The program should run on a BBC Model A as it stands and on an Electron using Mode 6 with CHR$ codes removed from PRINT statements. Conversion to other micro's should be fairly easy, replacing PROC's with GOSUB's and REPEAT's with IF THEN..GOTO's if your BASIC lacks these features. The sound commands (lines 1530-1540) should be removed or replaced. The pause at line 390 can be achieved by a dummy FOR loop.

```
LIST
   10  REM GOLF GAME
   20  REM Jonathan Evans, December 1983
   30 MODE7:PROCdata:PROCheader
   40 *FX15,1
   50 DEC$=GET$
   60  IF DEC$<>"Y" AND DEC$<>"N" GOTO 40
   70  IF DEC$="Y" PROCinstruct
   80 PARS%=0
   90  CLS
  100 PRINT '"Here is a card of the course"'
  110  FOR HOLE=1 TO 9
  120   PRINT CHR$131;HOLE;SPC(5);CHR$130;DIS%(HOLE);" YARDS";CHR$129;"   PAR ";
PAR%(HOLE)
  130   NEXT HOLE
  140  FOR HOLE=10 TO 18
  150   PRINT CHR$131;HOLE;SPC(4);CHR$130;DIS%(HOLE);" YARDS";CHR$129;"   PAR ";
PAR%(HOLE)
  160    NEXT HOLE
  170 PRINT '"Press SPACEBAR to start"
  180  *FX15,1
  190 REPEAT UNTIL GET=32
  200  DIR%=1
```

RUNS ON BBC A/ ELECTRON

GOLF



```
210 FOR HOLE=1 TO 18
220    K%=0
230    SC%=0:D%=DIS%(HOLE):PLACE%=1
240    CLS
250     REPEAT
260      PRINT CHR$131;'"HOLE ";HOLE
270      PRINT CHR$130;DIS%(HOLE);" YARDS"
280      PRINT CHR$129;"PAR ";PAR%(HOLE)
290      PRINT CHR$132;DESC$(HOLE)
300      IF DIR%<>1 THEN DIR%=1
310      IF PLACE%=1 THEN PRINT'"You are on the tee," ELSE IF PLACE%=2 THEN PRI
NT'"You are on the fairway," ELSE PRINT'"You are on the green,"
320      PRINT; D%;" yards from the hole."
330      PROCchoice
340      SC%=SC%+1:CLS:FOR I=1 TO 1000:NEXT
350      PROCtest
360      IF PLACE%=2 AND DIR%<1 THEN PRINT'"Your ball went past the hole."
370      IF PLACE%>2 GOTO 390
380      IF RND(2)=1 PROChazard
390      IF PLACE%=4 PRINT''''"Your ball went in the hole !!!":PROChole:T1=TIME
:REPEAT UNTIL TIME-T1>400
400     UNTIL PLACE%=4
410    SCORE%(HOLE)=SC%
420    PARS%=PARS%+SC%-PAR%(HOLE)
430    CLS
440    PRINT'' CHR$131;"HOLE ";HOLE;CHR$129;" PAR ";PAR%(HOLE)'''
450    PRINT"You scored ";SC%
460    PRINT'"Score against par after ";HOLE;" holes  "'"is ";FNPAR
470    PRINT'''"Press SPACEBAR to continue"
480    *FX15,1
490    REPEAT UNTIL GET=32
500  NEXT HOLE
510  CLS
520  TT%=0
530  FOR HOLE=1 TO 18:TT%=TT%+SCORE%(HOLE):NEXT
540  PRINT'''"Your total for the round was";TT%;" shots."'''''
550 PRINT"Do you want another game (Y/N) ?"
560   *FX15,1
570   DEC$=GET$
580 IF DEC$="Y" GOTO 80
590 IF DEC$<>"N" GOTO 560
600   CLS
610 END
620 :
```

GOLF

RUNS ON BBC/A

```
  630 DEF PROCdata
  640 DIM PAR%(18),DESC$(18),SCORE%(18),DIS%(18)
  650 FOR HOLE=1 TO 18
  660   READ DIS%(HOLE),PAR%(HOLE)
  670   NEXT HOLE
  680 FOR HOLE=1 TO 18
  690   READ DESC$(HOLE)
  700   NEXT HOLE
  710 DATA 410,4,156,3,385,4,526,5,330,4,190,3,285,4,425,4,167,3,377,4,310,4,504
,5,210,3,404,4,147,3,392,4,558,5,376,4
  720 DATA Abandon all hope,The witches' cauldron,Goblins' haunt,Travellers End,
The Sporran,Eye of the needle,Under Mirkwood,Oasis,Foxhole
  730 DATA Will ye no' come back again?,Devil's delight,Doom,Rabbit scrape,Bunke
rland,Hobbit hill,Haunted fairway,It's a long road that has no turning,Home swee
t home
  740 ENDPROC
  750 DEF PROCchoice
  760 IF PLACE%=3 GOTO 820
  770  PRINT'"What kind of club do you want?""Wood (WO) Iron (IR) or Wedge (WE)
";
  780 *FX15,1
  790  INPUT C1$:C$=LEFT$(C1$,2)
  800 IF C$="WO" PROCwood ELSE IF C$="IR" PROCiron ELSE IF C$="WE" PROCwedge ELS
E GOTO 770
  810 ENDPROC
  820 INPUT"How hard do you want to hit your putt""(1-5)",P%
  830 IF P%=1 AND D%=1 THEN D%=0:ENDPROC
  840 IF P%<1 OR P%>5 GOTO 820
  850 D1%=2*P%-2+RND(3)
  860 D%=D%-D1%
  870 IF D%<0 THEN D%=-D%
  880 ENDPROC
  890 :
  900 DEF PROCwood
  910 INPUT'"Which wood do you want (1-4) ",W%
  920 IF W%<1 OR W%>4 GOTO 910
  930 IF W%=1 AND PLACE%<>1 THEN PRINT"You can only use a 1 wood off the tee":GO
TO 910
  940 D1%=215+RND(30)-(W%-1)*20
  950 D%=D%-D1%
  960 IF D%<0 THEN DIR%=-1:D%=-D%
  970 ENDPROC
  980 :
  990 DEF PROCiron
 1000 INPUT'"Which iron do you want (3-9) ",I%
 1010 IF I%<3 OR I%>9 GOTO 1000
 1020  D1%=170+RND(20)-(I%-3)*10
 1030  D%=D%-D1%
 1040 IF D%<0 THEN DIR%=-1:D%=-D%
 1050 ENDPROC
 1060 :
 1070 DEF PROCwedge
 1080 INPUT'"How hard do you want to hit your wedge""(1-5) ",E%
 1090 IF E%<1 OR E%>5 GOTO 1080
 1100 D1%=10+RND(20)+(E%-1)*20
 1110 D%=D%-D1%
 1120 IF D%<0 THEN DIR%=-1:D%=-D%
 1130 ENDPROC
 1140 :
 1150 DEF PROCtest
 1160 IF PLACE%=3 THEN 1210
 1170  IF PLACE%=1 THEN PLACE%=2
 1180 IF D%<1 THEN PLACE%=4:ENDPROC
 1190 IF D%<13 THEN PLACE%=3
 1200 ENDPROC
 1210  IF K%=0 AND D%<1 THEN PLACE%=4
```

GOLF

```
1220  IF K%>0 AND D%<2 THEN PLACE%=4
1230  K%=K%+1
1240  ENDPROC
1250 :
1260 DEF PROChazard
1270 ON RND(10) GOTO 1280,1290,1300,1310,1320,1330,1340,1350,1360,1370
1280 PRINT'"You sliced into the rough"'"and took a shot to hack out.":SC%=SC%+1
:ENDPROC
1290 PRINT'"You hooked into the trees"'"and lost a shot for an unplayable ball.
":SC%=SC%+1:ENDPROC
1300 PRINT'"You sliced into the rough"'"but got a free drop.":ENDPROC
1310 PRINT'"You landed in a bunker and took "'"a shot to get out.":SC%=SC%+1:EN
DPROC
1320 PRINT'"Your ball went into the river."'"It cost you a shot to drop out.":S
C%=SC%+1:ENDPROC
1330 PRINT'"You went out of bounds and"'"had a two shot penalty.":SC%=SC%+1:END
PROC
1340 PRINT'"You lost a ball and had to play"'"again (two shots lost).":SC%=SC%+
2:ENDPROC
1350 IF DIR%<0 OR PLACE%=3 ENDPROC ELSE PRINT'"Your ball landed on a rock and"'
"bounced an extra 50 yards.":D%=D%-50:IF D%<0 THEN D%=-D%:PRINT"You went past th
e hole.":ENDPROC:ELSE ENDPROC
1360 IF DIR%<0 OR PLACE%=3 ENDPROC ELSE PRINT'"Your ball hit a tree and"'"rebou
nded 50 yards.":D%=D%+50:ENDPROC
1370 PRINT'"You hooked into the trees but"'"your ball bounced back onto the fai
rway.":ENDPROC
1380  DEF FNPAR
1390 IF PAR%=0 ="LEVEL"
1400 IF PAR%>0 ="+"+STR$(PAR%)
1410 IF PAR%<0 =STR$(PAR%)
1420 DEF PROCinstruct
1430 CLS
1440 PRINT''"This program gives you an 18 hole game"'"of golf. For those unfami
liar with"'"game, the object is to get around in"'"as few shots as possible. The
 par "'"score for each hole is what a good"'"player would expect to make,taking"
 1450 PRINT"two putts per green."''"Off the green you have a choice "'"between f
our woods,seven irons or a"'"wedge. In general woods go further"'"than irons, an
d clubs with SMALLER"
 1460  PRINT"numbers go further."''"When you use a wedge (for shots of "'"100 ya
rds or less) or a putter,"'"you are offered a choice of playing "'"strengths. In
 these cases a larger "'"number will make the ball travel"'"further. Good luck!"
 1470 PRINT'"Press SPACEBAR to start."
1480  *FX21
1490  REPEAT UNTIL GET=32
1500 ENDPROC
1510 DEF PROChole
1520 PR%=PAR%(HOLE)
1530  SOUND1,4,30,36
1540  ENVELOPE 4,16,16,1,1,1,200,0,0,126,0,0,-126,126,126
1550  IF SC%>PR% THEN PRINT''''';SC%-PR%;" OVER PAR":ENDPROC
1560  IF SC%=PR% THEN PRINT''''''CHR$129;"PAR SCORE":ENDPROC
1570 IF SC%=1 AND PR%=3 PRINT''''''CHR$136;CHR$131;"HOLE IN ONE !!!":ENDPROC
1580 IF PR%-SC%=1 THEN PRINT''''''CHR$134;"BIRDIE !!":ENDPROC
1590 IF PR%-SC%=2 THEN PRINT''''''CHR$136;CHR$133;"EAGLE !!":ENDPROC
1600 IF PR%-SC%=3 THEN PRINT''''''CHR$136;CHR$130;"*** ALBATROSS !!! ***":ENDPRO
C
1610 DEF PROCheader
1620  PRINT CHR$141;CHR$130;CHR$157;CHR$129;SPC(15);"GOLF"
1630  PRINT CHR$141;CHR$130;CHR$157;CHR$129;SPC(15);"GOLF"
1640  PRINT TAB(12,10);CHR$136;CHR$131;"Jonathan Evans"
1650  PRINT TAB(0,20);CHR$134;"Do you want instructions (Y/N) ?"
1660  ENDPROC
>
```

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ROCKMAN FILES

We have had a few queries about programs published in our March issue so here are the relevant case histories.

Case History 1.

Gridrunner, for the Spectrum
This needs a short line added:-

```
40 LET score=0:LET hiscore=0:LET men=4:LET m$="lmn lmn lmn"
```

Arcade Ace....

As ever I have been on the hunt for bugs and have found some in some pretty major arcade games.

The Vetrex Home Arcade system has a bug in the **Wizard of Narzod** game. If you play a two player game and the first player reaches the Mystic Hurler and then gets killed by his fireballs the second player will find the hurler appears on the first road.

William's **Robotron** also has some bugs in it. The first occurs on the 'brainwave', when all but a few brains have been killed let the last few start to track you. As they move sideways you must move right to the edge. Because a brain is wider than you are it cannot line up and so will not come down to get you. It will however fire laser bolts at you, you can score points by picking these off, they come straight down and are easier than usual to get. The other 'bug' occurs on the tank wave but does not help you score any points. Each tank can only shoot twenty shots. These die after two and half bounces across the screen if you do not shoot them the tank assumes that they have not died and will not shoot them any more. This means that after all the tanks have fired twenty times no more bullets will appear. It is only safe to try this when there is only one tank left on the screen. Then you can take a rest. The best way to avoid the shots is to hug the border and watch out for any bouncing bullets.

Battlezone

Another of my favourite's. The computer inside this fancy 6502 — based monolith does not know what the back of a missile looks like, so if you hide behind a cube as a missile comes to get you, when it flies over your head you can spin around and watch the front of the missile retreating, rather than the back. You can't shoot it, it will outrun your bullet.

Pac Man

Yes, even the famous **Pac man** has a bug in it, but is highly unlikely that you will see it. Because the machine uses an 8 bit chip it can only cope with 255 screens, when you get to the 256th it sort-of crashes, only half a maze appears, and the full character set then fills the right-hand half of the screen. It is also possible to go through the red ghost, I've seen it done but I don't know how, the player wouldn't tell me. if anyone out there can do it drop me a line.

Dig dug.

This is one of my favourite games but unfortunately it appears to be disappearing from the arcades, perhaps because players are getting too good too quickly. Like Pac-man you can learn the game patterns. The bug comes in the form of killing the dragon twice. Choose a sheet which has a dragon in a cave below a rock. Dig up from below the cave and inflate the dragon (which must be the last nasty on the sheet). Then walk through the paralysed dragon to below the rock. Keep the monster inflated just below bursting point then run below him, turn, pump and just before the rock hits blow him up. The dragon then dies twice, the machine loses track of how many monsters are on the screen and the sheet doesn't end. This leaves you to roam around at will without any aliens to bother you. However once you have dug away all the earth there is no escape and you cannot progress.

BLACK CRYSTAL

The Classic, six program adventure game for the 48K Spectrum and 16K ZX81 computers. No software collection is complete without it.
Black Crystal is an excellent graphics adventure and a well thought out package. *Sinclair User, April '83*
Black Crystal has impressed me by its sheer quantity and generally high quality of presentation. I am afraid I have become an addict. *Home Computing Weekly, April '83*
Spectrum 48K 180K of program in six parts only **£7.50**
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WHY PAY MORE FOR LESS OF AN ADVENTURE?

THE CRYPT by Stephen Renton

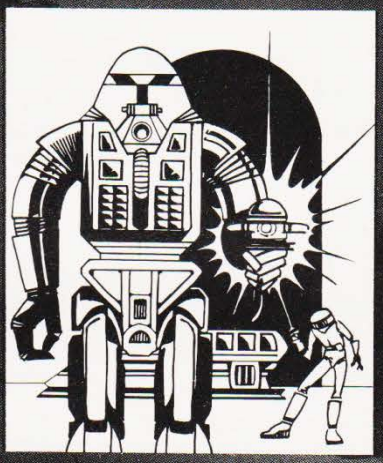
Prepare yourself for the many challenges that shall confront you when you dare to enter **THE CRYPT**. You will battle with giant scorpions, Hell spawn, Craners, Pos - Negs and if you are unlucky enough — the Dark Cyclops in this arcade style adventure.

Available now for the 48K Spectrum at £4.95

THE ADVENTURES OF ST. BERNARD

An exciting, fast moving, machine code, arcade game where you guide your intrepid St. Bernard through the perils of the icy wastelands to rescue his Mistress from the clutches of the abominable snowman.

Available for 48K Spectrum £5.75



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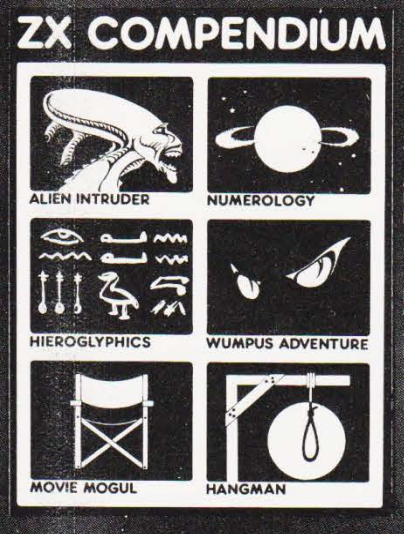

ZX81 COMPENDIUM

Alien Intruder, Wumpus Adventure, Numerology, Hangman, Hieroglyphics, Movie Mogul.

The ideal software package for all 16K ZX81 owners. Six major programmes on two cassettes for only **£6.50**
Alien Intruder/Hieroglyphics — Both programs make good use of graphics and words to make a very entertaining package. *Sinclair User Aug 82*
Alien/Hieroglyphics/Wumpus/Movie — A varied mix from Carnell, all featuring imaginative responses and graphics and all of them good games for all ages (Hieroglyphics is particularly good for children). *Popular Computing Weekly Aug 82*

THE DEVIL RIDES IN

I uttered the last incantations as the clock struck thirteen. All fell silent except for a faint rustling in the corner. From out of the shadows they came, all Hell's fury against me but I was not defenseless until the Angel of Death, astride a winged horse, joined the battle. Avoiding his bolts of hell fire, I took careful aim. My chances were slim, but if my luck held. . .

(Fast moving, machine code, all action, Arcade game)

Available for 48K Spectrum £5.95

The above are available through most good computer stores or direct from:

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answers

1 NAMING THE DAY

The boy's name is ROY. Completed these form the initials of the colours of the rainbow — Red, Orange, Yellow, Green, Blue Indigo, Violet — or if you prefer — Richard Of York. . . .

2 OPPOSITES ATTRACT

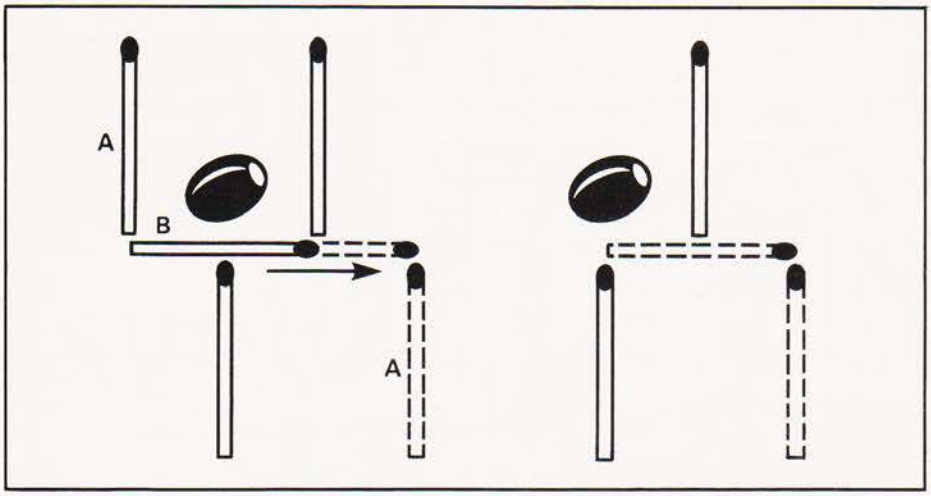
HUGE
HUGS
TUGS
TUNS
TINS
TINY

3 POPPING THE QUESTION

The maximum number of guesses required to detect any number below ten million — or even 15 million in fact is just 24.

To establish the number begin by asking if the number is less than five million. "Yes" or "no" immediately eliminates half the possible numbers in one guess. Repeat the procedure and by simple elimination the number will be deduced after 24 questions, providing you or your friend don't lose interest.

4 PROPOSING THE TOAST



6 ONE OVER THE EIGHT

He had no brother, but he did have an alcoholic sister.

5 IN THE SPRING

1=H	4=S	7=W	10=Y	15=L
2=D	5=X	8=A	11=E	16=B
3=M	6=I	9=Z	12=T	17=R
			13=G	18=U
			14=N	19=V
				20=K
				21=F
				22=P
				23=C
				24=O
				25=Q

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

answers

7 TWO OVER THE EIGHT

Fill the three pint container and pour the contents into the five pint container. Refill the three pint container and pour as much as you can into the other. This should have room for two pints, leaving one in the container your are holding. Do with this as you will.

8 ALL IN THE GAME

A2 KENSINGTON
I6 CLUEDO
E9 CHESS
F5 SCRABBLE
B7 LUDO
E7 DRAUGHTS
B2 CAMPAIGN
F10 BINGO
O9 MONOPOLY
F10 BACKGAMMON
H3 SKIRRID
J9 OTHELLO
O5 RISK
I13 JIGSAW
P6 CAREERS
A5 SNAKES & LADDERS
K11 FORMULA ONE
P6 CHINESE CHECKERS
B1 DARTS
P1 SHOVE HA'PENNY
B12 MASTERMIND
E8 HALMA
C10 GO

9 LONG ENGAGEMENTS

The king chose 2500 Glucks a day which for thirty days totals out at GF75,000 (Falkovian Glucks) A tidy sum indeed!
If he had chosen the other offer — 1 Kippo for day one, (1KF = 1/100 GF) doubling each day, after just thirty days the king would have accumulated the kingly sum of 5,368,709 Glucks and Kippos!
You could say the king made the wrong choice.

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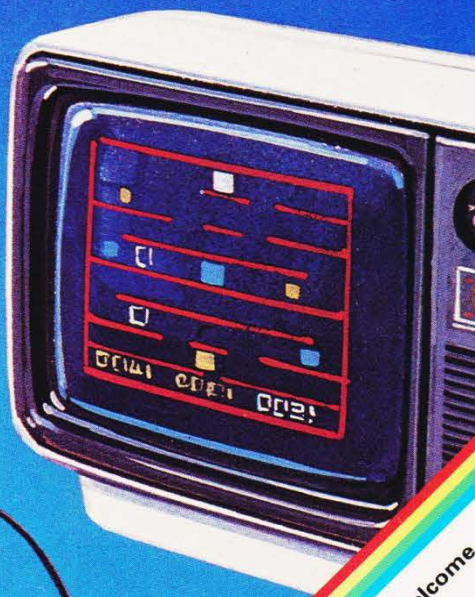

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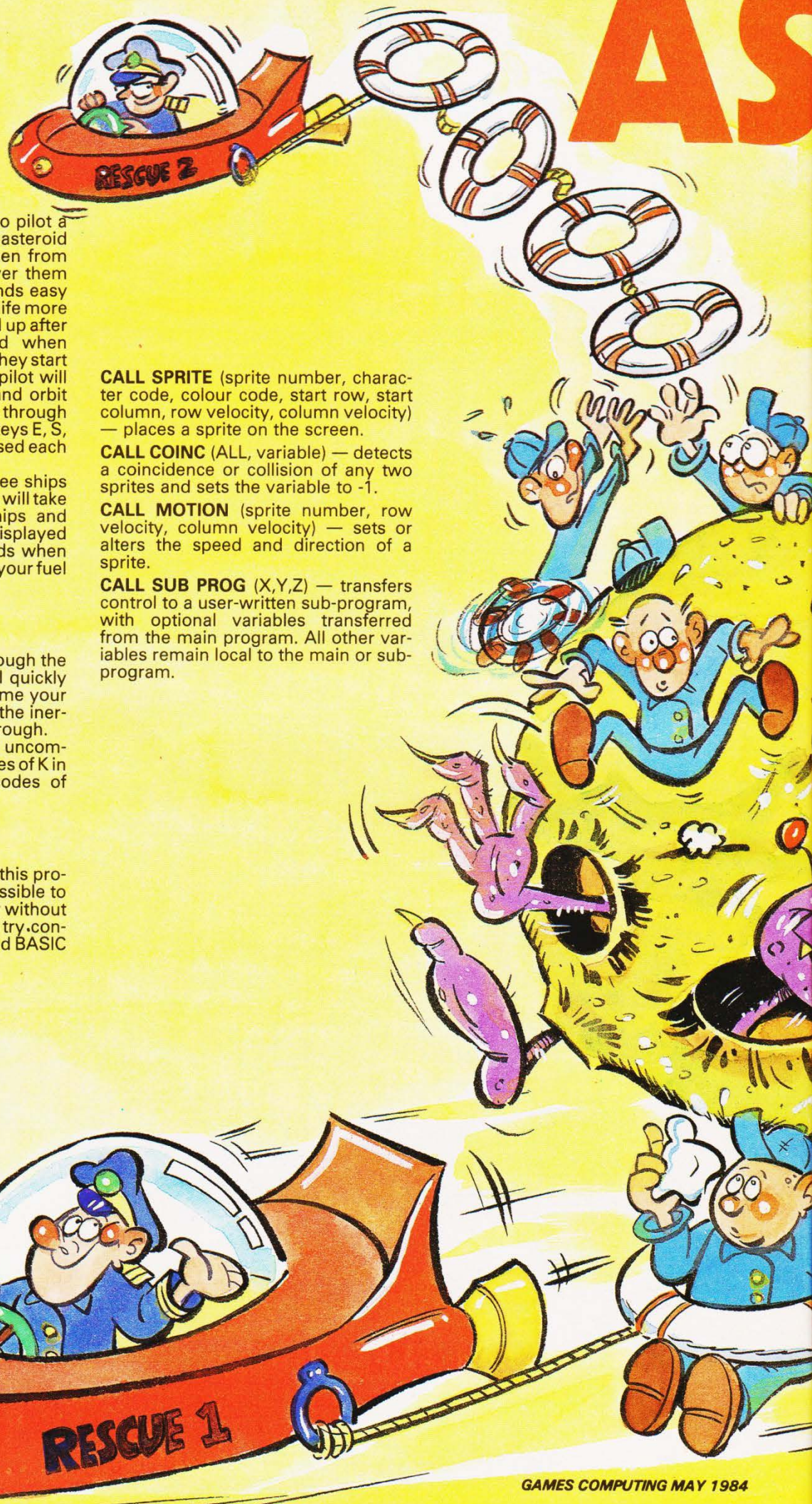


In this game your mission is to pilot a ship down through a moving asteroid belt, pick up stranded crewmen from the planet's surface and deliver them into a safe parking orbit. Sounds easy so far, doesn't it? Just to make life more interesting the asteroids speed up after each successful pick-up and when eight men have been rescued they start becoming invisible. The auto-pilot will engage for landing, take-off and orbit but you must pilot your ship through the asteroids using the arrow keys E, S, D, and X to steer. Fuel will be used each time you press a key.

You start the game with three ships and if one is destroyed another will take its place. The number of ships and amount of fuel remaining are displayed throughout and the game ends when all your ships are destroyed or your fuel supply runs out.

Playing hints

Don't try to fight your way through the asteroid belt because fuel will quickly run out. Drift with them and time your bursts of power carefully and the inertia of your ship will carry it through.

If you find the control keys uncomfortable to use change the values of K in lines 270-300 to the ASCII codes of those you prefer.

Conversion clues

As sprite graphics are used in this program it would be almost impossible to convert it to another computer without these facilities. If you want to try converting here are some Extended BASIC statements for reference.

CALL SPRITE (sprite number, character code, colour code, start row, start column, row velocity, column velocity) — places a sprite on the screen.

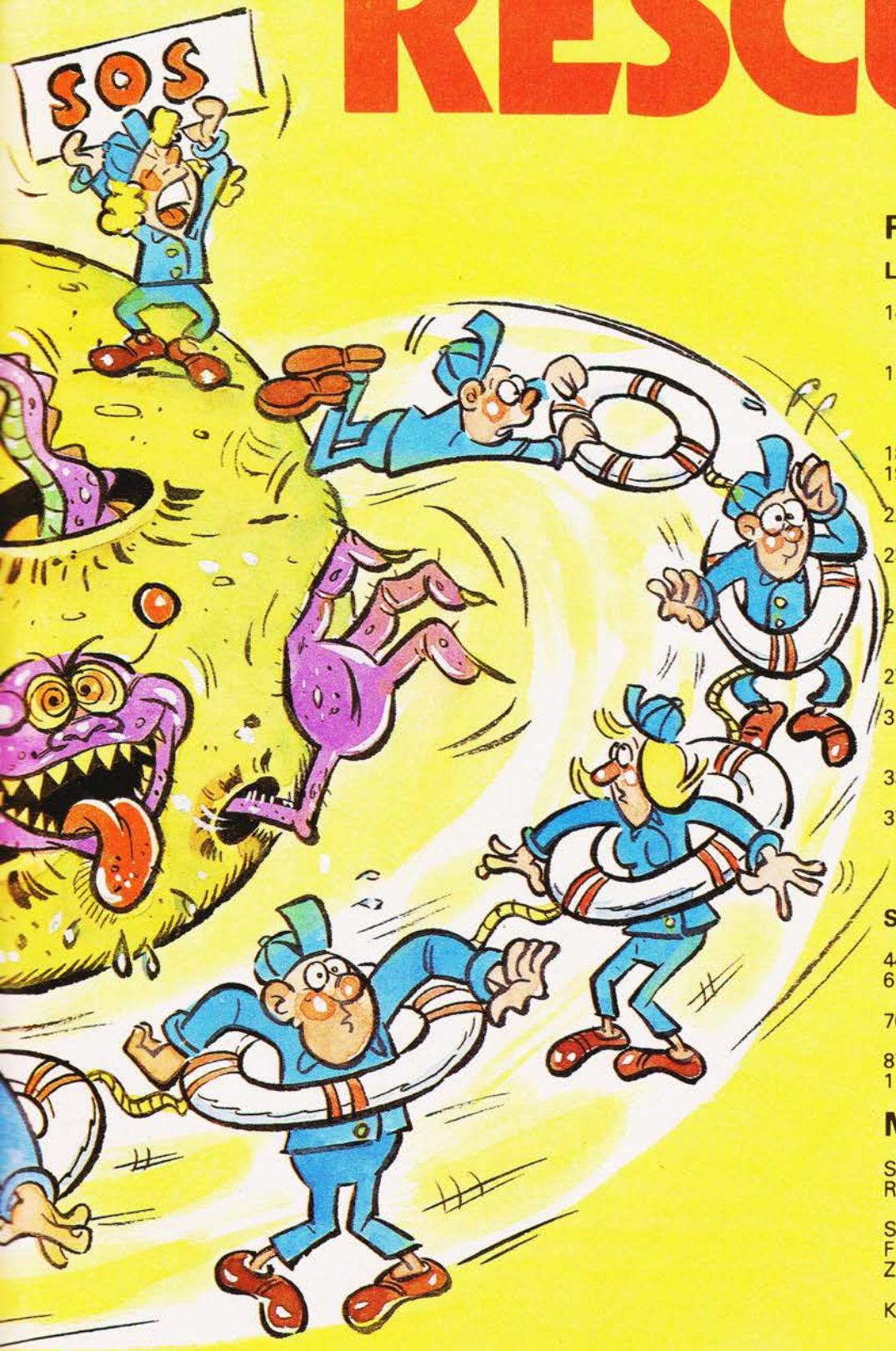
CALL COINC (ALL, variable) — detects a coincidence or collision of any two sprites and sets the variable to -1.

CALL MOTION (sprite number, row velocity, column velocity) — sets or alters the speed and direction of a sprite.

CALL SUB PROG (X,Y,Z) — transfers control to a user-written sub-program, with optional variables transferred from the main program. All other variables remain local to the main or sub-program.

TEROID RESCUE

RUNS ON TI-99/4A +Extended Basic



RUNdown

Lines	Action
140	Clears the screen, sets sprite magnification, sets screen colour.
150-170	Sub-program calls for instructions, graphics definitions and screen set-up.
180	Set variables.
190-200	Display ship and fuel values.
220	Checks if all ships or fuel gone.
230	Check sprite coincidence and call sub-program if required.
250	Check if key has been pressed and produce white noise.
270-300	Move ship if key has been pressed.
310-320	Find position of ship and jump to appropriate sub-program.
330	Check for sprite coincidences.
370-420	Game end. Delete sprites, clear screen, display score, request another game.

Sub-programs:

440-600	Instructions.
610-750	Define characters and colours.
760-860	Drop crewman at top of screen.
870-1010	Pick up crewman.
1140-1210	Ship hits asteroid.

Main variables

SHP	Number of ships.
RSC	Number of successful rescues.
SP	Speed of asteroids.
FL	Fuel remaining.
Z	"Flags" crewman aboard ship.
K	ASCII code of key pressed.

ANDY ROBB

```
100 REM     ASTEROID RESCUE
110 REM
120 REM  GRAHAM BALDWIN 1984
130 REM
140 CALL CLEAR :: CALL MAGNIFY(3
):: CALL SCREEN(11):: RANDOMIZE
150 CALL INSTRUCTIONS
160 CALL GRAPHICS
170 CALL SETUP(SP)
180 SHP=3 :: SP=-10 :: RSC=0 ::
Z=0 :: FL=300
190 DISPLAY AT(1,1):"FUEL ";FL
200 DISPLAY AT(3,1):"SHIPS";SHP
210 REM *MAIN LOOP*
220 IF SHP<1 OR FL<1 THEN 370
230 CALL COINC(ALL,H):: IF H THE
N CALL CRASH(Z,SHP)ELSE 250
240 DISPLAY AT(3,6):SHP :: GOTO
220
250 CALL KEY(3,K,S):: IF S=0 THE
N 310
260 CALL SOUND(-250,-5,8)
270 IF K=69 THEN CALL MOTION(#10
,-12,0):: FL=FL-5 :: GOTO 310
280 IF K=68 THEN CALL MOTION(#10
,0,12):: FL=FL-1 :: GOTO 310
290 IF K=83 THEN CALL MOTION(#10
,0,-12):: FL=FL-1 :: GOTO 310
300 IF K=88 THEN CALL MOTION(#10
,12,0):: FL=FL-1
310 CALL POSITION(#10,Y,X):: IF
Y>162 THEN CALL PICKUP(SP,Z)
320 IF Y<15 THEN CALL DROP(RSC,Z
)
330 CALL COINC(ALL,H):: IF H THE
N CALL CRASH(Z,SHP)ELSE 350
340 DISPLAY AT(3,6):SHP :: GOTO
220
350 DISPLAY AT(1,6):FL :: GOTO 2
20
360 REM *GAME OVER*
370 CALL DELSPRITE(ALL):: CALL C
LEAR :: IF FL<0 THEN FL=0
380 DISPLAY AT(10,6):"YOU RESCUE
D";RSC;"MEN."
390 DISPLAY AT(12,6):"FUEL REMAI
NING-";FL
400 DISPLAY AT(14,6)BEEP:"PLAY A
GAIN? (Y/N)"
410 CALL KEY(3,K,S):: IF S=0 THE
N 410
420 IF K=89 THEN 170 :: IF K<>78
 THEN 400 :: END
430 REM *SUB-PROGRAMS*
440 SUB INSTRUCTIONS
450 DISPLAY AT(10,6):"ASTEROID R
ESCUE"
460 DISPLAY AT(11,5):"##########
#######"
470 DISPLAY AT(14,3)BEEP:"DO YOU
 NEED BRIEFING? (Y/N)"
480 CALL KEY(3,K,S):: IF S=0 THE
N 480
490 IF K=78 THEN CALL CLEAR :: S
UBEXIT
500 IF K<>89 THEN 470
510 DISPLAY AT(3,2)ERASE ALL:"ST
EER YOUR LANDER THROUGH"
520 DISPLAY AT(5,3):"THE ASTEROI
DS, USING THE"
530 DISPLAY AT(7,2):"ARROW KEYS
(ESD&X), TO PICK"
540 DISPLAY AT(9,3):"UP THE STRA
NDED CREW AND"
550 DISPLAY AT(11,3):"LAUNCH THE
M INTO PARKING"
560 DISPLAY AT(13,1):"ORBIT. LAN
DING AND ORBIT ARE"
570 DISPLAY AT(15,3):"CONTROLLED
 BY AUTOPILOT."
580 DISPLAY AT(19,4)BEEP:"PRESS
ANY KEY TO PLAY"
590 CALL KEY(3,K,S):: IF S=0 THE
N 590
600 SUBEND
610 SUB GRAPHICS
620 CALL CLEAR
630 CALL CHAR(96,"00031F3C3060C0
C0C0C070380C0F0700000086EF7B1306
03030E1C181870E0E0")
640 CALL CHAR(100,"1B3F32180C181
830606030303810C070880C060783C060
60306060E1C3030C080")
650 CALL CHAR(104,"000F1F3F737F7
37F737F3F1F1F2741E300F0F8FCCEFEC
EFECEFEFCF8F8E482C7")
660 CALL CHAR(108,"030201030070F1
767070707 0C1818387080 4080C060F0E
8E6E0E0E06030180838")
670 CALL CHAR(112,"025080025004A
0020840008800410092238A211200490
0244010042008600840")
680 CALL CHAR(116,"030201030707 0
7070707007606060 60E804080C0E0E0E
0E0E0E0E060606060E0")
690 CALL CHAR(128,"183CFFFFFFFFF
FFF")
700 CALL CHAR(136,"18183C66667EF
FE7")
```

RUNS ON
TI-99/4A
+Extended Basic

```
710 CALL CHAR(137,"2163676E7F7E7
CF8")
720 CALL CHAR(138,"84C6E676FE7E3
E1F")
730 CALL CHAR(139,"E7FFFFDBFF183
C7E")
740 CALL COLOR(13,12,1,14,14,1)
750 SUBEND
760 SUB DROP(RSC,Z)
770 IF Z=-1 THEN 780 ELSE CALL M
OTION(#10,20,0):: SUBEXIT
780 RSC=RSC+1
790 CALL MOTION(#10,0,4):: CALL
COLOR(#10,4)
800 CALL POSITION(#10,A,B):: IF
B>200 THEN 800
810 CALL SPRITE(#12,108,16,A,B+1
0,-3,8)
820 FOR I=110 TO 1100 STEP 110 :
: CALL SOUND(-200,I,1):: NEXT I
830 IF RSC<8 THEN 840 :: CALL CO
LOR(#INT(RND*6)+1,2)
840 CALL MOTION(#10,6,8):: CALL
COLOR(#10,10)
850 FOR I=1 TO 100 :: NEXT I ::
CALL DELSPRITE(#12):: Z=0
860 SUBEND
870 SUB PICKUP(SP,Z)
880 IF Z=0 THEN 890 :: CALL MOTI
ON(#10,-15,0):: SUBEXIT
890 CALL SOUND(-200,-6,5):: CALL
 COLOR(#10,4)
900 CALL MOTION(#10,0,0)
910 CALL SPRITE(#12,108,16,170,2
40,0,-12)
920 CALL PATTERN(#12,116):: CALL
 SOUND(50,110,5)
930 CALL PATTERN(#12,108):: CALL
 SOUND(50,220,5)
940 CALL COINC(ALL,H):: IF H THE
N 950 ELSE 920
950 CALL DELSPRITE(#12):: CALL M
OTION(#10,-8,0)
960 CALL SOUND(75,784,1):: CALL
SOUND(100,1047,1)
970 SP=SP-2 :: Z=-1
980 FOR I=1 TO 6 :: CALL MOTION(
#I,0,SP):: NEXT I
990 CALL POSITION(#10,Y,X):: IF
Y>160 THEN 990
1000 CALL COLOR(#10,10)
1010 SUBEND
```

```
1020 SUB SETUP(SP)
1030 CALL CLEAR :: CALL SCREEN(2
):: SP=-8
1040 FOR I=2 TO 8 :: CALL COLOR(
I,16,1):: NEXT I
1050 CALL HCHAR(24,1,128,32)
1060 CALL HCHAR(23,29,137):: CAL
L HCHAR(23,30,139):: CALL HCHAR(
23,31,138):: CALL HCHAR(22,30,13
6)
1070 CALL SPRITE(#1,96,3,50,60,#
2,100,5,60,200)
1080 CALL SPRITE(#3,100,9,100,10
0,#4,96,11,90,130)
1090 CALL SPRITE(#5,96,14,120,20
,#6,100,13,120,180)
1100 FOR I=1 TO 6 :: CALL MOTION
(#I,0,SP):: NEXT I
1110 CALL SPRITE(#10,104,10,25,1
,0,8)
1120 FOR I=1 TO 5 :: CALL SOUND(
-50,600,1):: CALL SOUND(-50,650,
2):: NEXT I
1130 SUBEND
1140 SUB CRASH(Z,SHP)
1150 CALL POSITION(#10,Y,X):: CA
LL SPRITE(#14,112,16,Y,X,8,-8)::
 CALL DELSPRITE(#10)
1160 FOR I=1 TO 16 :: CALL SOUND
(-500,-7,I,1000-(I*50),I):: NEXT
 I
1170 CALL DELSPRITE(#14):: Z=0 :
: SHP=SHP-1 :: IF SHP<1 THEN SUB
EXIT
1180 CALL PATTERN(#INT(RND*6)+1,
96)
1190 CALL SPRITE(#10,104,10,25,1
,0,8)
1200 FOR I=1 TO 5 :: CALL SOUND(
-50,600,1):: CALL SOUND(-50,650,
1):: NEXT I
1210 SUBEND
```

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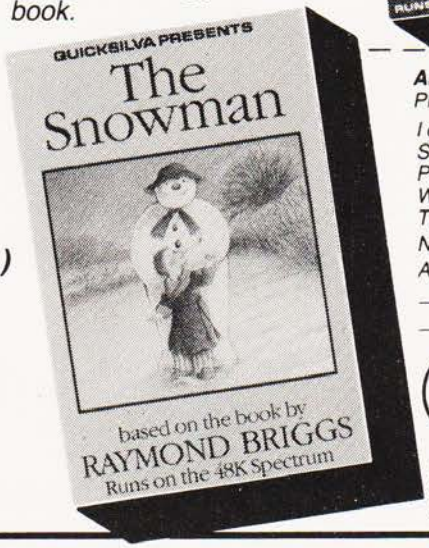

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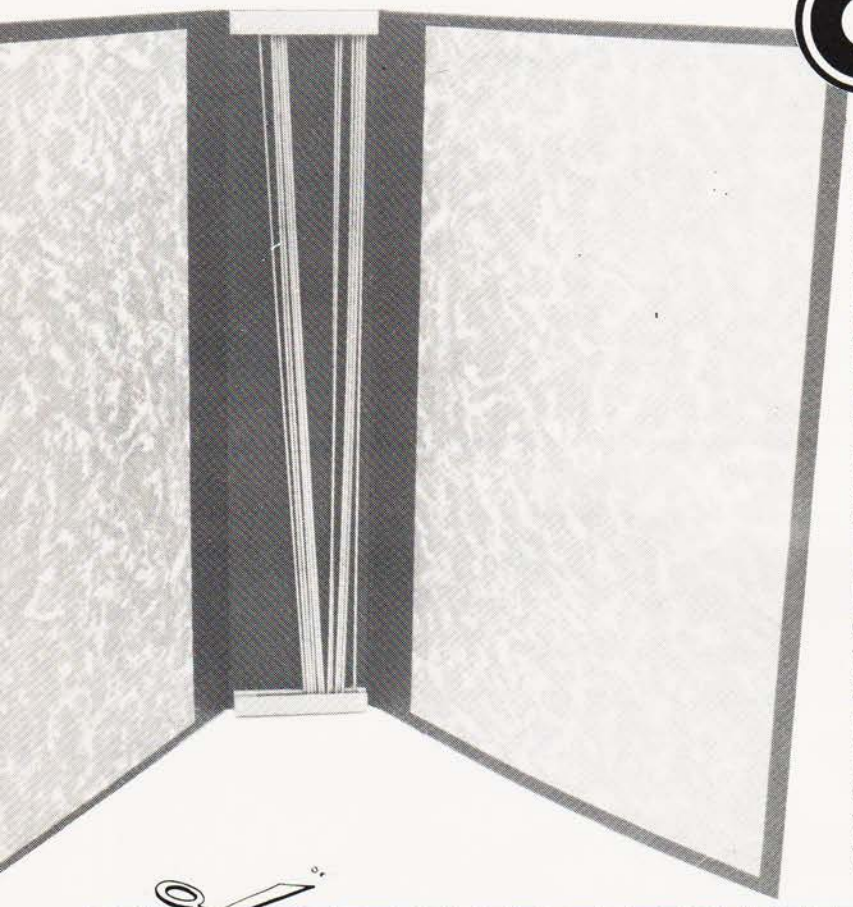

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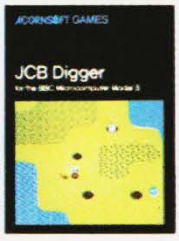

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ESCAPE FROM ALPHA CENTURI

RUNS ON ORIC 48K

Please help me!

I have lived on the planet of Alpha Centuri 11 all my life, but the planet has started to disintegrate. Most of the other inhabitants have already escaped and I must try to do the same. There are only 100 minutes left before the planet finally explodes and each move that I make takes one minute! You must give me instructions to help me to escape.

Words understood

N,S,E,W, GO, IN, OUT, UP, DOWN, GET, TAKE, DROP, GRAB, LEAVE, INVENTORY, EAT, DRINK, RUB, SWIM, PADDLE, WADE, UNLOCK, INSERT, WEAR, FILL, JUMP, CLIMB, REPAIR, MEND, FIX, HELP, START, FIRE, WAIT, LAND, PRESS, PUSH, CRAWL, PULL.

I don't speak very good English and if I don't seem to understand you, try another word.

List of variables

P%	Current location.
S%(X,Y)	Holds map.
B%(X,1)	Holds location items are found in.
Q$(X)	Holds descriptions of locations.
G$(X)	Holds descriptions of items.
N$(X)	Holds words understood.
AA-AK	Act as flags to test if you have performed tasks correctly.
V$(X)	Holds items carried.
Z$,C$,B$,L$	Hold words entered.
M%	Holds number of moves made.

Conversion clues

1. The program makes extensive use of the REPEAT UNTIL loop and is therefore extremely easy to convert to run on the BBC micro and Electron, but not quite so easy for other machines.

2. BBC micro users — the only changes necessary are:
a) PING, ZAP, SHOOT, EXPLODE: replace by other sound effects.
b) Replace music in lines 5080-5095 and 955-962 with tune of your choice . . . see data lines 10000-10010.
c) Use MODE 7 . . . leave CHR$ exactly as they are — they select colours in teletext mode. ELECTRON users should use MODE 6 and delete references to CHR$ (129)-CHR$(145).
d) PLOT statements should be replaced with PRINT TAB(X,Y) in lines 5160-5240 and 5530-4435 (which plot teletext graphics).

Note:
Some lines may seem to be too long to type into the ORIC1. These lines can be entered if the abbreviation ? is used for PRINT. You do not need to leave a space after the line number, as the computer will automatically insert one for you.

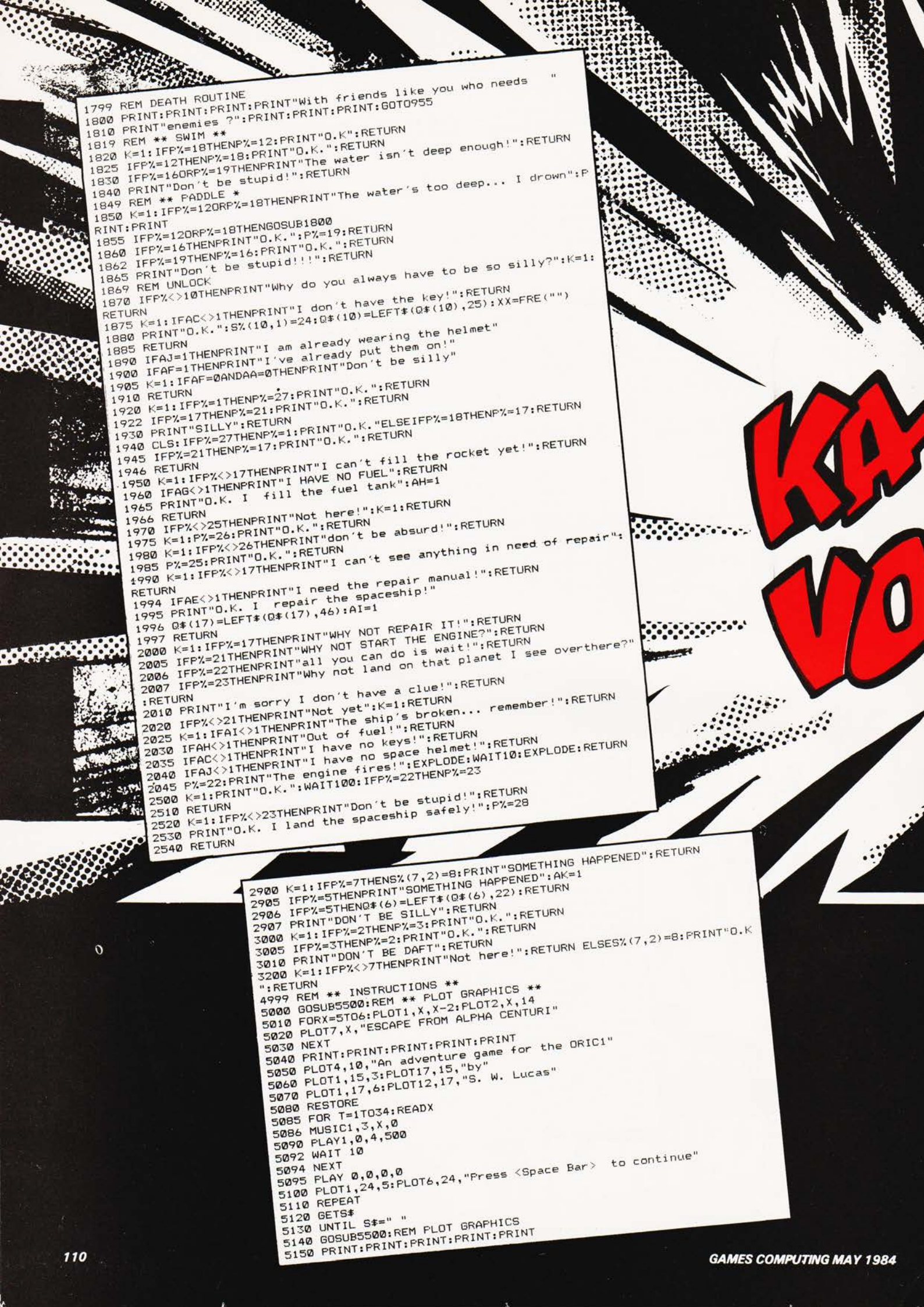
RUNdown

Lines	Action
50	Selects TEXT mode and chooses colours of foreground/background (can be omitted for other machines . . . BBC users choose MODE 7)
55	Dimensions arrays.
60	Releases high resolution memory area (only needed in 16K machines).
65	Turn off cursor.
70	Calls instructions subroutine.
80-110	Prints author's name whilst data is being read.
110-220	Read data into arrays.
225	Selects initial conditions.
230-900	Main control loop (REPEAT UNTIL ran out of moves or won game).
232-350	Decide where you can move from location you are in.
351	Garbage collection . . . not needed on most machines.
360-400	Print items you find in location.
410	Input action.
420	Analyse either first two letters or first three letters of word.
425	Garbage collection and increase number of moves.
430-570	Acts upon words understood.
901-902	Ran out of time.
915-1000	Won game.
1010-1420	GET item.
1490-1540	Check item is there.
1599-1700	DROP routine.
1740-1780	INVENTORY.
1799-1810	Lose routine.
1819-1840	SWIM.
1849-1865	Paddle routine.
1869-1885	Unlock.
1890-1910	Wear routine.
1920-1946	IN/OUT routines.
1950-1966	Fill routine.
1970-1997	Repair routine.
2000-2010	Help routine.
2020-2510	Start engines.
2520-2540	Land spaceship.
2900-3200	Push/pull/press routines.
5000-5070	Titles.
5080-5095	Play music . . . data for this held in lines 1000-10010.
5110-5130	Wait for space bar to be pressed.
5150-5280	Instructions.
5500-5550	Teletext graphics.
9999-10390	DATA for game.

```
10 REM ** ESCAPE FROM ALPHA CENTURI **
20 REM ** AN ADVENTURE GAME FOR THE ORIC 1  of all memory sizes **
30 REM **      S.W. LUCAS    January 1984 **
40 REM ** VERSION 1A **
50 TEXT:PAPER 0:INK 7
55 DIM Q$(30),S%(30,4),X$(40),G$(40),B%(40,1),N$(40),N%(40)
60 GRAB :REM TO RELEASE THE HIGH RESOLUTION MEMORY AREA FOR 16K USE
RS
65 PRINTCHR$(17):REM TURN OFF CURSOR
70 GOSUB 5000:REM INSTRUCTIONS
75 DIM Q$(30),S%(30,4),X$(40),G$(40),B%(40,1),N$(40),N%(40)
80 CLS
90 FORX=1TO2:PLOT1,X,X:PLOT2,X,14
100 PLOT9,X,"      S.W. Lucas  1984"
110 NEXT
120 FOR H=1 TO 28
130 READ Q$(H)
140 FOR D=1 TO 4
150 READ S%(H,D)
160 NEXT D,H
170 FORX=1TO18
180 READG$(X),B%(X,1)
190 NEXT
200 FOR X=1 TO 27
210 READ N$(X),N%(X)
220 NEXT
225 P%=1:M%=0
230 CLS:REPEAT
```

```
232 IFAF=1THENS%(9,1)=25ELSES%(9,1)=0
233 IFP%=6ANDAK<>1THENPRINT"I trip and fall in the dark":GOSUB1800
235 PRINTCHR$(131)"There are only ";100-M%;"moves left!"
240 PRINTCHR$(133)"I am :-";PRINTQ$(P%):A$=""
250 IFS%(P%,1)<>0THENA$="North"
255 IFS%(P%,2)<>0AND LEN(A$)>0THENA$=A$+", South"
260 IFS%(P%,2)<>0AND LEN(A$)=0THENA$="South"
265 IFS%(P%,3)<>0AND LEN(A$)>0THENA$=A$+", East"
270 IFS%(P%,3)<>0AND LEN(A$)=0THENA$="East"
275 IFS%(P%,4)<>0AND LEN(A$)>0THENA$=A$+", West"
280 IFS%(P%,4)<>0AND LEN(A$)=0THENA$="West"
290 IFP%=27THENA$="OUT"
345 PRINT:PRINT:PRINT
349 IFA$=""THENA$="I don't know where!"
350 PRINTCHR$(134)"I can go :-";PRINTA$
351 F=FRE("")
360 E=0:FORX=1TO18:PP%=0:IFB%(X,1)=P%THENPP%=1
370 IFPP%=1THEN390
380 NEXT:GOTO410
385 PRINT:PRINT
390 IFE=0THENPRINTCHR$(131)"I can see :-"
400 PRINTG$(X):E=E+1:GOTO380
410 PRINT:PRINT:PRINTCHR$(129)"What should I do now ";:INPUTZ$
415 PING:CLS:PRINTCHR$(130)"Please wait a second"
420 B$=LEFT$(Z$,2):C$=LEFT$(Z$,3)
425 AA=FRE(""):M%=M%+1
430 IF C$="LOO"THENK=1
435 IFC$="SAY"ORC$="TAL"ORC$="ASK"THENPRINT"I'm not talking to myse
lf":K=1
440 IF(B$="N"ORLEFT$(Z$,4)="GO N")ANDS%(P%,1)<>0THENP%=S%(P%,1):K=1
```

```
445 IF(B$="S"ORLEFT$(Z$,4)="GO S")ANDS%(P%,2)<>0THENP%=S%(P%,2):K=1
450 IF(B$="E"ORLEFT$(Z$,4)="GO E")ANDS%(P%,3)<>0THENP%=S%(P%,3):K=1
455 IF(B$="W"ORLEFT$(Z$,4)="GO W")ANDS%(P%,4)<>0THENP%=S%(P%,4):K=1
460 IFC$="GET"ORC$="TAK"ORC$="GRA"THENGOSUB1010
465 IFC$="DRO"ORC$="LEA"THENGOSUB1600
470 IFC$="INV"THENGOSUB1750
475 IFC$="EAT"THENPRINTCHR$(131)"There's nothing here to eat!":K=1
480 IFC$="DRI"THENPRINTCHR$(133)"There's nothing to drink!":K=1
485 IFC$="RUB"THENPRINT"Don't be silly!":K=1
490 IFC$="SWI"THENGOSUB1820
495 IFC$="PAD"ORC$="WAD"THENGOSUB1850
500 IF C$="UNL"ORC$="INS"THENGOSUB1870
505 IFC$="SCO"THENPRINT"What do you think this is... a game?":K=1
510 IFC$="WEA"THENGOSUB1890
520 IFC$="IN"ORLEFT$(Z$,4)="GO I"ORLEFT$(Z$,4)="GO L"THENGOSUB1920
525 IFC$="OUT"ORLEFT$(Z$,3)="GO O"THENGOSUB1940
530 IFC$="FIL"THENGOSUB1950ELSEIFC$="JUM"THENGOSUB1970
534 IFC$="CLI"ORC$="UP"THENGOSUB1980
535 IFC$="REP"ORC$="MEN"ORC$="FIX"THENGOSUB1990
540 IFC$="HEL"THENGOSUB2000ELSEIFC$="STA"ORC$="FIR"THENGOSUB2020
545 IFC$="WAI"THENGOSUB2500
550 IFC$="LAN"THENGOSUB2520
560 IFC$="PRE"ORC$="PUS"THENGOSUB2900
565 IFC$="CRA"ORLEFT$(Z$,4)="GO V"THENGOSUB3000
570 IFC$="PUL"THENGOSUB3200
900 UNTIL P%=28 OR M%=100
901 IFM%>99 THENPRINT"YOU RAN OUT OF TIME!":EXPLODE:WAIT100
902 IFM%>99THENSOUND1,0,0:WAIT10:GOTO1800
910 CLS:FORX=1TO2:PLOT1,X,X:PLOT2,X,14
915 PRINT:PRINT:PRINT
920 PLOT10,X,"W E L L  D O N E"
930 NEXT
940 PRINT:PRINT:PRINT:PRINT"You have solved this adventure and"
950 PRINT:PRINT"have escaped from the doomed planet!"
955 RESTORE
956 FOR T=1TO34:READX
957 MUSIC1,3,X,0
958 PLAY1,0,4,500
960 WAIT10
961 NEXT
962 PLAY 0,0,0,0
965 PRINT:PRINT:PRINT"Would you like another game <Y/N>"
970 REPEAT
980 GETG$
990 UNTIL G$="Y"ORG$="N"
995 IFG$="Y" THEN PRINTCHR$(17):RUN
1000 END
1009 REM ** GET ROUTINE
1010 K=1:GOSUB1500:REM CHECK ITEM THERE
1020 IFL%<>1THENRETURN
1030 E%=0:FORX=1TO18:IFB%(X,1)=P%ANDB%(N%(R),1)=P%THENE%=1
1040 NEXT:IFE%=0THENPRINTCHR$(129)"I  don't see it here":RETURN
1050 IFR=20RR=3THENPRINT"AAGGHH...the agony!"
1055 IFR=20RR=3THENPRINT"I've broken my back with the strain":GOSUB
1800
1060 IFR=1THENAJ=1ELSEIFR=4THENPRINT"The dust blows into my face an
d"
1065 IFR=4THENPRINT"and chokes me to death!":GOSUB1800
1070 IFR=50RR=6THENPRINT"Don't be silly!":RETURN
1075 IFR=9THENPRINT"AAAAGGGG....It bit me and the poison"
1080 IFR=9THENPRINT"surges through my veins":GOSUB1800
1085 IFR=10ORR=12THENPRINT"Now then be sensible!":RETURN
1090 IFR=16ORR=17THENAB=1ELSEIFR=18THENAC=1ELSEIFR=20ORR=21THENAD=1
1095 IFR=22ORR=23THENAE=1ELSEIFR=25ORR=26THENAF=1
1100 IFR=27THENPRINT"I can't carry a fuel pump that size!":RETURN
1105 IFR=26ANDAD<>1THENPRINT"I need something to put the fuel in!":
RETURN
1110 IFR=26ANDAD=1THENPRINT"I fill the can with fuel":AG=1
1400 E%=0:FORD=1TO3:IFV$(D)=""THENV$(D)=G$(N%(R)):E%=1:D=5
1410 NEXT:IFE%=0THENPRINT"My hands are full!":K=1:RETURN
1420 B%(N%(R),1)=0:K=1:RETURN
1490 REM ** CHECK ITEM IS THERE
1500 L$="":FORH=1TOLEN(Z$)
1510 IFMID$(Z$,H,1)=" "THENL$=RIGHT$(Z$,(LEN(Z$)-H)):H=H+40
1520 NEXT:R=0:L%=0:IFLEN(L$)<2THENK=1:RETURN
1530 FORH=1TO27:IFLEFT$(N$(H),LEN(L$))=L$THENL%=1:R=H
1540 NEXT:K=1:RETURN
1599 REM ** DROP ITEM
1600 K=1:GOSUB1500:IFL%<>1THENPRINT"I cant see a :-";L$:RETURN
1605 E%=0:FORD=1TO3:IFV$(D)=G$(N%(R))THENV$(D)="":E%=1
1610 NEXT:IFE%<>1THENPRINT"I haven't got it!!":RETURN
1615 B%(N%(R),1)=P%
1620 IFR=1THENAJ=0 ELSEIFR=16ORR=17THENAB=0 ELSEIFR=18THENAC=0
1625 IFR=20ORR=21THENAD=0 ELSEIFR=22ORR=23THENAE=0
1630 IFR=24ORR=25THENAF=0
1635 IFAG=1AND(R=20ORR=21)THENAG=0:PRINT"The fuel spills to the flo
or"
1700 RETURN
1740 REM ** INVENTORY
1750 PRINTCHR$(129)"I  have :-":F%=0:FORH=1TO3
1760 IFV$(H)<>""THENPRINTV$(H):F%=1
1770 NEXT:IFF%=0THENPRINT"Nothing at all"
1780 PRINT:PRINT:K=1:RETURN
```



```
1799 REM DEATH ROUTINE
1800 PRINT:PRINT:PRINT:PRINT"With friends like you who needs   "
1810 PRINT"enemies ?":PRINT:PRINT:PRINT:GOTO955
1819 REM ** SWIM **
1820 K=1:IFP%=18THENP%=12:PRINT"O.K":RETURN
1825 IFP%=12THENP%=18:PRINT"O.K.":RETURN
1830 IFP%=16ORP%=19THENPRINT"The water isn't deep enough!":RETURN
1840 PRINT"Don't be stupid!":RETURN
1849 REM ** PADDLE *
1850 K=1:IFP%=12ORP%=18THENPRINT"The water's too deep... I drown":P
RINT:PRINT
1855 IFP%=12ORP%=18THENGOSUB1800
1860 IFP%=16THENPRINT"O.K.":P%=19:RETURN
1862 IFP%=19THENP%=16:PRINT"O.K.":RETURN
1865 PRINT"Don't be stupid!!!":RETURN
1869 REM UNLOCK
1870 IFP%<>10THENPRINT"Why do you always have to be so silly?":K=1:
RETURN
1875 K=1:IFAC<>1THENPRINT"I don't have the key!":RETURN
1880 PRINT"O.K.":S%(10,1)=24:Q$(10)=LEFT$(Q$(10),25):XX=FRE("")
1885 RETURN
1890 IFAJ=1THENPRINT"I am already wearing the helmet"
1900 IFAF=1THENPRINT"I've already put them on!"
1905 K=1:IFAF=0ANDAA=0THENPRINT"Don't be silly"
1910 RETURN
1920 K=1:IFP%=1THENP%=27:PRINT"O.K.":RETURN
1922 IFP%=17THENP%=21:PRINT"O.K.":RETURN
1930 PRINT"SILLY":RETURN
1940 CLS:IFP%=27THENP%=1:PRINT"O.K."ELSEIFP%=18THENP%=17:RETURN
1945 IFP%=21THENP%=17:PRINT"O.K.":RETURN
1946 RETURN
1950 K=1:IFP%<>17THENPRINT"I can't fill the rocket yet!":RETURN
1960 IFAG<>1THENPRINT"I HAVE NO FUEL":RETURN
1965 PRINT"O.K. I  fill the fuel tank":AH=1
1966 RETURN
1970 IFP%<>25THENPRINT"Not here!":K=1:RETURN
1975 K=1:P%=26:PRINT"O.K.":RETURN
1980 K=1:IFP%<>26THENPRINT"don't be absurd!":RETURN
1985 P%=25:PRINT"O.K.":RETURN
1990 K=1:IFP%<>17THENPRINT"I can't see anything in need of repair":
RETURN
1994 IFAE<>1THENPRINT"I need the repair manual!":RETURN
1995 PRINT"O.K. I  repair the spaceship!"
1996 Q$(17)=LEFT$(Q$(17),46):AI=1
1997 RETURN
2000 K=1:IFP%=17THENPRINT"WHY NOT REPAIR IT!":RETURN
2005 IFP%=21THENPRINT"WHY NOT START THE ENGINE?":RETURN
2006 IFP%=22THENPRINT"all you can do is wait!":RETURN
2007 IFP%=23THENPRINT"Why not land on that planet I see overthere?"
:RETURN
2010 PRINT"I'm sorry I don't have a clue!":RETURN
2020 IFP%<>21THENPRINT"Not yet":K=1:RETURN
2025 K=1:IFAI<>1THENPRINT"The ship's broken... remember!":RETURN
2030 IFAH<>1THENPRINT"Out of fuel!":RETURN
2035 IFAC<>1THENPRINT"I have no keys!":RETURN
2040 IFAJ<>1THENPRINT"I have no space helmet!":RETURN
2045 P%=22:PRINT"The engine fires!":EXPLODE:WAIT10:EXPLODE:RETURN
2500 K=1:PRINT"O.K.":WAIT100:IFP%=22THENP%=23
2510 RETURN
2520 K=1:IFP%<>23THENPRINT"Don't be stupid!":RETURN
2530 PRINT"O.K. I land the spaceship safely!":P%=28
2540 RETURN
```

```
2900 K=1:IFP%=7THENS%(7,2)=8:PRINT"SOMETHING HAPPENED":RETURN
2905 IFP%=5THENPRINT"SOMETHING HAPPENED":AK=1
2906 IFP%=5THENQ$(6)=LEFT$(Q$(6),22):RETURN
2907 PRINT"DON'T BE SILLY":RETURN
3000 K=1:IFP%=2THENP%=3:PRINT"O.K.":RETURN
3005 IFP%=3THENP%=2:PRINT"O.K.":RETURN
3010 PRINT"DON'T BE DAFT":RETURN
3200 K=1:IFP%<>7THENPRINT"Not here!":RETURN ELSES%(7,2)=8:PRINT"O.K
":RETURN
4999 REM ** INSTRUCTIONS **
5000 GOSUB5500:REM ** PLOT GRAPHICS **
5010 FORX=5TO6:PLOT1,X,X-2:PLOT2,X,14
5020 PLOT7,X,"ESCAPE FROM ALPHA CENTURI"
5030 NEXT
5040 PRINT:PRINT:PRINT:PRINT
5050 PLOT4,10,"An adventure game for the ORIC1"
5060 PLOT1,15,3:PLOT17,15,"by"
5070 PLOT1,17,6:PLOT12,17,"S. W. Lucas"
5080 RESTORE
5085 FOR T=1TO34:READX
5086 MUSIC1,3,X,0
5090 PLAY1,0,4,500
5092 WAIT 10
5094 NEXT
5095 PLAY 0,0,0,0
5100 PLOT1,24,5:PLOT6,24,"Press <Space Bar>  to continue"
5110 REPEAT
5120 GETS$
5130 UNTIL S$=" "
5140 GOSUB5500:REM PLOT GRAPHICS
5150 PRINT:PRINT:PRINT:PRINT:PRINT
```

RUNS ON ORIC 48K

```
5160 PLOT10,6,"Please help me !"
5170 PLOT3,10,"I have lived on the planet "
5180 PLOT3,11,"Alpha Centuri all my life, but the "
5190 PLOT3,12,"planet has started to disintegrate."
5200 PLOT3,15,"There are only 100 minutes left "
5210 PLOT3,16,"before the planet finally explodes"
5220 PLOT3,17,"and each move that I make takes "
5230 PLOT3,18,"exactly one minute."
5240 PLOT1,24,5:PLOT6,24,"Press <Space Bar>  to continue"
5250 REPEAT
5260 GETS$
5270 UNTIL S$=" "
5280 RETURN
5480 END
5499 REM PLOT GRAPHICS
5500 CLS
5510 FOR X=1 TO 2
5520 PLOT0,X,X:PLOT0,X+20,X
5525 PLOT1,X,9:PLOT1,X+20,9
5530 PLOT2,X+20,"GGGG
```

PAGE 6 THE MAGAZINE

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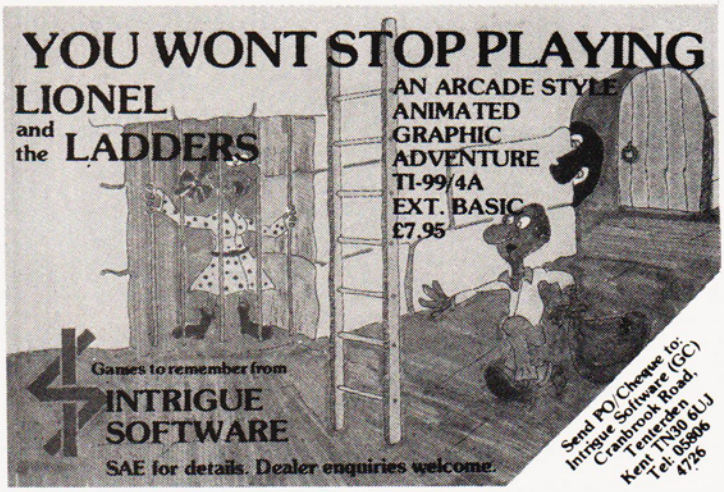

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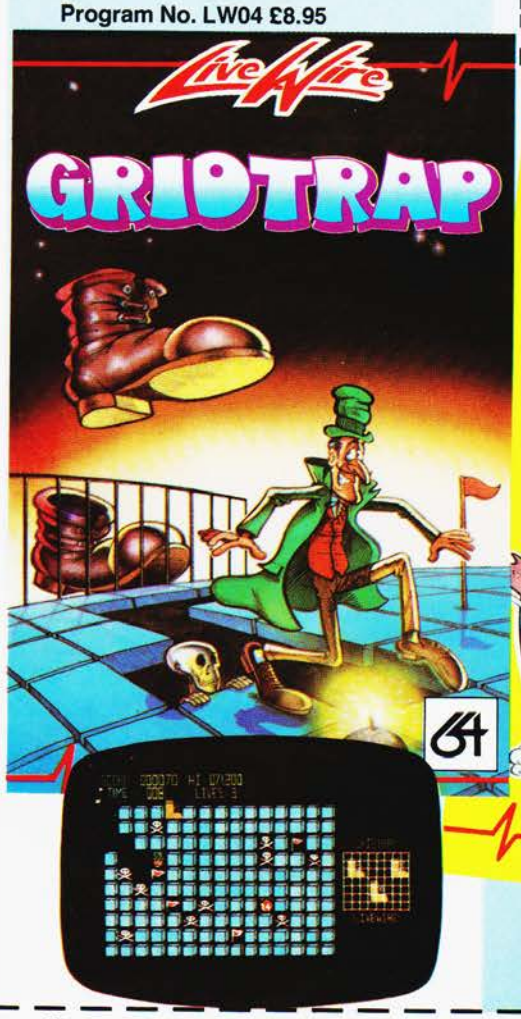

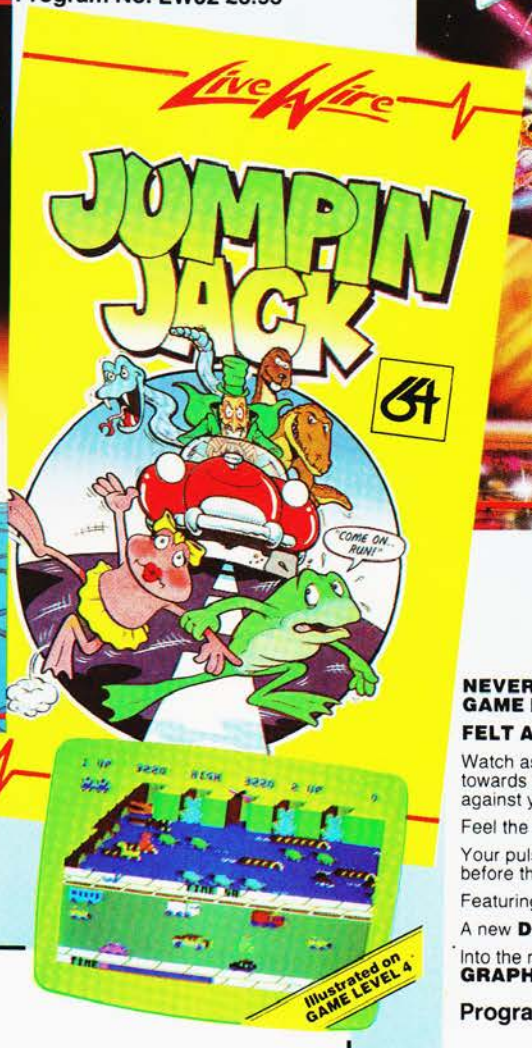

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