November 1984

AN ARGUS SPECIALIST PUBLICATION

GAMES COMPUTING

85p

The magazine for those who take their computer and video games seriously

Special FREE supplement
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CONTENTS

REGULARS

News 7
Gossip galore on the games front.

Puzzles 23
Much more teasers to twist your mind from our resident puzzlers.

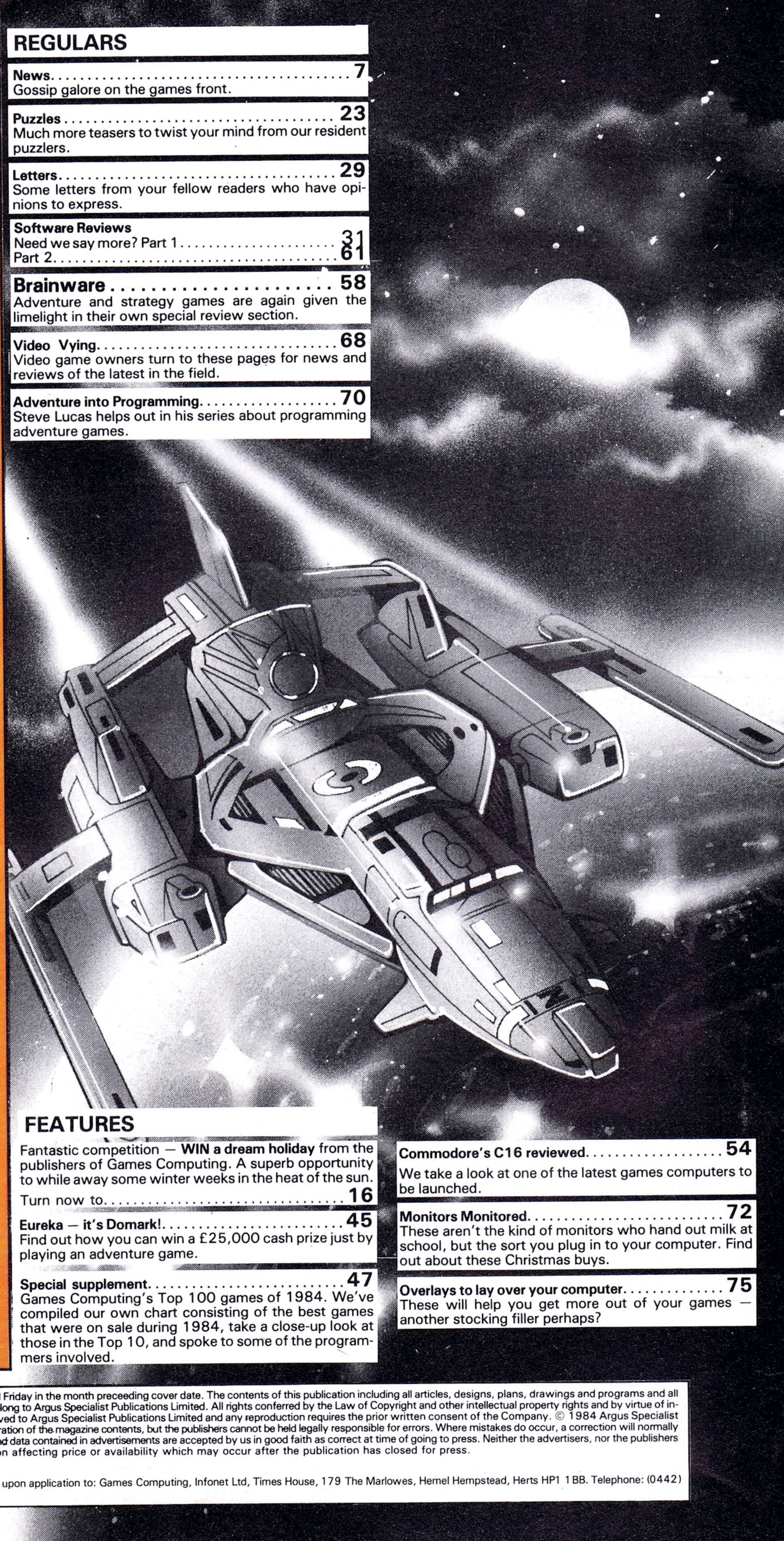
Letters 29
Some letters from your fellow readers who have opinions to express.

Software Reviews
Need we say more? Part 1 31
Part 2 61

Brainware 58
Adventure and strategy games are again given the limelight in their own special review section.

Video Vying 68
Video game owners turn to these pages for news and reviews of the latest in the field.

Adventure into Programming 70
Steve Lucas helps out in his series about programming adventure games.



FEATURES

Fantastic competition — **WIN a dream holiday** from the publishers of Games Computing. A superb opportunity to while away some winter weeks in the heat of the sun.
Turn now to 16

Eureka — it's Domark! 45
Find out how you can win a £25,000 cash prize just by playing an adventure game.

Special supplement 47
Games Computing's Top 100 games of 1984. We've compiled our own chart consisting of the best games that were on sale during 1984, take a close-up look at those in the Top 10, and spoke to some of the programmers involved.

Commodore's C16 reviewed 54
We take a look at one of the latest games computers to be launched.

Monitors Monitored 72
These aren't the kind of monitors who hand out milk at school, but the sort you plug in to your computer. Find out about these Christmas buys.

Overlays to lay over your computer 75
These will help you get more out of your games — another stocking filler perhaps?

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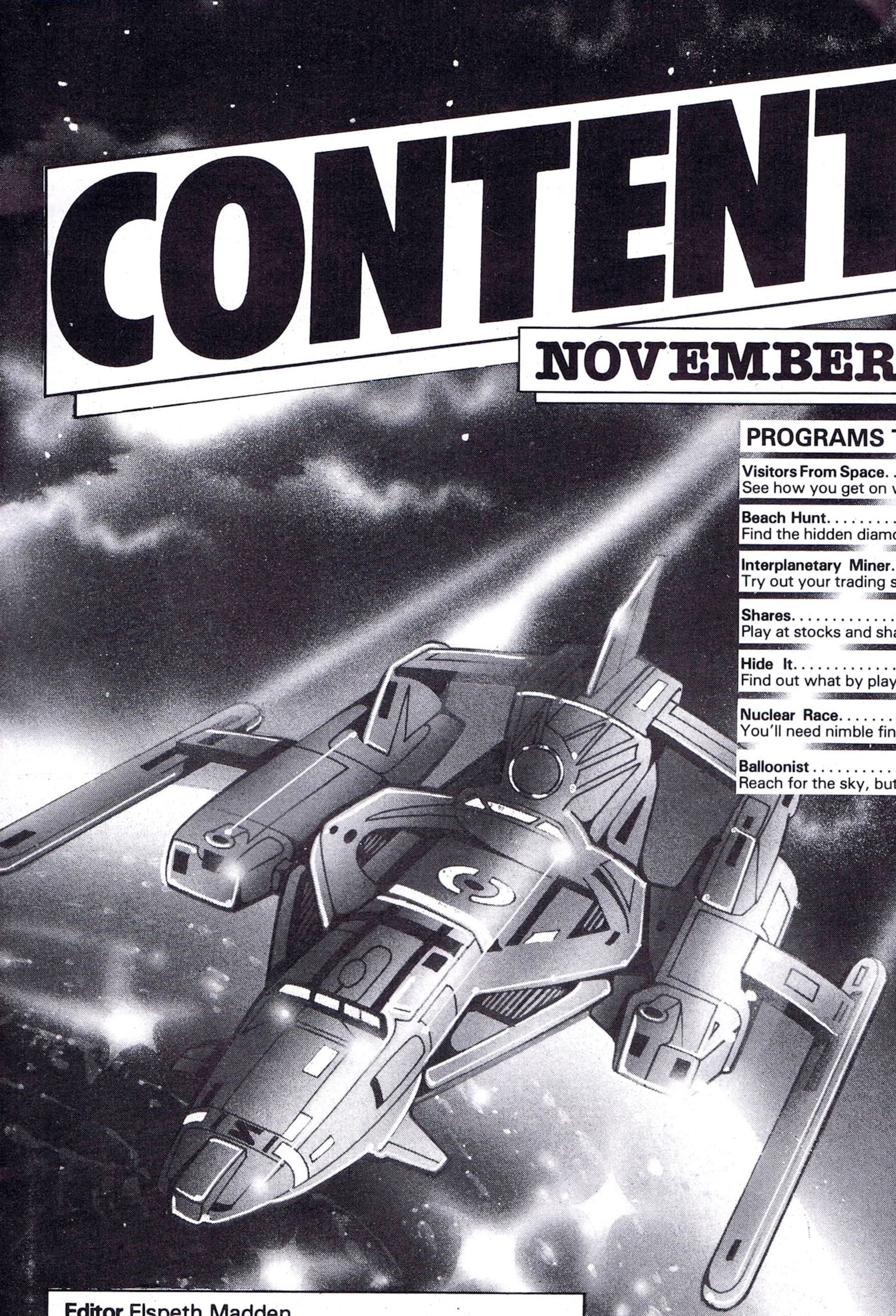
CONTENTS

NOVEMBER 1984



PROGRAMS TO PLAY

Visitors From Space..... **Amstrad/10**
See how you get on with this alien.

Beach Hunt..... **Spectrum/18**
Find the hidden diamonds amongst the dunes.

Interplanetary Miner..... **BBC/37**
Try out your trading skills in outer space.

Shares..... **CBM 64/80**
Play at stocks and shares in this mammoth mind game.

Hide It..... **Oric/86**
Find out what by playing the game.

Nuclear Race..... **Texas/90**
You'll need nimble fingers indeed to win at this game.

Balloonist..... **Spectrum/94**
Reach for the sky, but don't let your balloon burst.

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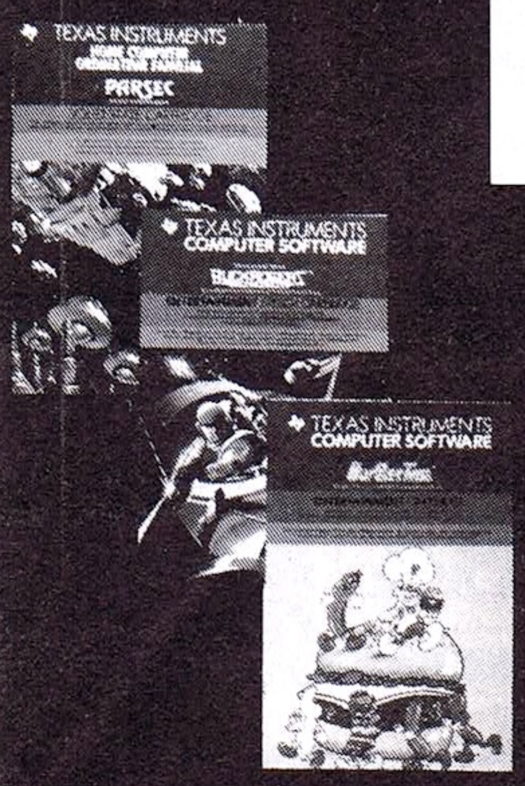
HERE TO STAY

TEXAS INSTRUMENTS TI-99/4A





1 THE SOFTWARE IS HERE

PARCO ELECTRICS have more software for the TI-99/4A than anyone else in Europe. Watch out for new titles from the USA, as well as our own range of quality cassettes.

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List File

Robopods

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2 THE HARDWARE IS HERE

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MODEMS:

Interlekt Auto answer (Portman)	199.95
Jaguar Communications (Minimo 300)	99.00

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3 THE SUPPORT IS HERE

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Getting started	5.95
Dynamic Games	4.95
Intro to Assembly	16.95
System Technical Data	8.45

MAGAZINES:

99/4A (Parco Magazine)	2.00
HOME COMPUTER Magazine	3.75

+ many more publications.

4 THE FUTURE IS HERE

The TI-99/4A is a well established and proven machine. Even so, it has long enjoyed features that other micros are still struggling to emulate, yet there is also room for new growth.

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Spectrum Storage

Rotronics have just introduced a new mass storage device for the ZX Spectrum and later for the Commodore machines.

Called Wafadrive, the unit incorporates two 128K drives, an RS232 interface, and a Centronics printer interface. Also supplied is an excellent wordprocessor from Hewson Consultants and Softek called Spectral Writer

The whole unit plugs into the much used expansion port on the back of the Spectrum via a cable. The expansion port is echoed at the back.

The drives are very similar to the ZX Microdrives except they are better, hold more programs, and are faster. The tapes used are of the same type that some expensive typewriters/word processors use so they should be generally available from office suppliers.

An extended BASIC is built into the unit for Spectrum users.

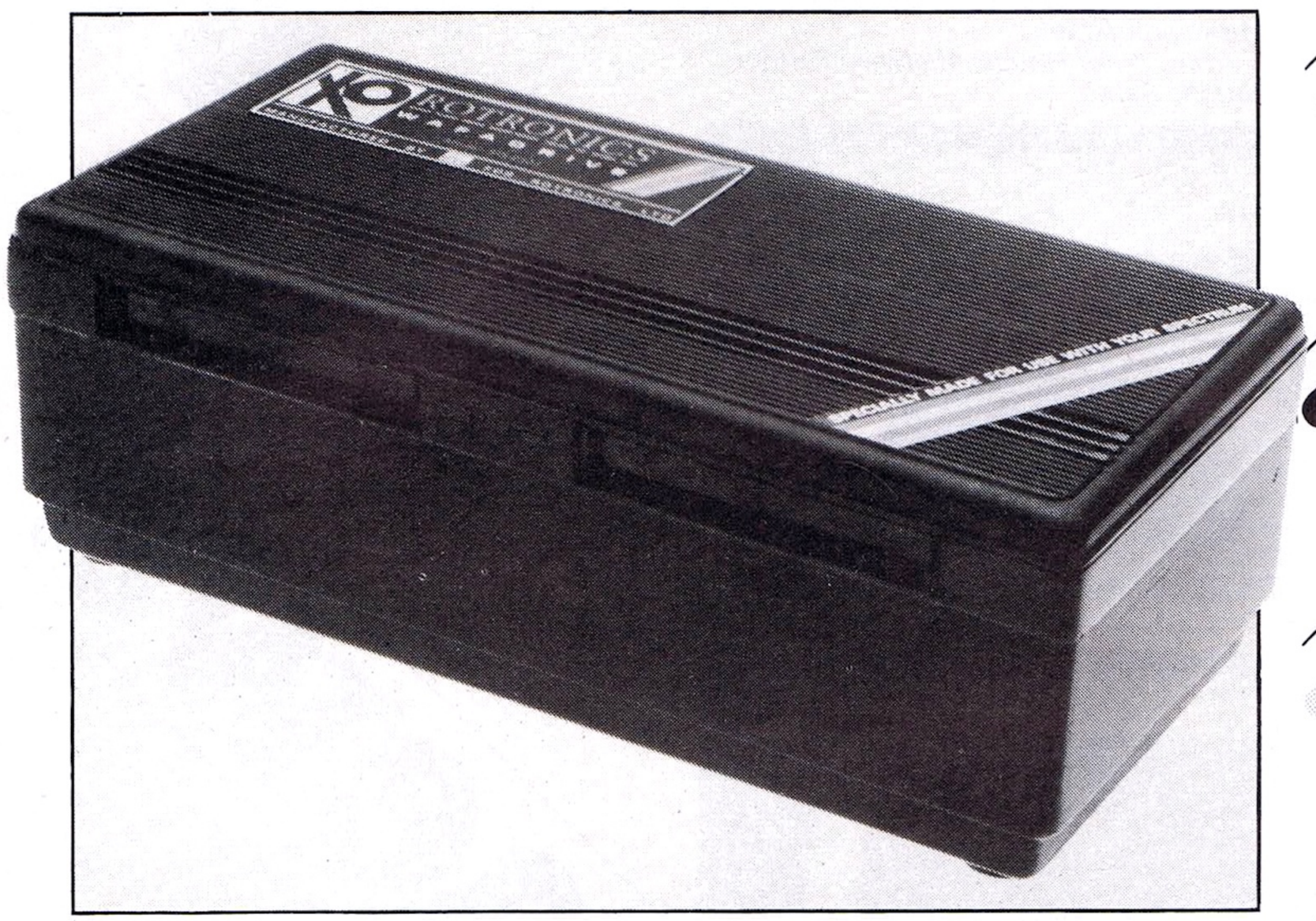
In the near future a Commodore version will be available that will use the Commodore serial bus and will work on the 64 VIC and the two new machines,the C16 and the Plus four. 1541 Disk compatibility is being aimed at but the unit that we saw had some inconsistencies with Commodore DOS.

The viability of these fast tape storage systems has always been in the balance. They don't take off unless there is software support for them. There is not software support for them unless they take off — catch 22.

Where Wafadrive is different is that the software companies have been involved from the start. Artic, Romik, Silversoft, Hewson, and some others are currently working on or have released software in this format.

The Spectrum Wafadrive costs £130 and the Commodore version will cost £150.

Rotronics, Santosh House, Marlborough Trading Estate, West Wycombe Rd, High Wycombe, Bucks, HP11 2LB.



ASP Fights Software Piracy

Much has been said and written in condemnation of software piracy but few have taken a positive stand against it. ASP is among those few that have taken action to help curb the grave problem of home copying of commercial software.

ASP has already taken steps to eliminate advertisements in our magazines which relate to tape duplication for piracy purposes. While it is appreciated that individuals may take 'back-up' copies of their own programs, it should be noted that it is *ILLEGAL* to copy commercially available software for other than personal use.

Software piracy is costing the software industry huge sums of money which is detrimental to the future development of the industry. It is in everybody's interests to dramatically reduce the level of software piracy primarily because firms need funds raised from software sales to plough back into research and development of new products. This means that the standard of software products can only improve.

ASP hopes our action will help combat this serious problem in order to maintain and improve the high standards of the UK software industry. We are asking *you* to do the same by refraining from duplicating or copying commercially available software for anything other than personal use.

Atari Advances

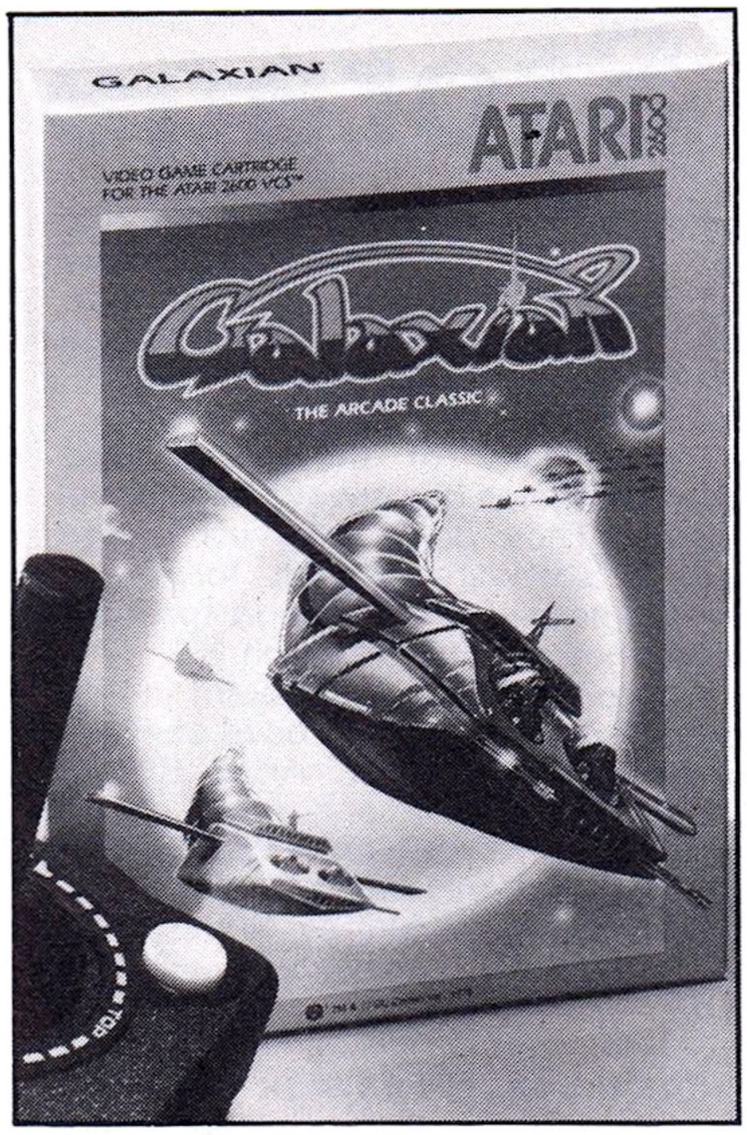
The big shake up has started at Atari. The world has been waiting to see what ex Commodore boss, Jack Tramiel, would do with his new acquisition Atari.

Atari prices have always been on the high side, but this is changing with the new Atari. The 600XL, the 16K successor to the 400 is down to a bargain £99 — that is £30 less than a Spectrum. The 800XL has had its price reduced to a reasonable £199, these are reductions of £50 and £60 respectively.

Other products are also being reduced: cassette decks at £35 (from £45), printer/plotters halved to £99, and Trak Balls halved to £20.

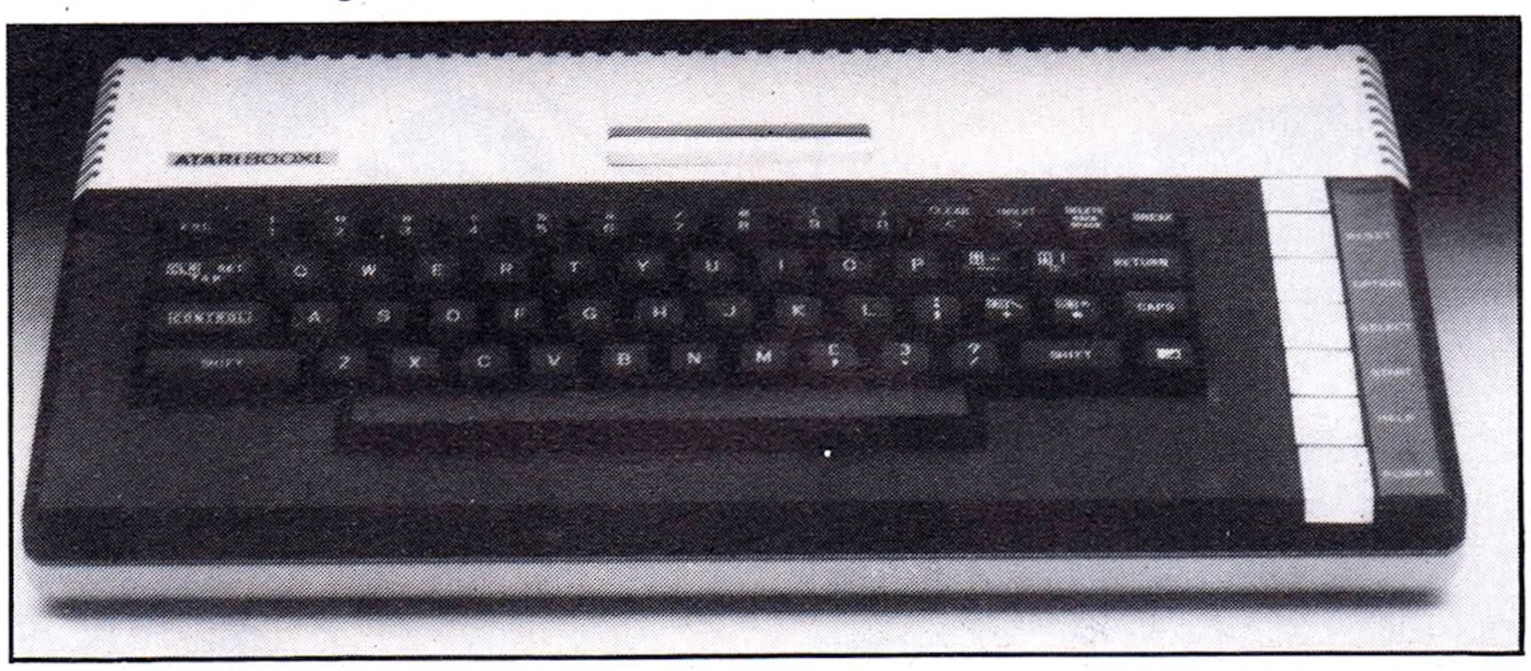
The VCS will still live on in the guise of the 2600Jr at around £70. The big break is in the software range. Atari software has always been excellent (look at Star Raiders and Pole Position!) but the price has been astronomical. The price of British Atari software has always been kept in line with American software — around £30.

Commodore have been selling cartridges for £10 for the last year — and very successfully too. Atari have just woken up to this and their cartridges will be selling for around £10 to £15 and their new range of Atarisoft tapes will retail at £8 to £10.



The general manager of Atari in Britain confirmed that it was the start of a "new look Atari".

Atari, Atari House, Railway Terrace, Slough, Berks.





Real Disks for the Spectrum at last!

Datafax Systems have just made use of the increasingly popular 3" disk drive made by Hitachi, and put them on a Spectrum.

The drives are single sided, but the disks can be inverted just like a record. This gives over 100K per side of disk. The unit plugs into the back of the Spectrum and contains all the necessary hardware to drive ANY disk drive, but Datafax have things set up for the 3" type so it's probably best to do what they think is best.

A utilities disk is supplied that contains the Disk Operating System, various utilities, and some games. The DOS takes out about 8K of user RAM — a 48K Spectrum is required.

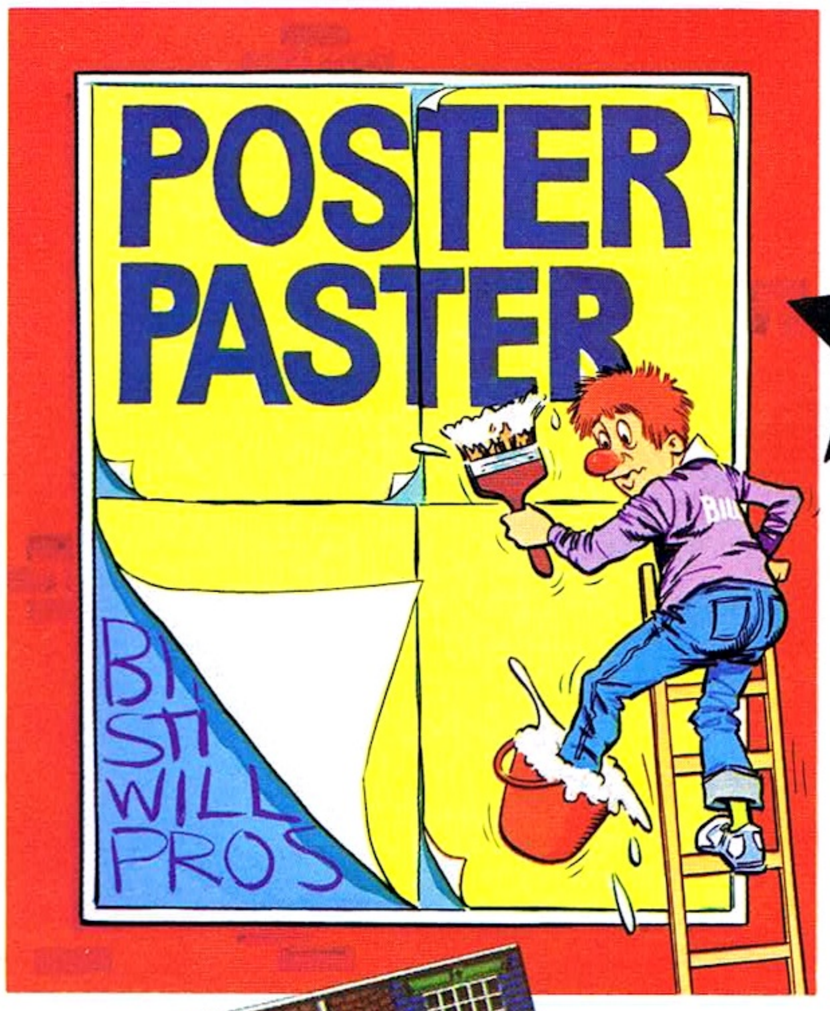
The maximum number of files on one side is 48 which should be suitable for most people's needs.

The price of the Datafax disk system is not yet known.

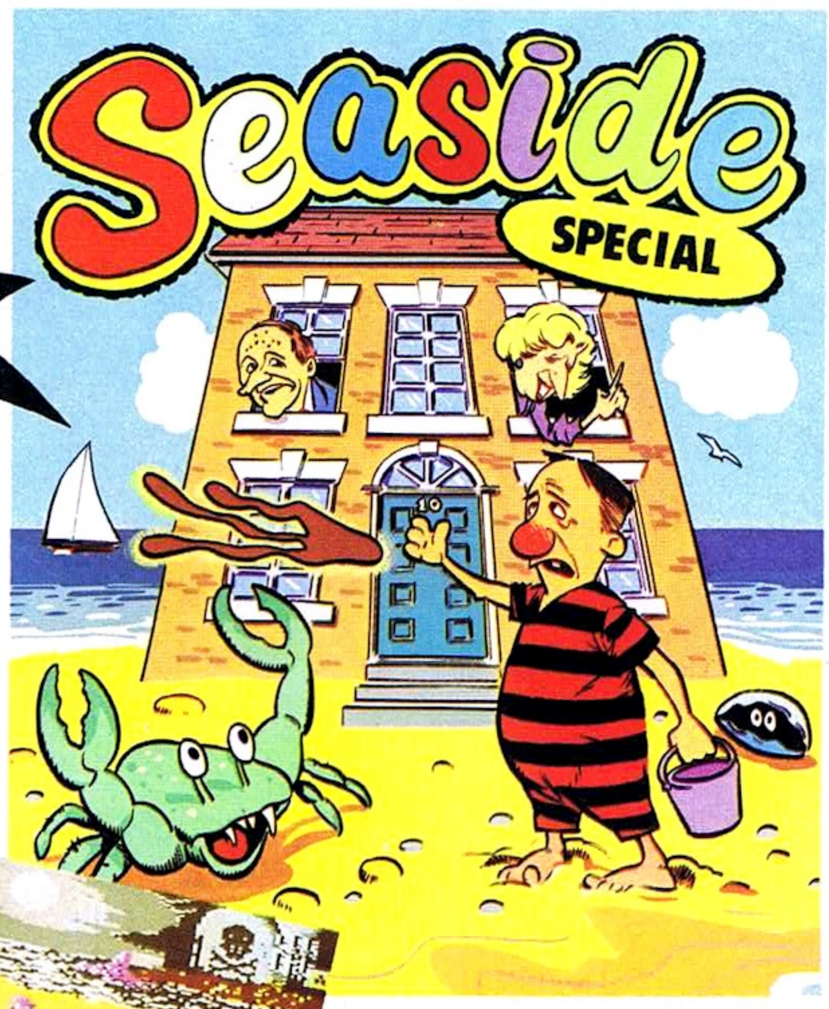
Statacom distribute Datafax drives and are at 65 Inveresk Gardens, Worcester Park, Surrey KT4 7BB.

HIGH STREET

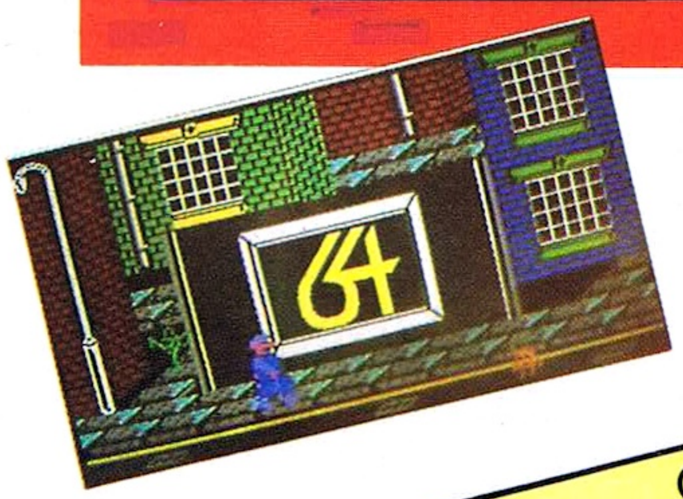
Taskset & commodore 64



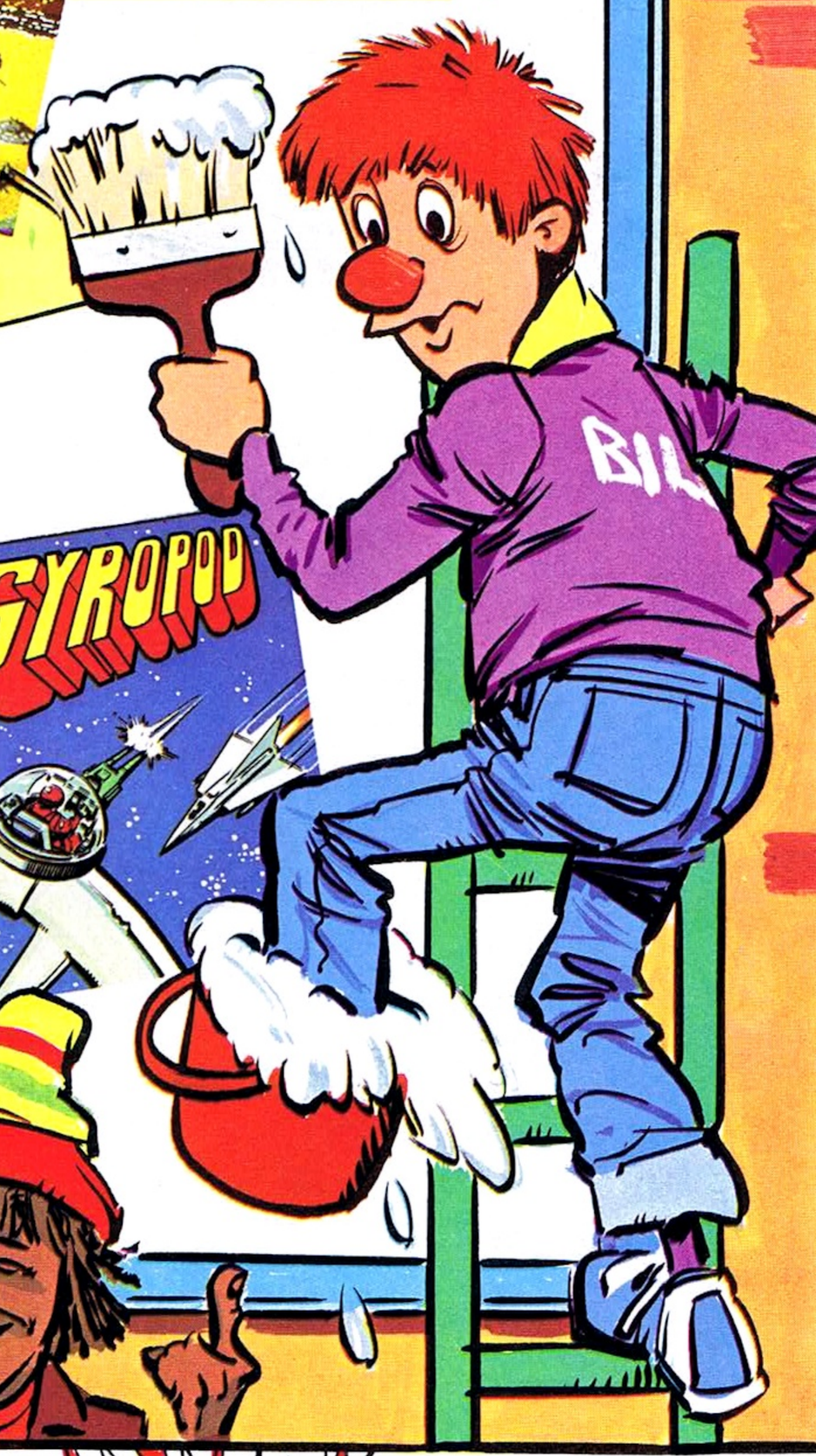
NEW



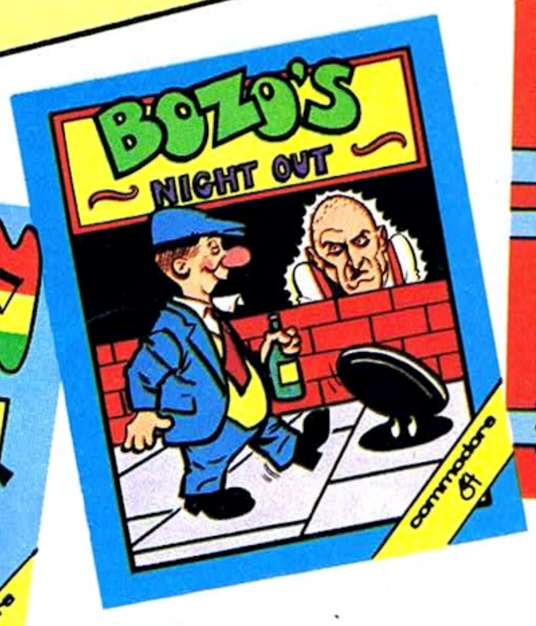


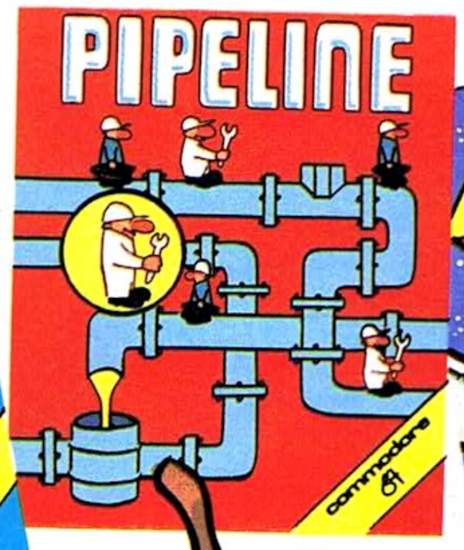


Cassette £6.90
Disk £9.99
Available Worldwide









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My name is Zoltak and I have been sent by the leaders of my planet, Joliaria, to a strange planet called EARTH at the other side of the galaxy. I have been sent to try to find ten items of treasure and in addition, I must try to locate some rocket fuel for my return journey.

You must give me instructions in the form of two word sentences such as SEARCH BARN, or just single words. Here is a list of words I understand:

N,S,E,W,GO IN, GO OUT, WAIT, SING, SAVE, SCORE, ROW, SAIL, LIGHT, GET, GRAB, TAKE, DROP, LEAVE, PUT, TIME, DIG, HELP, OPEN, PHONE, QUIT, LOOK, KISS, PRAY, LOAD, CLOAD, EXAMINE, SWIM, INVENTORY, BUY, CRAWL

There are 85 locations to visit in this game. Just in case you get stuck, here are some useful hints:

1. Dynamite is dangerous. I wouldn't recommend lighting it.
2. The Pig is a bit of a nuisance. It can be moved out of the way (if you push hard enough).
3. Try examining things (particularly pebbles, for they often contain valuable minerals).
4. The sunbathers look as though they could do with some lotion (I believe that Supermarkets sell lotion!)
5. You never know what might lie underneath driftwood.
6. The Headmistress might give you a present if you sing for her.
7. The farmer has a trolley, but he needs a gift before he will give it to you.
8. Some objects are too heavy to carry without a trolley.
9. You can go inside the monument.
10. It is often a nuisance WAITING for a BUS, but it usually works!
11. You will need something to prise the lid off the casket!
12. The man with the pheasant will give it to you if you find out what he wants!
13. Don't jump off cliff's without a parachute and don't climb down ledges without a rope.

I hope that the above hints don't give too much away so as to spoil the game!

RUNdown

Lines	Action
10-90	initialise
100-460	main control loop
110	describe locations
120-170	describe directions
180-220	describe objects
230	input action
240-450	call subroutine
470-1020	subroutines
1030-1140	score
1150-1790	subroutines
1800-2100	data for descriptions of locations, objects and words understood
2110	solve game
2120	instructions

VISITOR FROM SPACE

RUNS ON AMSTRAD



Variables Used

p%	locations
b%(x)	pointer to objects locations
n%(x)	pointer to words
n$(x)	words understood
z$,b$,c$,d$	input action
s%(x,y)	holds map
q$(x)	holds locations descriptions
g$(x)	holds descriptions of objects other variables are used as flags and counters.

Conversion Clues

1. You will need to convert WHILE WEND loops to conditiond GOTO's or REPEAT UNTIL (on BBC/ORIC).
2. LOCATE x,y is used to place the text cursor at x,y coordinates. This is equivalent to PLOT x,y ''jkjlkj'' on the Oric, PRINT TAB (x,y) on the BBC and Print at the Spectrum.
3. MODE 1 is a 40 column mode which has 4 colours available. The colours are selected from the palette with INK 1,

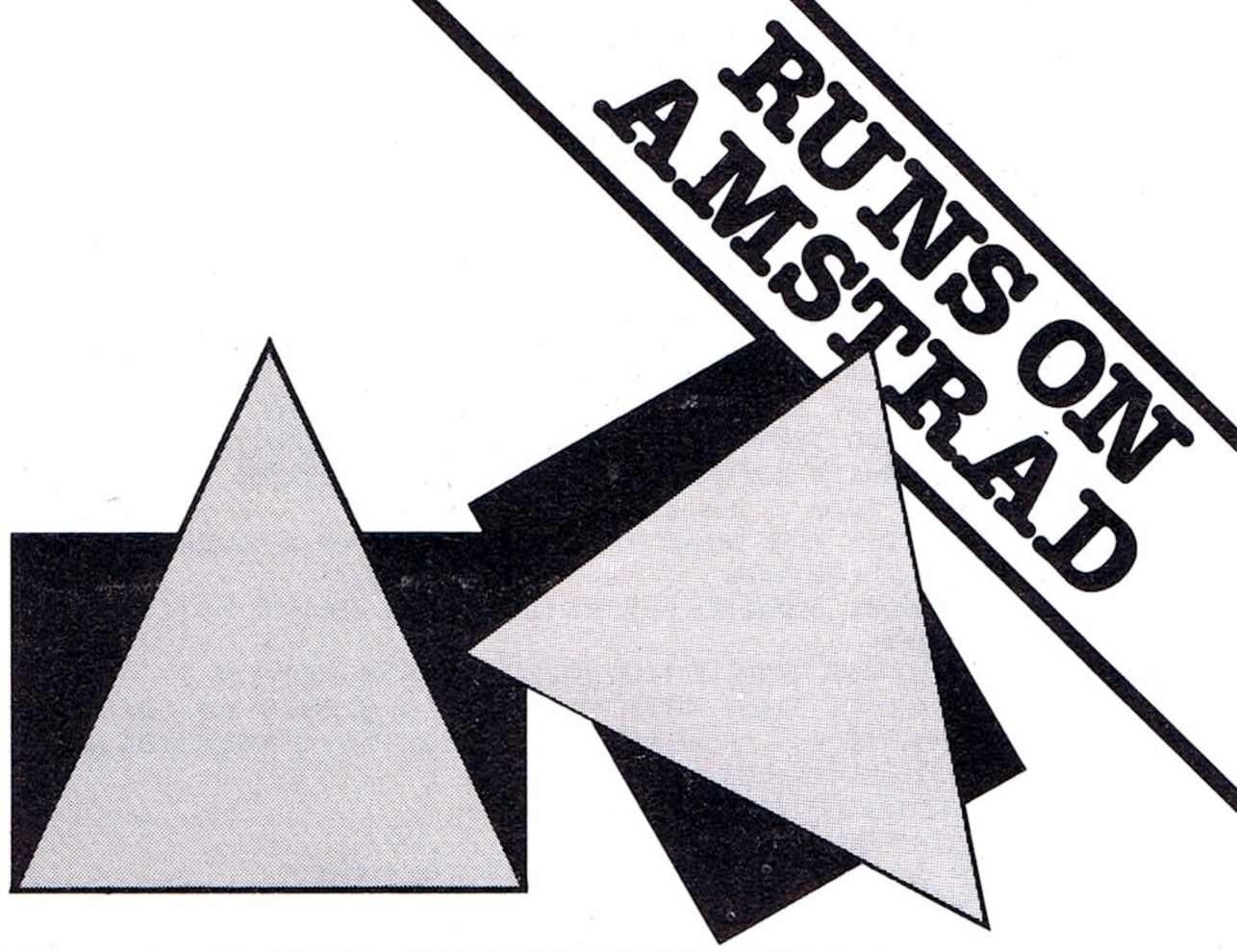
colour number. This is equivalent to VDU 19 on the BBC (although BBC users would be advised to use MODE 7).The colours are then changed with PEN and PAPER commands.
4. I doubt that there would be enough room to run the program in MODE 6 in the Electron without reducing the detailed descriptions in the data statements (This would be necessary on COMMODORE and ORIC machines as well because they will not accept such long lines)
5. LOWER$ is used to convert the input sentence to lower case. This has the advantage that the player can input their action in either lower or upper case (or a mixture)
6. The program should be easy to convert to other machines except the COMMODORE 64, where you will need to split lines with ELSE in them so as to have two or more separate IF THEN statements.

```
10 REM ** A Visitor from Space **
20 REM ** an adventure game for the Amstrad CPC464 **
30 REM **  by  Steve Lucas  August 1984 **
40 p%=2:MODE 1: INK 0,1:INK 1,24:INK 2,20: INK 3,6: BOR
DER 1
50 GOSUB 2130
60 DIM s%(85,4),q$(86),g$(55),v$(4),b%(60),n$(70),x$(35
),n%(70):c%=0
70 RESTORE:FOR x=1 TO 85:FOR y=1 TO 4:READ s%(x,y):NEXT
 y: READ q$(x):NEXT x
80 FOR x=1 TO 51: READ g$(x),b%(x):NEXT:FOR x=1 TO 69:R
EAD n$(x),n%(x):NEXT
90 FOR x=1 TO 30: READ x$(x): NEXT
100 CLS: WHILE ss%<10
110 PEN 1: PRINT"I am ":PEN 2:PRINT q$(p%):a$="":IF s%(
p%,1)>0 THEN a$="North"
120 GOSUB 1030:IF s%(p%,2)>0 AND LEN(a$)>0 THEN a$=a$+"
,South" ELSE IF s%(p%,2)>0 THEN a$="South"
130 IF s%(p%,3)>0 AND LEN(a$)>0 THEN a$=a$+",East" ELSE
 IF s%(p%,3)>0 THEN a$="East"
140 IF s%(p%,4)>0 AND LEN(a$)>0 THEN a$=a$+",West" ELSE
 IF s%(p%,4)>0 THEN a$="West"
150 IF LEN(a$)=0 THEN a$="nowhere at all ?": ff=FRE("")
160 IF a%=11 THEN GOTO 2110
170 PRINT:PEN 1: PRINT:PRINT"I can go :-": PEN 2:PRINT
a$
180 e=0:FOR x=1 TO 51:pp%=0:IF b%(x)=p% THEN pp%=1
190 IF pp%=1 THEN 210
200 NEXT:GOTO 230
210 IF e=0 THEN PRINT:PRINT:PEN 1: PRINT"I can see :-"
220 PEN 2:PRINT g$(x):e=e+1:GOTO 200
230 PRINT:PRINT:PEN 1: PRINT"What should I do now ";:IN
PUT z$
240 CLS:z$=LOWER$(z$):b$=LEFT$(z$,2):c$=LEFT$(z$,3):d$=
LEFT$(z$,4)
250 IF d$="go i" OR c$="i" THEN GOSUB 1570
260 IF d$="go t" THEN GOSUB 1600
270 IF c$="out" OR d$="go o" THEN GOSUB 1760
280 IF (b$="n" OR d$="go n") AND s%(p%,1)<>0 THEN p%=s%
(p%,1)
290 IF (b$="s" OR d$="go s") AND s%(p%,2)<>0 THEN p%=s%
(p%,2)
300 IF (b$="e" OR d$="go e") AND s%(p%,3)<>0 THEN p%=s%
(p%,3)
310 IF c$="wai" THEN GOSUB 1660 ELSE IF c$="sin" THEN G
OSUB 1700 ELSE IF c$="sav" THEN PRINT"What do you think
 this is ... a game ?"
320 IF (b$="w" OR d$="go w") AND s%(p%,4)<>0 THEN p%=s%
(p%,4)
330 IF c$="sco" THEN PRINT"You have scored ";a%;"out of
 11"
340 IF c$="row" OR c$="sai" THEN GOSUB 1620 ELSE IF c$=
"thr" THEN GOSUB 1210
350 IF c$="lig" THEN GOSUB 1730 ELSE IF b$="ge" OR b$="
ta" OR b$="gr" THEN GOSUB 480 ELSE IF c$="cli" OR c$="d
ow" THEN GOSUB 1290
360 IF b$="re" THEN GOSUB 1180 ELSE IF b$="fu" OR b$="p
i" THEN GOSUB 1150
370 IF c$="tim" THEN GOSUB 1480 ELSE IF c$="dig" THEN G
OSUB 1540 ELSE IF c$="hel" THEN GOSUB 980 ELSE GOSUB 14
60
380 IF b$="dr" OR b$="le" OR c$="giv" THEN GOSUB 730 EL
SE IF c$="ope" THEN GOSUB 1260 ELSE IF c$="pho" THEN GO
SUB 1420 ELSE IF c$="q
ui" THEN 1330
390 IF c$="loo" THEN PRINT"I see nothing special!" ELSE
 IF c$="kis" THEN GOSUB 1430
400 IF b$="pr" THEN GOSUB 1170 ELSE IF c$="loa" OR c$="
clo" THEN GOSUB 1440 ELSE IF b$="pu" THEN GOSUB 1190
410 IF c$="eat" THEN GOSUB 1360 ELSE IF b$="at" OR b$="
ki" OR b$="hi" THEN GOSUB 840
420 IF c$="ope" THEN GOSUB 1490 ELSE IF c$="exa" THEN G
OSUB 850 ELSE IF c$="swi" THEN GOSUB 1500 ELSE IF c$="u
se" OR c$="ins" OR c$=
"unl" THEN GOSUB 960
430 IF c$="wea" THEN GOSUB 1220 ELSE IF c$="jum" THEN G
OSUB 1230
440 IF c$="inv" THEN GOSUB 930 ELSE IF c$="buy" THEN GO
SUB 1380
450 IF c$="cra" THEN PRINT"What an idiot!" ELSE IF c$="
coo" THEN PRINT"How can I do that ?"
460 WEND
470 END
480 GOSUB 990: IF 1%=1 THEN 500
490 RETURN
500 e%=1:FOR x=1 TO 51: IF b%(x)=p% AND b%(n%(r))=p% TH
EN e%=1
510 NEXT:IF e%=0 THEN RETURN
520 IF r=38 OR r=39 THEN an=1:RETURN
530 IF r=50 THEN b%=1 ELSE IF r=6 THEN aa=1 ELSE IF r=1
 THEN ab=1 ELSE IF r=3 THEN ac=1 ELSE IF r=31 THEN ae=1
 ELSE IF r=67 THEN ad=
1 ELSE IF r=7 THEN PRINT x$(16):RETURN
540 IF r=8 OR r=9 THEN PRINT x$(17):RETURN ELSE IF r=22
 OR r=23 THEN PRINT x$(9): RETURN
550 IF r=24 THEN PRINT x$(9):RETURN ELSE IF r=69 THEN P
RINT"AAAAGGGGGHHHHH IT BIT ME !!!!":GOTO 1320
560 IF p%=68 AND r=25 AND ah=0 THEN PRINT x$(17):RETURN
```

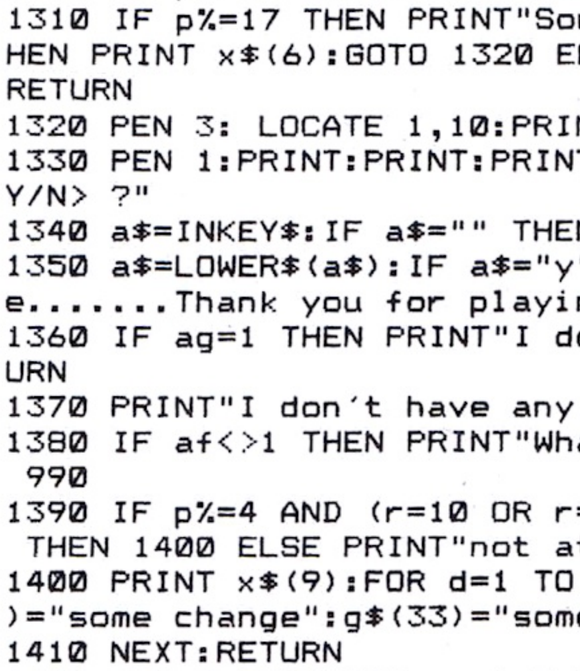


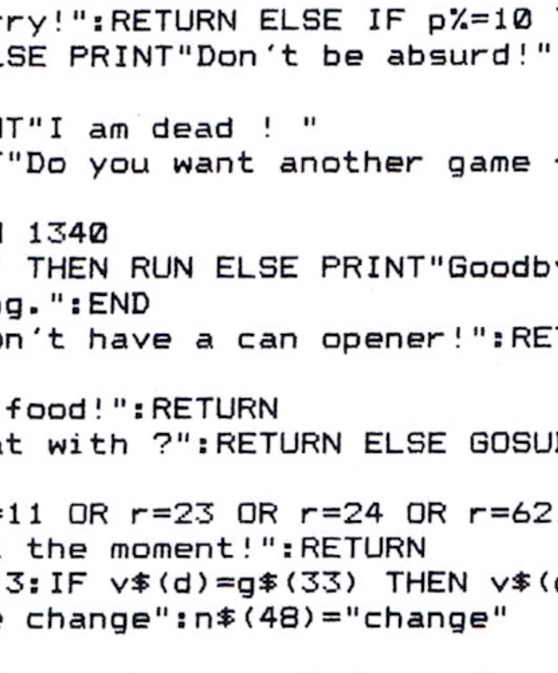

```
570 IF r=26 THEN PRINT"I've just been trampled to death
":GOTO 1320
580 IF r=27 THEN PRINT x$(9):RETURN ELSE IF r=30 THEN P
RINT x$(17):RETURN ELSE IF r=36 THEN PRINT x$(18):RETUR
N
590  IF r=27 THEN PRINT x$(9):RETURN ELSE IF r=30 OR r=
41 OR r=48 OR r=51 THEN PRINT x$(17):RETURN ELSE IF r=3
6 THEN PRINT x$(18):RE
TURN
600 IF p%=56 AND (r=54 OR r=55) AND ap<>1 THEN PRINT"It
's not here !":RETURN
610 IF r=68 THEN PRINT x$(16):RETURN ELSE IF p%=49 AND
 r=63 AND aq<>1 THEN PRINT"It's not here!":RETURN
620 IF r=31 THEN ar=1 ELSE IF r=40 AND as<>1 THEN PRINT
 x$(17):RETURN ELSE IF (r=56 OR r=57) AND at<>1 THEN PR
INT"It's too heavy for
 me to lift!":RETURN
630 IF r=40 THEN at=1 ELSE IF r=47 THEN PRINT"I have ju
st been arrested for           shoplifting !":GOTO 1320
640 IF r=33 THEN af=1 ELSE IF(r=20 OR r=21) THEN ag=1 E
LSE IF p%=62 AND (r=17 OR r=18) THEN PRINT x$(25):GOTO
1330
650 IF r=61 THEN PRINT x$(17):RETURN ELSE IF r=19 THEN
aj=1 ELSE IF p%=18 AND r=32 THEN PRINT"Aggghhh it caugh
t my artery !":GOTO 13
```

```
20
660 IF p%=3 AND r=58 AND ao<>1 THEN PRINT"I don't see i
t!":RETURN ELSE IF r=62 AND ai<>1 THEN PRINT"Won't let
me !":RETURN
670 IF p%=80 AND (r=12 OR r=13) AND al<>1 THEN PRINT"Sh
e won't let me !":RETURN
680 IF p%=12 AND r=37 AND am<>1 THEN PRINT"There's some
thing underneath !":g$(40)="a ** DIAMOND RING **":am=1
690 IF p%=49 AND (r=43 OR r=44) THEN PRINT"Too heavy!":
RETURN
700 e%=0:FOR x=1 TO 3:IF v$(x)="" THEN v$(x)=g$(n%(r)):
e%=1:x=7
710 NEXT:IF e%=0 THEN PRINT"My hands are full!":RETURN
720 b%(n%(r))=0:PRINT CHR$(7):RETURN
730 GOSUB 990:IF 1%<>1 THEN PRINT"I haven't got a ";1$:
PRINT CHR$(7):RETURN
740 e%=0:FOR d=1 TO 3:IF v$(d)=g$(n%(r)) THEN v$(d)="":
e%=1
750 NEXT:IF e%<>1 THEN PRINT"I'm not carrying a ";1$:RE
TURN
760 b%(n%(r))=p%:IF r=50 THEN b%=0 ELSE IF r=6 THEN aa=
0 ELSE IF r=1 THEN ab=0 ELSE IF r=3 THEN ac=0
770 IF r=67 THEN ad=0 ELSE IF r=31 THEN ae=0 ELSE IF r=
33 THEN af=0 ELSE IF (r=20 OR r=21) THEN ag=0 ELSE IF r
=19 THEN aj=0 ELSE IF
r=23 THEN ar=0
780 IF p%=48 AND r=29 THEN PRINT"He's so pleased that h
e gives me a      ** PHEASANT **":g$(45)="a ** PHEASANT
 **":ai=1:g$(21)=""
790 IF p%=8 AND r=42 THEN PRINT x$(29):n$(42)="camera":
ak=1:g$(32)="a ** CAMERA **"
800 IF p%=8 AND (r=26 OR r=32 OR r=49 OR r=64 OR r=65)
THEN PRINT x$(30):GOTO 1320
810 IF r=38 OR r=39 THEN an=0 ELSE IF p%=36 AND (r=10 O
R r=11) THEN PRINT"He thanks me and brings me a trolley
":g$(30)="a trolley":n
$(40)="trolley":g$(8)="":as=1
820 IF r=40 THEN at=0
830 RETURN
840 IF p%=2 THEN PRINT"I couldn't !":RETURN ELSE PRINT"
You must be mad!":RETURN
850 GOSUB 990:IF p%=4 AND r=61 THEN PRINT"He has an emp
ty basket and a ** PHEASANT **:return
860 IF p%=7 AND r=1 THEN PRINT x$(26):RETURN ELSE IF p%
=79 AND r=7 THEN PRINT x$(27):RETURN
870 IF p%=55 AND r=68 THEN PRINT x$(27):RETURN ELSE IF
p%=35 AND r=41 THEN PRINT"It's so rusty it would never
start!":RETURN ELSE IF
 p%=8 AND r=48 THEN PRINT"They look as though they coul
d do with  some suntan LOTION!":RETURN
880 IF p%=80 AND (r=8 OR r=9) THEN PRINT"She says that
she likes singing!":RETURN ELSE IF p%=3 AND r=2 THEN PR
INT"I see something!":
g$(43)="a ** ZIRCONIUM ** nugget":ao=1:RETURN
890 IF p%=56 AND r=27 THEN PRINT"I see a way in":RETURN
 ELSE IF p%=14 AND r=47 THEN PRINT"It's the sort they s
ell at Woolworth's":RE
TURN
900 IF p%=36 AND r=40 THEN PRINT"He says I can borrow h
is trolley if I  get him a good book!":RETURN
910 IF p%=1 THEN PRINT"The ground looks soft!":RETURN E
LSE IF p%=38 AND r=26 THEN PRINT"It isn't too big to mo
ve !":RETURN ELSE IF p
%=29 AND r=69 THEN PRINT"The ****ing thing bit me!":GOT
O 1320
920 PRINT"I don't see anything special!":RETURN
930 PEN 3: PRINT"I am carrying :-": PEN 2:f%=0:FOR x=1
TO 3:IF v$(x)<>"" THEN PRINT v$(x):f%=1
940 NEXT:IF f%=0 THEN PRINT"nothing at all!"
950 PRINT:PRINT:RETURN
960 GOSUB 990:IF p%<>7 THEN PRINT x$(9):RETURN
970 IF af<>1 THEN PRINT x$(19):RETURN ELSE PRINT x$(20)
:q$(7)="by the open hut":g$(44)="** ROCKET FUEL **":RET
URN
980 PRINT"I'm sorry I don't have a clue...Well    Earhl
ings are such strange creatures !":RETURN
990 1$="":FOR x=1 TO LEN(z$):IF MID$(z$,x,1)=" " THEN 1
$=RIGHT$(z$,LEN(z$)-x):x=200
1000 NEXT:r=0:1%=0:IF LEN(1$)<2 THEN RETURN
1010 FOR x=1 TO 69:IF LEFT$(n$(x),LEN(1$))=1$ THEN 1%=1
:r=x
1020 NEXT:RETURN
1030 a%=0:IF b%(32)=57 AND ak=1 THEN a%=a%+1
1040 IF b%(17)=57 THEN a%=a%+1
1050 IF b%(9)=57 THEN a%=a%+1
1060 IF b%(46)=57 THEN a%=a%+1
1070 IF b%(42)=57 THEN a%=a%+1
1080 IF b%(4)=57 THEN a%=a%+1
1090 IF b%(44)=57 THEN a%=a%+1
1100 IF b%(45)=57 THEN a%=a%+1
1110 IF b%(43)=57 THEN a%=a%+1
1120 IF b%(41)=57 THEN a%=a%+1
1130 IF b%(4)=57 THEN a%=a%+1
1140 RETURN
1150 CLS: PEN 1: PRINT"Just who do you think you are sp
```




```
eaking  to ?":PEN 3: PRINT:PRINT:PRINT"What have you go
t to say for yourself
  now ";:INPUT z$
1160 z$=LOWER$(z$):IF LEFT$(z$,3)<>"sor"THEN PRINT"Be l
ike that then !":GOTO 1320 ELSE PRINT"I'll let you off
this time !": RETURN
1170 bn=INT(RND(1)*2):IF bn=1 THEN PRINT x$(11):p%=INT(
RND(1)*57):RETURN ELSE PRINT x$(12):RETURN
1180 GOSUB 990:PRINT"I need my glasses to read anything
!":RETURN
1190 IF p%<>38 THEN PRINT"Not at the moment!":RETURN EL
SE GOSUB 990
1200 IF r=26 THEN PRINT"That's done the trick!":s%(38,2
)=39:q$(38)="In a pigsty. Whew what a smell !!":RETURN
ELSE PRINT"Push what ?
":RETURN
1210 PRINT"I'm not throwing anything here. It's toodang
erous !":RETURN
1220 PRINT"Now who's being a silly billy ?":RETURN
1230 IF p%=10 AND b%<>1 THEN PRINT"I jump from the top
and break my neck!":got0 1300
1240 IF p%=10 THEN p%=11:PRINT x$(5):RETURN ELSE IF p%=
15 THEN PRINT x$(6):GOTO 1320
1250 PRINT"Why are you always so dumb ?":RETURN
1260 IF p%=23 THEN PRINT x$(10):s%(23,2)=24:RETURN
1270 IF p%=49 THEN GOSUB 1780:RETURN
1280 PRINT x$(9):RETURN
1290 IF p%=15 AND aa=1 THEN PRINT x$(7):p%=16:RETURN
1300 IF p%=15 THEN PRINT x$(8):GOTO 1320
1310 IF p%=17 THEN PRINT"Sorry!":RETURN ELSE IF p%=10 T
HEN PRINT x$(6):GOTO 1320 ELSE PRINT"Don't be absurd!":
RETURN
1320 PEN 3: LOCATE 1,10:PRINT"I am dead ! "
1330 PEN 1:PRINT:PRINT:PRINT"Do you want another game <
Y/N> ?"
1340 a$=INKEY$:IF a$="" THEN 1340
1350 a$=LOWER$(a$):IF a$="y" THEN RUN ELSE PRINT"Goodby
e.......Thank you for playing.":END
1360 IF ag=1 THEN PRINT"I don't have a can opener!":RET
URN
1370 PRINT"I don't have any food!":RETURN
1380 IF af<>1 THEN PRINT"What with ?":RETURN ELSE GOSUB
 990
1390 IF p%=4 AND (r=10 OR r=11 OR r=23 OR r=24 OR r=62)
 THEN 1400 ELSE PRINT"not at the moment!":RETURN
1400 PRINT x$(9):FOR d=1 TO 3:IF v$(d)=g$(33) THEN v$(d
)="some change":g$(33)="some change":n$(48)="change"
1410 NEXT:RETURN
1420 PEN 3:PRINT"I'm not E.T. you know....I do need a
  phone!":RETURN
1430 GOSUB 990:IF p%=79 THEN PRINT"She likes that":RETU
RN ELSE IF p%=55 THEN PRINT"She slaps me across the fac
e and runs   away!":g$
(50)="":RETURN ELSE PRINT"eh?":RETURN
1440 IF p%<>62 THEN PRINT"Not at the moment !":RETURN
1450 IF aj<>1 THEN PRINT"I don't have a program to load
!":RETURN ELSE PRINT"Wasn't that fun ! It's another gam
e from'Games Computing
'!":RETURN
```

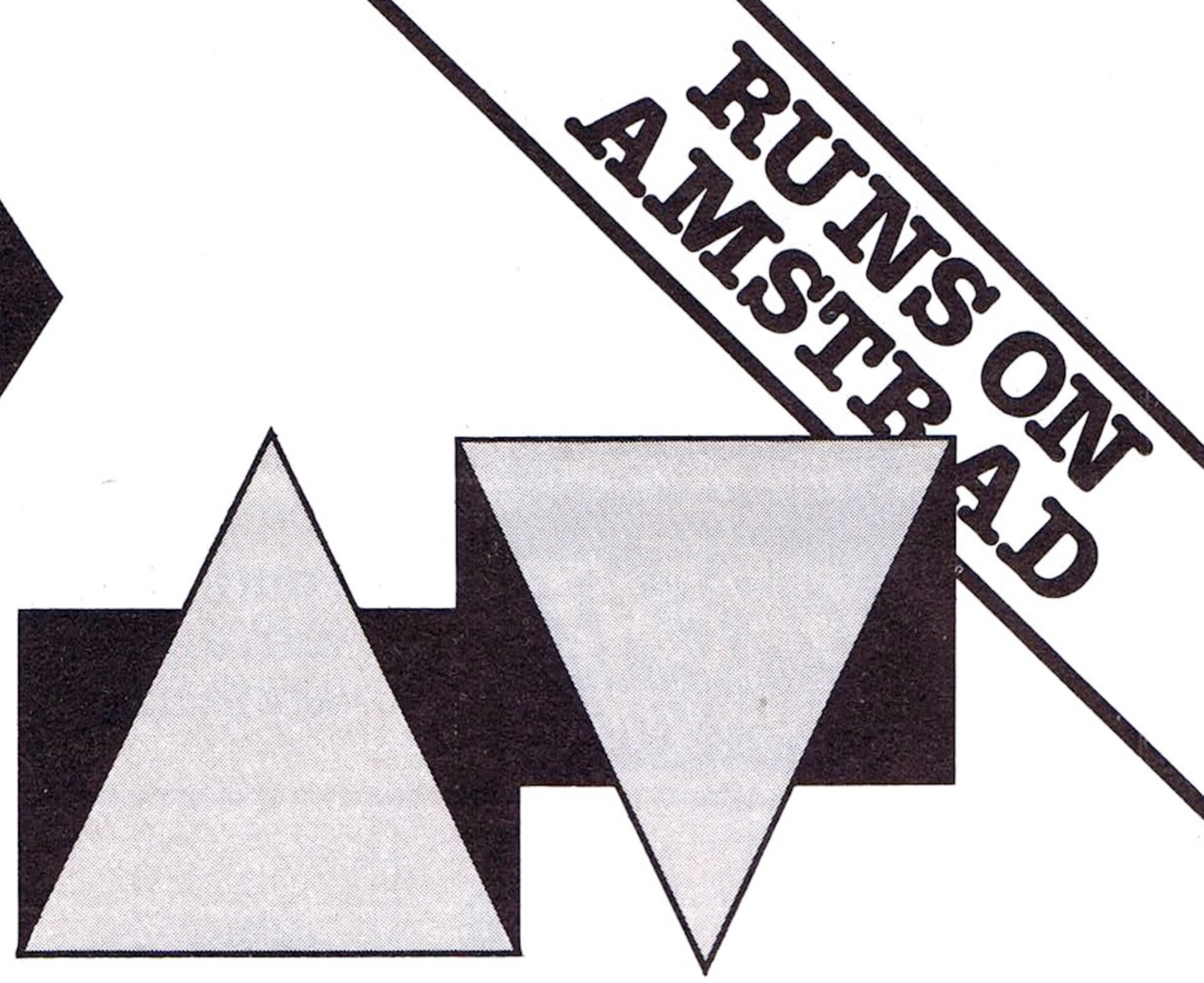




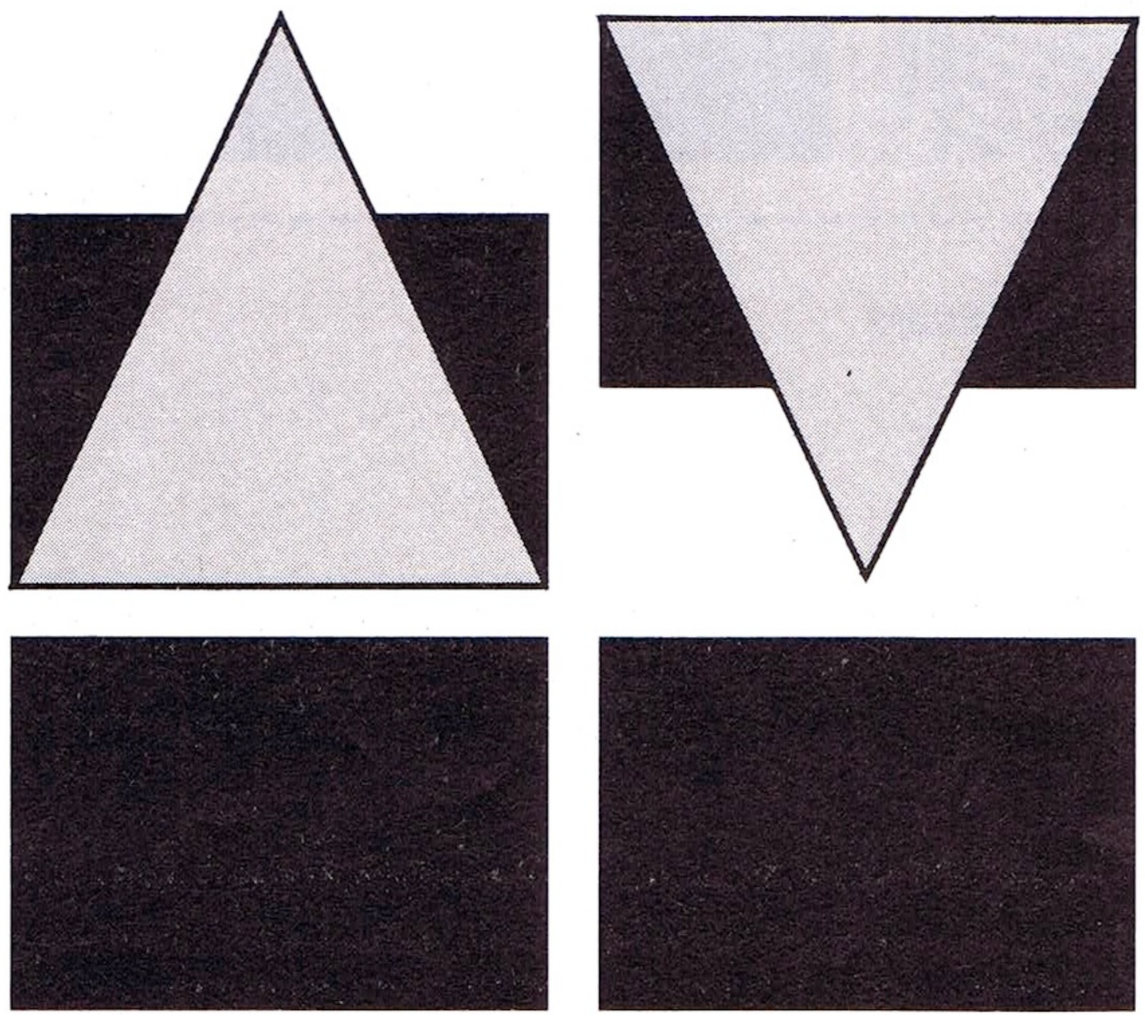
```
1460 IF p%=21 THEN g$(47)="an ancient manuscript" ELSE
IF p%=45 THEN g$(26)="a grass snake"
1470 RETURN
1480 PRINT"I don't have a watch !":RETURN
1490 IF p%=18 THEN PRINT"nothing here!":RETURN ELSE PRI
NT"sorry!":RETURN
1500 IF p%=18 THEN PRINT x$(1):GOTO 1320 ELSE IF p%=12
OR p%=3 THEN PRINT x$(2):RETURN
1510 IF p%=71 OR p%=72 OR p%=2 THEN PRINT x$(3):RETURN
ELSE IF p%=8 THEN p%=6:PRINT x$(4):RETURN
1520 IF p%=6 THEN p%=8: PRINT x$(4):RETURN
1530 PRINT"Don't be silly!!!":RETURN
1540 IF p%=1 AND ac=1 THEN g$(4)="a ** SILVER BAR **":P
RINT x$(13):RETURN
1550 IF p%=1 THEN PRINT x$(14) ELSE PRINT x$(15)
1560 RETURN
1570 IF p%=37 THEN PRINT"O.K.":p%=38:RETURN
1580 IF p%=56 THEN PRINT"O.K. It's gloomy in here !":q$
(56)="inside the monument":ap=1:s%(56,1)=0:s%(56,2)=0:g
$(19)="":g$(41)="a **
RADIO TRANSMITTER **": RETURN
1590 PRINT"NOT HERE !":RETURN
1600 IF p%<>70 THEN PRINT x$(9):RETURN
1610 p%=77:PRINT x$(21): RETURN
1620 IF ab<>1 THEN PRINT x$(22):RETURN
1630 IF p%=6 THEN PRINT x$(23):p%=16:RETURN
1640 IF (p%=2 OR p%=8 OR p%=12 OR p%=18) THEN PRINT x$(
24):RETURN
1650 PRINT x$(17):RETURN
1660 IF p%=68 AND ah<>1 THEN g$(17)="a ** ROMAN COIN **
: q$(68)="riding ON a bus":?"I get ON the bus AND go FO
R a ride!":n$(25)="coi
n":s%(68,4)=0:s%(67,3)=0:ah=1: return
1670 IF p%=68 THEN PRINT"The bus stops at the teminus":
p%=77:RETURN
1680 IF p%=25 OR p%=26 OR p%=27 OR p%=28 OR p%=29 OR p%
=58 OR p%=59 OR p%=60 OR p%=61 OR p%=62 OR p%=63 OR p%=
64 OR p%=65 OR p%=77 T
HEN PRINT"I get arrested for loitering with intent":GOT
O 1330
1690 PRINT"O.K.": FOR x=1 TO 1000: NEXT x: RETURN
1700 PRINT"I'm not very good you know ! (BUT I'LL  TRY
ANYWAY !!!)": FOR x=1 TO 2: FOR y= 1 TO 255: SOUND 1,y,
1,15: SOUND 2,255-y,1,
15: NEXT y,x
1710 PRINT"Wasn't that terrible !":IF p%=80 AND a1=0 TH
EN PRINT"but she seems to like it and puts the  pen on
to the table for me !"
:a1=1
1720 RETURN
1730 IF ad<>1 THEN PRINT"I can't do that just yet!":RET
URN
1740 IF an<>1 THEN PRINT"I don't have anything to light
 it with!":RETURN
1750 PRINT"BANG !": GOTO 1320
1760 IF p%=56 THEN PRINT"O.K.":q$(56)="by a monument":s
%(56,1)=55:s%(56,2)=57:g$(19)="a monument":RETURN
1770 PRINT"Not here !":RETURN
1780 IF ar<>1 THEN PRINT"I need something to prise it o
pen with!": RETURN
1790 PRINT"That's done the trick!":g$(46)="some ** EGYP
TIAN POTTERY **":aq=1:RETURN
1800 DATA 0,0,2,0,in a field full of ripening corn. The
   ground looks soft enough to dig.,0,4,3,1,by a tiny s
tream,0,0,71,2,paddlin
g in the stream. The pebbles hurtmy feet !,2,0,5,6,on a
n overgrown footpath.
1810 DATA 0,0,77,4,on a small wooden bridge.,0,0,4,7
1820 DATA by a deep blue lake. There's a small  islan
d in the distance.,0,0,6,0,by a wooden hut. It's locked
.,0,0,9,0,on a sandy b
each. There aren't many  people here.,0,0,10,8,on a
dirt track between two tall cliffs,0,0,0,9,on a cliff t
op.
1830 DATA 0,12,18,0,at the bottom of a tall cliff.,11,0
,0,13,in a sandy cove.,14,0,12,15,on a woodland trail.,
0,13,0,0,in a dark and
 menacing coniferous forest,0,0,13,0,on a narrow ledge.
1840 DATA 0,0,17,85,on a wide footpath.,0,0,19,16,by a
very tall brick wall.,0,0,0,11,paddling in the sea.,0,2
0,0,17,outside a tall
building which seems to  be made of dark glass.,19,21,0
,0,at the entrance to a dirty warehouse,20,0,22,0
1850 DATA inside a warehouse which is full of  cardb
oard boxes.,0,23,0,21,by some boxes which seem to have
been  opened.,22,0,0,
0,by a small green door. A strange pictureof a 'human'
hangs on the wall.
1860 DATA 23,0,58,25,in a small car park. The cars seem
 very strange.,0,0,24,26,in a street lined with shops.
A sign on the wall rea
ds 'High Street'.,27,0,25,29,outside a supermarket call
ed 'Tesco's',0,26,0,28,inside a well stocked supermarke
t.,0,29,27,0
1870 DATA by the checkout desk,28,0,26,30,in the high s
treet.,0,0,29,31,at the edge of town. The road leads in
tostrange countryside.
,0,32,30,0,on a major road.,31,0,33,81,at a major junct
ion of two roads.,0,34,0,32
1880 DATA by a footpath leading across a field.,33,35,0
,0,on a footpath leading through a field ofcows.,34,0,0
,36,in a field of ripe
 turnips.,0,37,35,0,in a farmyard. There's a large milk
  churn in one corner and a fat cat rubs  it's head
on the edge.
1890 DATA 36,0,0,0,outside a pigsty. The smell is terri
ble.,37,0,0,0,inside a smelly pigsty. A big fat pig  b
locks my way.,38,40,0,
0,by a dark gloomy tunnel,39,0,0,41,in a small dark tun
nel.,0,42,40,0
1900 DATA in a dark tunnel. I can see a glimmer oflight
 in the distance.,41,0,43,0,at the end of a gloomy tunn
el.,0,0,44,42,outside
a rundown mansion. The door is  locked and the windows
broken.,45,0,0,43,in an untended garden. It's full of w
```








```
ildflowers.
1910 DATA 46,44,0,0,in a garden full of weeds.,47,45,52
,0,by a garden gate which looks as though  it could do
with a coat of paint.,
50,46,48,0,in some woodlands. Drops of rain fall  onto
 my head.,49,0,0,47
1920 DATA in a clearing in the woods. The rain is soaki
ng my spacesuit.,51,48,0,50,in the woods,0,47,49,0,in t
he woods,0,49,0,0,in a
 misty clearing in the woods,0,53,0,46,on a woodland pa
th.,52,54,0,0,on a steep path over grasslands
1930 DATA 53,55,0,0,on a steep slope.,54,56,0,0,on a wi
de grassy plain at the top of a  steep hill.,55,57,0,0,
by a large monument. T
here is a small  door here.,56,0,0,0,outside my spaces
hip.,66,59,65,24,by some traffic lights.,58,60,0,0,on a
 narrow pavem
1940 DATA 59,64,0,61,outside a shop selling electrical
goods,0,62,60,63,inside an electrical shop.,61,0,0,0,by
 a display of Amstrad
CPC464 computers
1950 DATA 0,0,61,0,in a room with hundreds of TV sets o
n  display.,60,0,0,0,outside a newsagents. It's closed
!,0,0,0,58,by a closed
 Fish and Chip shop.,67,58,0,0,in a bus terminus. A lef
t luggage officeis situated to my left.
1960 DATA 70,66,68,69,in a crowded bus station. A buske
r leansagainst one wall and plays 'Yesterday'  on his g
uitar.,0,0,0,67,standi
ng in a queue waiting for the 53  bus.,0,0,67,0,in the
enquiry office,0,67,0,0,by a taxi rank.
1970 DATA 0,72,73,3,on the muddy banks of a stream,71,0
,0,0,on the banks of a stream,76,74,75,71,in a slate qu
arry,73,84,0,0,outside
 a workmans hut.,0,0,0,73,by a bulldozer,0,73,0,0,by a
sheer rock face,0,78,0,5,at the entrance to a small pri
mary      sch
1980 DATA 77,79,0,0,in the entrance hall. There's a dis
play of pupils paintings on the wall,78,83,80,0,in the
main corridor.,0,82,0,
79,in a classroom.,0,0,32,0,on a road. The way West is
blocked by a fallen tree.,80,0,0,83,in a classroom.,79,
0,82,0
1990 DATA in a small office. A typewriter lies on a woo
den desk,74,0,0,0,in a wooden hut,85,85,85,85,lost in a
 gloomy forest
2000 DATA a wooden rowing boat,7,some pebbles,3,a shove
l,3," ",1,a rope,5,a secretary,79,the headmistress,80,a
 book of poetry,82,a *
* GOLD ** pen,80,a wooden box,22,a newspaper,64,an AMST
RAD computer,62,some software,61
2010 DATA a can of baked beans,27,a taxi driver,70,a ma
n,69,a queue of people,68,a big fat pig,38,a large monu
ment,56,a gate,46,some
 mushrooms,51,heavy traffic,32,a sharp sword,43,a crab,
18,a large key,58,"",46,some food,38
2020 DATA driftwood,12,a cigarette lighter,28,a farmer,
36,a tractor,35,some suntan lotion,27,a lead casket,49,
a rubbish bin,25,a gno
me,14,sunbathers,8,a dead body. I think he must have go
t  stuck here !,10
2030 DATA a parachute,84,a bulldozer,75,"",12,"",56,a *
* PLATINUM ** bar,47,"",3,"",7,a gamekeeper,48,"",49,""
,21,a hammer,73,a stic
k of dynamite,74,a woman,55,a vicious dog,29,boat,1,peb
bles,2,shovel,3,silver,4,orb,4,rope,5,secretary,6,head,
7
2040 DATA teacher,7,book,8,poetry,8,gold,9,pen,9,box,10
,jewel,10,newspaper,11,amstrad,12,computer,12,software,
13,can,14,beans,14,tax
i,15,driver,15,man,16,queue,17,pig,18,monument,19,gate,
20,mushrooms,21,traffic,22,sword,23,crab,24
2050 DATA key,25,ancient,47,manuscript,47,food,27,drift
wood,28,cigarette,29,lighter,29,farmer,30,tractor,31,lo
tion,32,lead,33,casket
,33,rubbish,34,bin,34,gnome,35,sunbathers,36,body,37
2060 DATA parachute,38,bulldozer,39,diamond,40,ring,40,
radio,41,transmitter,41,platinum,42,bar,42,zirconium,43
,rocket,44,fuel,44,gam
ekeeper,45,pheasant,45,pottery,46,grass,26,snake,26,ham
mer,48,dynamite,49,woman,50,dog,51
2070 DATA I get washed out to sea !,such fun!,The water
's not deep enough,O.K.,safe landing,splat!,made it. Su
re glad I had a rope,I
 slipped!,sorry!,The door opens,Wow . I've been transpo
rted somewhere, nothing happens. Perhaps I'd better try
 again
2080 DATA I've found something!,I've nothing to do that
 with!,The ground's too hard,I'm not that sort of perso
n!,Why are you always
so stupid?,I'm not carrying that. It smells too  much
 !,no key !
2090 DATA The door opens,The driver takes me for aride
and throws me out somewhere,no boat !,The boat drifts i
nto a mooring. There's
 a footpath nearby.,not at the moment!,I get arrested f
or shoplifting!,It looks O.K.,She's beautiful!
2100 DATA I'm sorry I don't understand you!,a girl than
ks me so much she gives me  a ** CAMERA ** to take hom
e,the sunbathers scatt
er in panic
2110 CLS:PEN 1: LOCATE 1,5:PRINT"Well Done. You have co
llected all the  treasures and taken them back to your
   ship ready for retu
rn to Joliaria."
2120 END
2130 CLS:PEN 1: LOCATE 10,2:PRINT"A Visitor from Space.
"
2140 PRINT:PRINT:PRINT"An adventure game for the Amstra
d CPC464"
2150 PRINT:PRINT:PEN 2:PRINT"     by  Steve W. Lucas
   1984"
2160 PEN 1:PRINT:PRINT"I have been sent on a difficult
and    rather dangerous mission to a distant  planet
called EARTH. My miss
ion is to  locate ten items of treasure and bring  them
 back to my spaceship. "
2170 PRINT"I will, in addition, need to locate somerock
et fuel for my return journey.     You must help me by
 giving me          i
nstructions in the form of two word   sentences."
2180 PRINT"such as EAT RABBIT, GET LAMP etc."
2190 FOR x=1 TO 1000:NEXT x: RETURN
```



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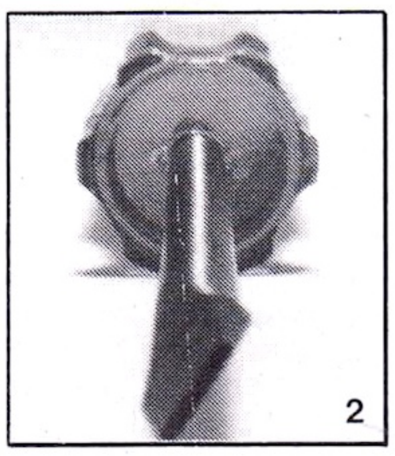
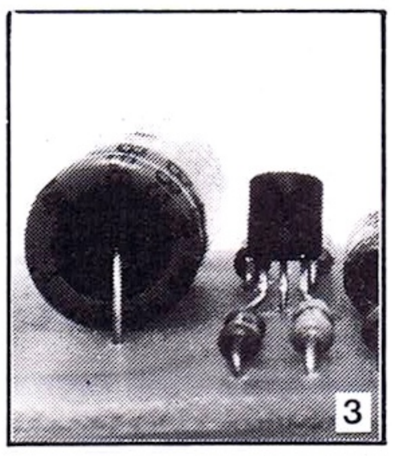
Third prize — a BBC Model B micro computer plus software worth £450.

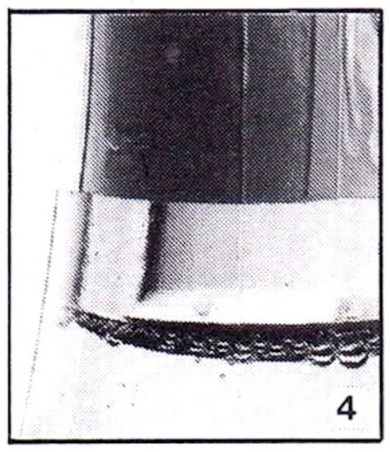
Fourth prize — Minolta X700 camera with a 50mm lens and flashgun, worth £280.



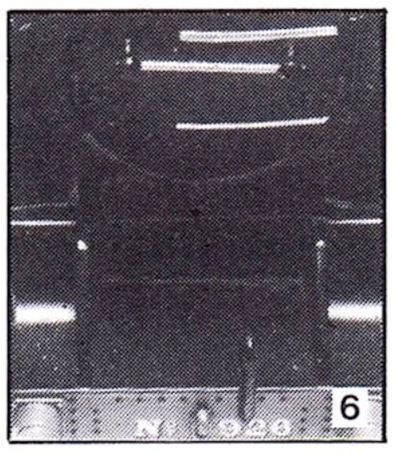


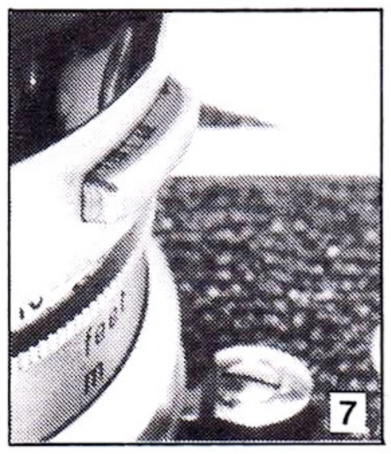


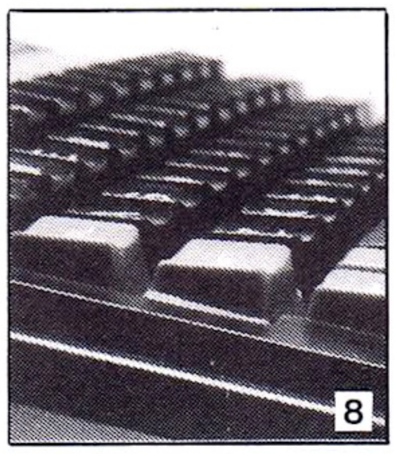


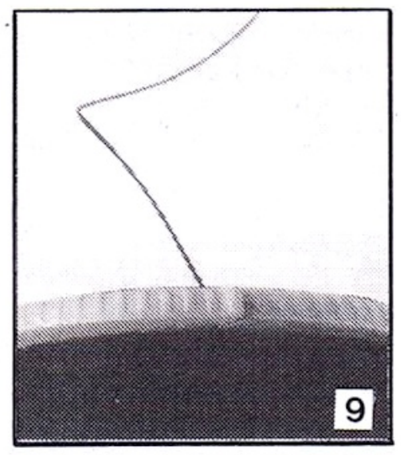


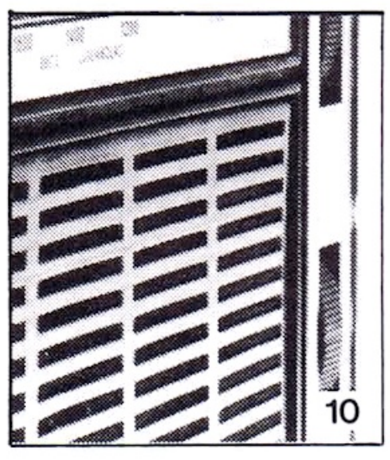


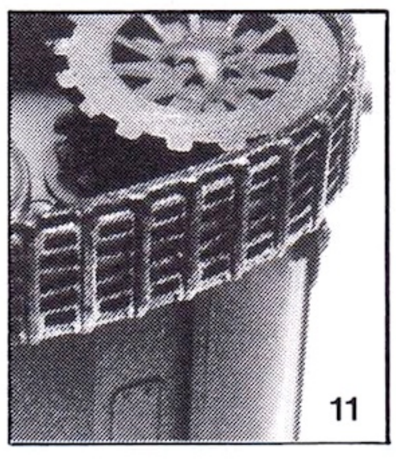


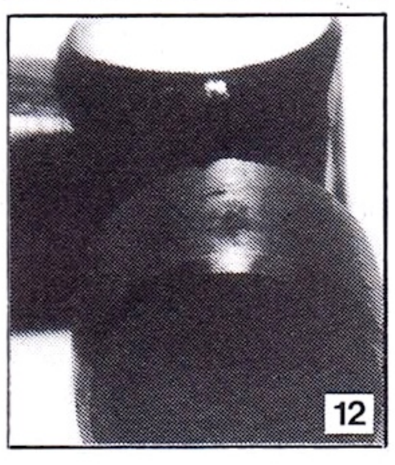












How to enter:

Just identify the twelve objects pictured opposite....

HINT — the Argus Specialist Magazines listed below might give you a clue:

Electronics Today International
Personal Computing Today
Movie Maker
Your Model Railway
Clocks
Home Computing Weekly
Beatbox
Ham Radio Today
Electronics
35mm Photography
Model Cars
Woodworker
Games Computing
Photoplay Movies and Video
ZX Computing
Military Modelling
Hi-Fi Now!
Winemaker
Citizens' Band
Model Boats
Video Today
Popular Crafts
Which Video?
Your Commodore

and write your (one-word) answers in the spaces provided on the coupon. For instance, if you think that number 9 is a record, write 'record' in the space next to 9 on the coupon and so on. Then tell us in up to 20 words why **MAGAZINES MAKE IDEAL HOLIDAY READING.** Complete the coupon in BLOCK LETTERS, and send it to: *DREAM HOLIDAY COMPETITION, Argus Specialist Publications Ltd., No 1 Golden Square, London W1R 3AB,* to reach us no later than 31st December 1984.

Competition rules

1 The competition is open to all UK and Eire readers except employees of Argus Specialist Publications Ltd., their printers and distributors.

2 As long as an original coupon from the magazine(s) of your choice is used for each entry there is no limit to the number of entries per person. Photocopied coupons will not be accepted.

3 All entries must be postmarked before 31st December 1984.

4 The prizes will be awarded to the first four entrants who identify the twelve objects correctly and whose completed sentence is judged the most apt and original.

5 No correspondence will be entered into about the competition results; the judges' decision is final.

6 Winners will be notified by post and the results will be published in a future issue of this magazine.

The 12 objects are

1. . . . . 2. . . . . 3. . . . . .

4. . . . . 5. . . . . 6. . . . . .

7. . . . . 8. . . . . 9. . . . . .

10. . . . . 11. . . . . 12. . . . . .

Magazines make ideal holiday reading because *(up to 20 words)* . . . . . .

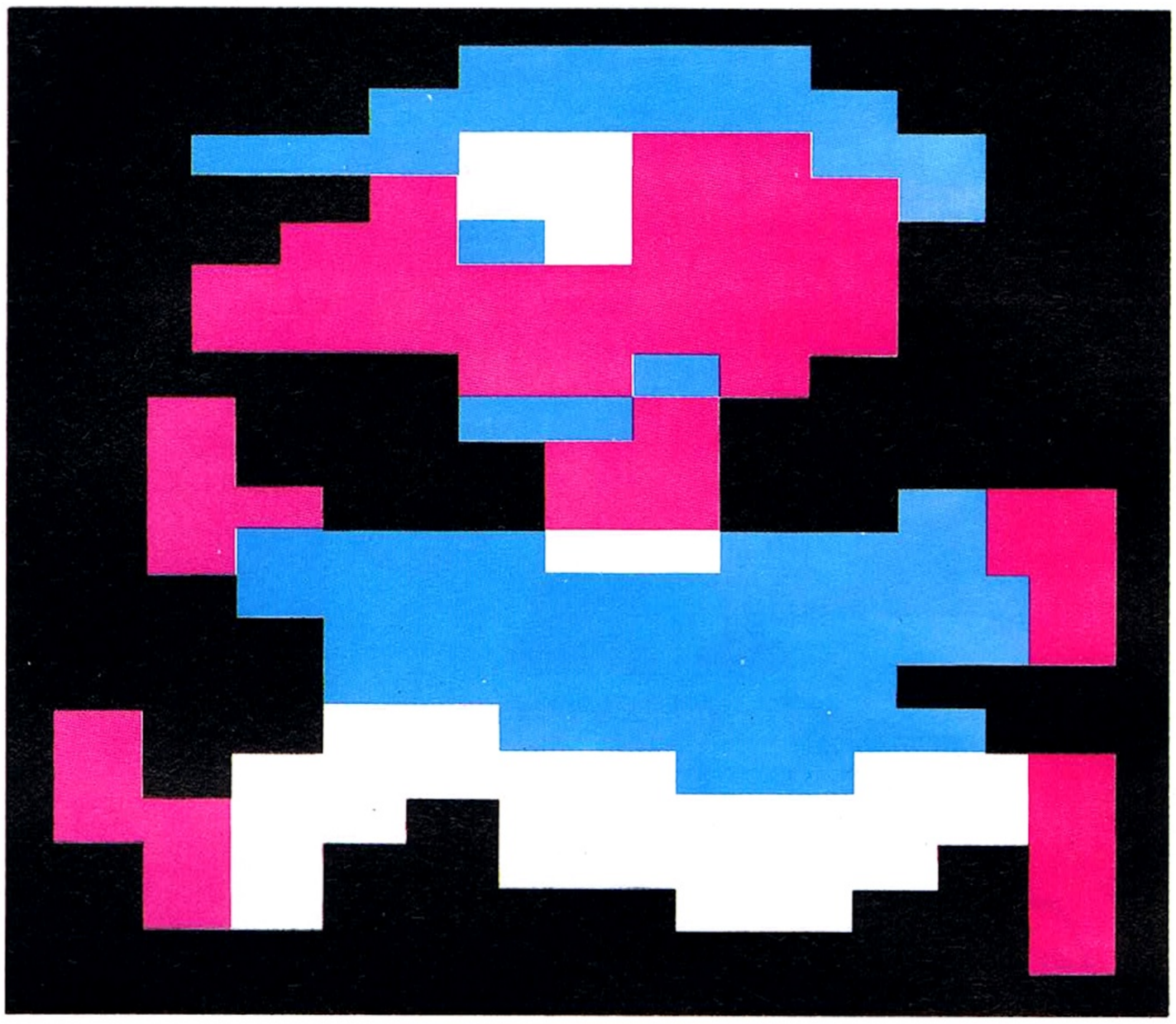
. . . . . G.C

NAME *(BLOCK LETTERS)* _____ AGE *(if under 18)* _____

ADDRESS _____

Send to **DREAM HOLIDAY COMPETITION,** Argus Specialist Publications, No 1 Golden Square, London W1R 3AB.

Make new friends,



With Mirrorsoft games, you can make loads of new friends like Mr. Bounce and Ceasar the Cat. Or, now, like Dr. Frankenstein, you can create your very own monsters and aliens. As well as friends and heroes to defeat them.

GAMES CREATOR

Invent your own games. As simple or as complex as you care to make them. The only real limit is your imagination.

For the CBM64, the Games Creator comes with a step-by-step manual and three ready-to-play games. Each demonstrates some of the programs exceptional features: shapes, movement, speed, scrolling backgrounds, scoring, music, sound effects and many more. And you don't need to know any program language to work it.

On fast loading cassette for the CBM64. **£12.95.**

STAR EGGS

A space fantasy. Earth is threatened by attack from Alien life-forms hatching out in space. You must first overcome the Guardians. Then into the Hatchery, up and down escalators and ladders to crack the eggs before the aliens escape.

On fast loading cassette for the CBM64. **£6.95**

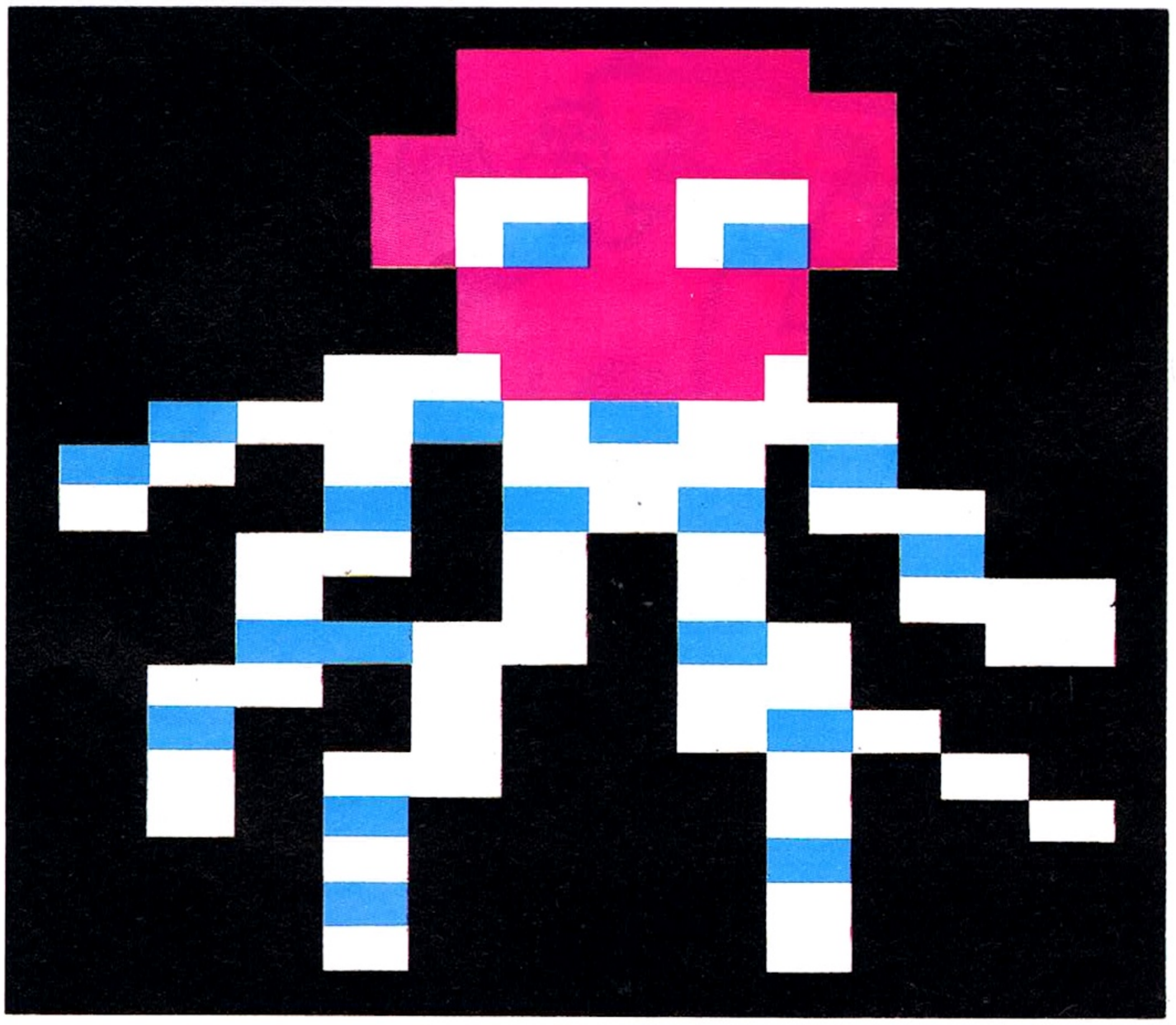
CATASTROPHES

Use a helicopter to build a hotel on an island paradise. But you have to move fast and design your building carefully because earthquakes, floods, storms and lightning can strike at any moment.

For one or two players. On fast loading cassette for the CBM64. **£6.95**



and enemies.



HI-BOUNCER

An arcade type game featuring Mr. Bounce and the Mr. Men. But don't get the idea that it's just a kids' game. Far from it. There are four main screens each with eight levels of difficulty and complexity. Don't worry, there's also a practice program with slower speeds.

On cassette for the BBC B. **£6.95.**

CEASAR THE CAT

Ceasar's cute and quick. Help him hunt the crowded shelves for mice who eat all the food. He must catch the mice before the food disappears. Outstanding graphics, animation and sound.

On cassette for the CBM64, Spectrum 48K, BBC B. **£6.95.**



MIRRORSOFT

SOFTWARE FOR ALL THE FAMILY

Available from Boots, W.H. Smith, Spectrum and all good software stockists. Write for a free catalogue to: Mirrorsoft, Holborn Circus, London, EC1P 1DQ.

DANGER FALLING ROCKS

BEACH HUNT

ICES

ICES

RUNS ON SPECTRUM



This is an adventure game with high-resolution graphics in places, but it is mainly text. However there is one big difference: Instead of the run-of-the-mill game with trolls,gnomes,sorcerers etc., this game is set on a normal, everyday beach! However, there is one similarity, the object of the adventure is to find a diamond.

No vocabulary need be learnt, as the progam asks you questions and then gives you several options, each followed by a letter. All you have to do is enter the letter that corresponds to your choice. I suggest when typing this program in, you do not try it all in one go, and keep a check of the time.

BEACH HUNT



Conversion Clues

This should be very easy, but the things to remember are: COLOURS:

0 Black	4 Green
1 Blue	5 Cyan (light blue)
2 Red	6 Yellow
3 Magenta	7 White

BEEP: This is the Spectrum's sound, and can be omitted for other computers, where it could be a headache (the Commodore). However, be careful, as some data statements are the notes for the sound routines.

INK, PAPER, DRAW, PLOT, BORDER: These are all graphics statements and should be converted. (INK, PAPER and BORDER are colour statements and can be omitted).

PRINT AT: Some computers use PRINT TAB or PRINT @.

Variables Used

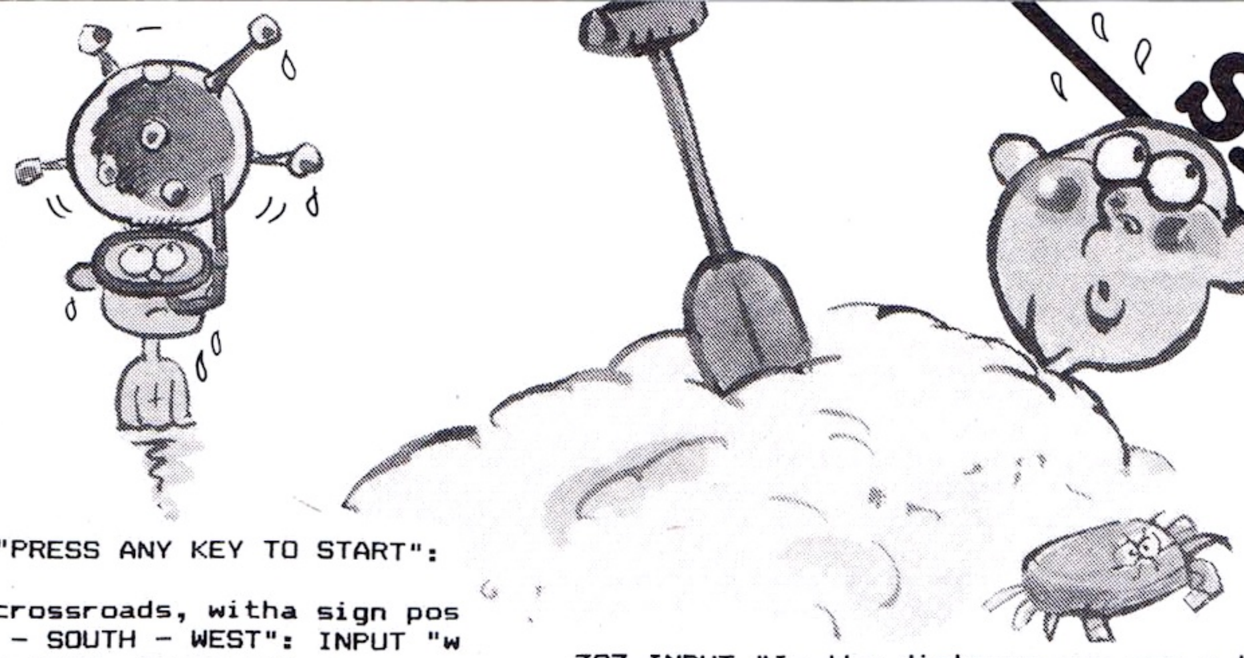
a$	Input variable (constantly changing)
wounds	Number of wounds
sc.	score
gold	amount of gold that you have

There are a few user-defined graphics, in the listing, and to help you recognise them the letters to look out for are:

A	Beach Noticeboard
C	Helter-Skelter
D	Left part of ice-cream van
E	Right part of ice-cream van
P	Triangle pointing left
Q	Triangle pointing right
T	Wave

RUNdown

Lines	Action
21-41	
6000-8000	Sets up graphics, variables and screen
102	Decide which path to follow
600-700	Westward Path
700-800	Eastward Path
800-900	Southward Path
100-505	Northward Path
900-1000	Southward path contd.
1000-1010	Westward path contd.
9000-9001	Death routine

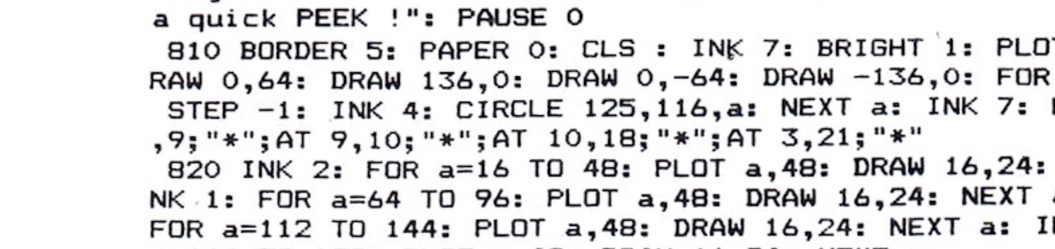


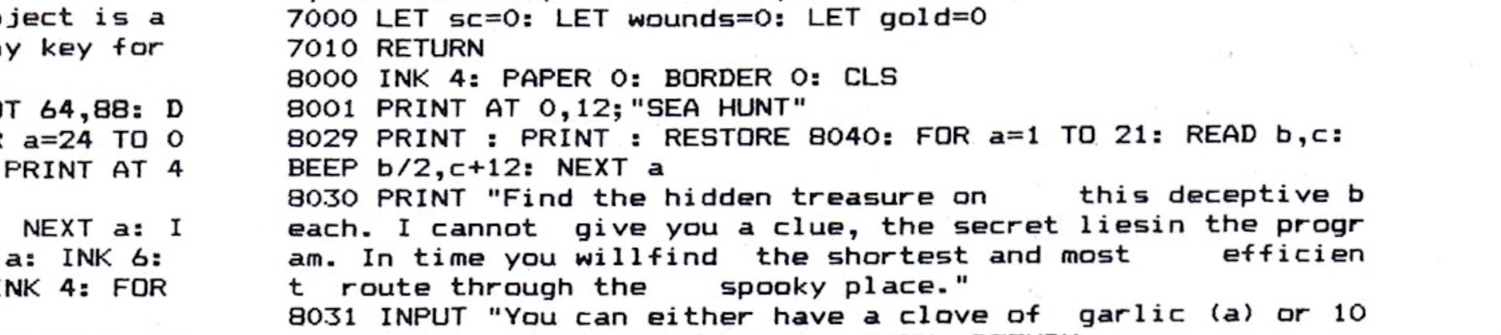
RUNS ON SPECTRUM

```
  1 RESTORE
 10 REM ************
 11 REM * SEA HUNT *
 12 REM *D. PASHLEY*
 13 REM ************
 20 REM set up graphics
 21 GO SUB 6000
 30 REM set up variables
 31 GO SUB 7000
 40 REM set up screen
 41 GO SUB 8000
 50 BORDER 7: INK 0: PAPER 7: CLS
100 PRINT AT 7,5; FLASH 1; INK 3;"PRESS ANY KEY TO START":
PAUSE 0: PAUSE 0: CLS
102 CLS : PRINT "You arrive at a crossroads, witha sign pos
t, reading clockwise: NORTH - EAST - SOUTH - WEST": INPUT "w
hich way? (n,e,s,w,)";a$: IF a$="n" THEN  GO TO 110
103 IF a$="s" THEN  GO TO 800
104 IF a$="e" THEN  GO TO 700
105 IF a$="w" THEN  GO TO 600
110 PRINT "You are at the beach notice     board (A). Walki
ng in you see  beautiful dunes, but flying pastare ";: IF I
NT (RND*2)+1=1 THEN  PRINT "Seagulls, which squark  and nea
rly deafen you as they  fly past.": PAUSE 400: GO TO 140
120 PRINT "A herd of killer bats swoop by  and start to att
ack, you must  fight.": PAUSE 400
130 INPUT "Have you a clove of garlic?";a$: IF a$="n" THEN
 LET wounds=wounds+1: PRINT AT 21,0;"Wounds=";wounds: PRINT
AT 10,10;"You were attacked": BEEP 1,0: BEEP .5,-1: BEEP 1.5
,0: GO TO 140
131 PRINT "You show your garlic and the  bats flee away":
 GO TO 140
140 PRINT "You Hurry away"
200 REM "Ha,Ha"
210 PRINT "A fair-ground attracts your  attention. In th
e distance you  can just make it out": PAUSE 250: CLS
211 PRINT AT 0,0;"Wounds ";wounds;" gold ";gold;" sc.";sc
220 OVER 1: PRINT "Press any key to to see a PEEK  of the s
ign": PAUSE 0: CLS : PLOT 80,0: DRAW 0,40: DRAW -40,0: DRAW
0,127: DRAW 80,0: DRAW 0,-127: DRAW -40,0: DRAW 0,-40: PRINT
 AT 2,6;"  Fair";AT 3,9;"PQ";AT 4,9;"  ";AT 5,9;"  ";AT
6,9;"  ";AT 7,9;"  ": PRINT AT 8,5;"Including:";AT 9,5;"
many rides";AT 10,5;"at 'low-";AT 11,5;"cost'at";AT 12,5;"ow
ner's";AT 13,5;"risk!!"
221 OVER 0: INPUT "Why not have a go?";a$: IF a$="n" THEN
INPUT "Are you sure?";b$: IF b$="y" THEN  GO TO 300
222 CLS : PRINT "You make your way there. A  suspicious
 looking man is at thetoll booth, and asks you for  money"
: INPUT "have you 5 gold  pieces?";a$
223 IF a$="n" THEN  PRINT "You must walk on, as the man
turns vicious.": GO TO 300
224 CLS : LET gold=gold-5
225 PRINT AT 0,0;"wounds ";wounds;" Gold ";gold;" sc. ";sc
226 PAUSE 200
229 CLS
230 PRINT "You pay in the fare, and the  man's eager wrin
kled hands grab and scrape at the coins. No-one else is ther
e": PAUSE 500: INPUT "Do you run out, and vow never togo aga
in(y) or explore(n)";a$: IF a$="y" THEN  GO TO 300
240 CLS : INPUT "Which stall then, bobbing apples(a), the B
ig Wheel (b) or the  Helter Skelter (c)?";a$: IF a$="b" THE
N  GO TO 250
241 IF a$="c" THEN  GO TO 260
242 PRINT "You walk up to a wooden bowl  with pungent ste
am not rising,  but crawling along the ground!": INPUT "do y
ou carry on (a) or run out  of the whole fair (b) or choose
another stall (c)?";a$: IF a$="b" THEN  GO TO 300
243 IF a$="c" THEN  GO TO 240
244 PRINT "You plunge your mouth towards  and, horror of h
orrors,an  agonising pain developes around your mouth a
nd nose, or what wasyour mouth and nose! You realisethe bowl
 was full of litric  acid. The ghouls laugh hysteric-ally
!! Your adventure ends here."
245 GO SUB 9998
250 PRINT "You climb into the Big wheel, noturning back now
! The wheel  slowly rotates gradually gettingfaster. But
what's this? When  the wheel reaches the point whenyou are
at the top, it stops,  the bolts on you seat loosen,  and
you go plummeting down to  your death. Remember not to go
here next time!"
251 GO SUB 9998
260 PRINT "Climbing into the mat, you look down on the slip
pery shining  chute. WEE!! You slide down, butthe chute ha
s been greased and  slowly, un-controllably, your  mat, (an
d you!) ride up the  side. What's this? you've fallenout,
 to plummet to your death onthe concrete below. Remember not
to ride on here in your next  adventure!!": GO SUB 9998
300 PRINT "You hurry on, and in the distance you see an Ice
 cream van:  Press any key:": PAUSE 0
310 CLS : PRINT AT 0,0;"wounds ";wounds;" gold ";gold;" sc.
";sc: PRINT AT 11,0;"  DE";AT 12,0; INK 6;"
                    ": INPU
T "will you have one?";a$: IF a$="n" THEN  GO TO 327
320 PRINT "You ask for a small cornet, and the server gladl
y obliges. He  then asks you for five gold  pieces": INP
UT "have you?";a$: IF a$="y" THEN  GO TO 325
321 PRINT "Sorry, no ices!!": INPUT "Which way (n, s, e, w?
";: IF a$="n" THEN  GO TO 327
322 IF a$="s" THEN  PRINT "That's bact to the Ice-cream
van, fool!!": GO TO 321
323 IF a$="e" THEN  GO TO 700
324 IF a$="w" THEN  GO TO 600
325 LET gold=gold-5: PRINT "You walk away, gladly tucking
 in, but then you meet a piece ofpaper; in the ICE!! you rea
d it.It says:": PRINT : PRINT "A clue is next to an angel's
                    kiss, In the thing that chocola
te                  comes in": PRINT : PRINT "THIS
MUST BE A CLUE!!"
326 PAUSE 0: LET sc=sc+100: BEEP .1,0: BEEP .1,4: BEEP .1,7
: BEEP .5,12: PAUSE 200: CLS : PRINT AT 0,0;"wounds ";wounds
;" gold ";gold;" sc. ";sc
327 INPUT "In the distance you see a bar,  do you go in?";a
$: IF a$="n" THEN  GO TO 350
328 CLS : PRINT AT 1,0;"You amble over to the bar, feel-ing
like Clint Eastwood, in a  Western!": PRINT "There is a do
or ahead marked  (press any key):": PAUSE 0: PRINT  INK 2;
"          "' INK 0;" BAR-ROOM "'"  HAVE YOU
"'"  BOOKED?  "' INK 2;"          "; INK 0:
329 INPUT "You haven't, so will you risk  it? (y/n)";a$: I
F a$="n" THEN  GO TO 350
330 CLS : PRINT "You are confronted with singing and dancin
g people, who don't  seem to notice you.": INPUT "You see a
 formidable looking  mixture, do you drink it? (y/n)";a$:
IF a$="y" THEN  GO TO 349
331 PRINT "It's a good thing you didn't, asit could of dist
racted your  attention to a CLUE!!": BEEP 0.1,0: BEEP .1,
4: BEEP .1,7: BEEP .5,12: LET sc=sc+100: PRINT "Press any ke
y to see what it  says:": PAUSE 0
332 CLS : PRINT AT 0,0;"wounds ";wounds;" gold ";gold;" sc.
";sc: PRINT : PRINT "Think of a castaway,  Think
of a shake  Think of an animal (moo!)  I
hope you're awake!!": INPUT "Which way now? (n,e,s,w)";a$: I
F a$="n" THEN  GO TO 350
333 IF a$="w" THEN  GO TO 600
334 IF a$="e" THEN  GO TO 700
335 IF a$="s" THEN  GO TO 800
349 CLS : PRINT "You gulp it down, and, as  planned by
 THEM, you begin to  feel what it's like to drink a  VAMPIR
E SURPRISE!!": LET wounds=wounds+1: IF wounds>=3 THEN  GO TO
 9000
350 PAUSE 200: CLS : PRINT "You pace and then see something
 glinting in the sunlight, not  far out to sea.": INPUT "Do
 you want to bother swimming  to reach it? (y/n)";a$: IF a$=
"n" THEN  GO TO 354
351 PRINT "You swim out splashing to the  annoyance of oth
er holiday-  makers!": IF INT (RND*2+1)=2 THEN  PRINT "Yo
u are stung by a jellyfish": LET wounds=wounds+1: IF wounds=
3 THEN  GO TO 9000
352 INPUT "Do you want to turn back? (y/n)";a$: IF a$="y" T
HEN  GO TO 360
353 PRINT "You manage to get the bottle,  and swim back. Y
ou're getting  good at this, because as you  look at the
contents, you see itsays (press any key)": PAUSE 0: CLS : PR
INT AT 0,0;"wounds ";wounds;" gold ";gold;" sc. ";sc: PRINT
"Your clue is on the calender  girl's name binary 10"
354 PRINT "That's a funny clue! Anyway,  walking on you c
ome to two  dunes.....": PAUSE 250: PLOT 0,58: INK 6: DR
AW 45,15: DRAW 5,30: DRAW 50,-10: DRAW 40,20: DRAW 60,-20: D
RAW 25,25: DRAW 30,-15: INPUT "Which dune do you want to cli
mb?(1 or 2 or n if you don't want  to climb either";a$: IF a
$="n" THEN  GO TO 500
355 INK 0: IF a$="y2" OR a$="y 2" THEN  GO TO 376
356 PRINT "You stagger up the dunes, and  about halfway yo
u meet a wolf"
357 IF INT (RND*2)+1=2 THEN  PRINT "He attacks and wounds y
ou": BEEP 1,0: BEEP .5,-1: BEEP 1.5,0: LET wounds=wounds+1:
PRINT AT 0,0;"wounds ";wounds;" gold ";gold;" sc. ";sc: IF w
ounds>=3 THEN  GO TO 9000
358 PRINT "He prowls around and walks away": INPUT "Do you
want to turn back (y/n)?";a$: IF a$="y" THEN  GO TO 354
359 CLS : PRINT : PRINT "After half an hour of climbing, yo
u find 10 gold pieces": LET gold=gold+10: PRINT AT 0,15;"gol
d ";gold: PRINT AT 10,0;"Despite this, there is no hint  of
a clue here, so you trudge  back down again, tired and
 weary.": PAUSE 0: CLS : GO TO 354
376 PRINT "Trudgeing up here you find  nothing at all,
not even a drinkfor your parched throat. You  slide down a
gain.": PAUSE 500: CLS : GO TO 354
500 INK 0: CLS : PRINT "There is nothing more which you can
 see apart from sand and the ocean, and your thirsty body is
 saying 'must turn back' ": INPUT "Which way now, (e,s,w)?";
a$: IF a$="w" THEN  GO TO 600
501 IF a$="s" THEN  GO TO 800
502 IF a$="e" THEN  GO TO 700
505 CLS : PRINT "Don't be silly": PAUSE 250: CLS : GO TO 50
0
600 REM west
601 PRINT "You head inland, and see a smalltown in the dist
ance, but still too faint to distinguish any  major land-m
arks.": INPUT "Shall you head for it? (y/n)";a$: IF a$="n" T
HEN  PRINT "You're back at the notice-board again!": PAUSE 5
0: CLS : GO TO 101
610 PRINT "This seems to be like any,  ordinary sub-urb
an town, you  may be on the right track here! There are th
ree shops up ahead: Press any key:": PAUSE 0: CLS
611 PLOT 24,32: DRAW 0,80: DRAW 64,0: DRAW 0,-80: PLOT 88,3
2: DRAW 0,80: DRAW 64,0: DRAW 0,-80: PLOT 152,32: DRAW 0,80:
 DRAW 64,0: DRAW 0,-80: PLOT 24,112: DRAW -8,24: DRAW 0,-80:
 PLOT 16,136: DRAW 48,24: DRAW 120,0: DRAW 32,-48: DRAW 0,-8
0: PLOT 24,32: DRAW 0,80: DRAW 40,48
612 PLOT 24,32: DRAW -8,24: PLOT 24,32: DRAW 192,0: PLOT 48
,32: DRAW 0,24: DRAW 16,0: DRAW 0,-24: PLOT 112,32: DRAW 0,2
4: DRAW 16,0: DRAW 0,-24: PLOT 176,32: DRAW 0,24: DRAW 16,0:
 DRAW 0,-24
613 INPUT "Which shop? Butchers (a),  Bakers (b) or Ca
ndlestick-  Makers (c)?";a$: IF a$="b" THEN  GO TO 625
```

```
 614 IF a$="c" THEN  GO TO 630
 615 RESTORE : CLS : PRINT "A gruesome end, this one,
because as you enter, you see   corpses in the window, this
is  obviuosly a HUMAN'S butcher!!": PRINT : PRINT "Your adve
nture ends here.": PRINT  FLASH 1; INK 4;" PRESS ANY KEY TO
RESTART NOW": PAUSE 0: GO TO 1
 625 CLS : PRINT "This is a sauna, and you are NOTwelcome!!
Quickly you trot out!": PAUSE 200: GO TO 635
 630 CLS : PRINT "'This is the candle-stick        makers,'
says a voice from       behind you, 'and we've been     EXPEC
TING you!!'. This is quite spooky!": INPUT "Do you want to s
kidaddle out of the shop (a)  OR stay (b)?";a$: IF a$="a" TH
EN  GO TO 635
 631 CLS : PRINT "'Come my friend, let me give youa candle,'
 he offers, rather    mysteriously. You gently take   the ca
ndle and the matches to gowith it, thank the man, and headou
t of the shop. How kind I can be!!": PAUSE 500: GO TO 635
 635 CLS : PRINT "There is a church in the          distance,
looking very romantic with seagulls taking residence  in the
 arch. You shudder, aren'tyou glad you don't live in THIS se
aside resort?!": IPUT "Do you really want to go in      (y/n)
?";a$: IF a$="n" THEN  GO TO 640
 636 PRINT "On Entering, the door creaks    horrendously, an
d this discour- ages you.": INPUT "Will you go  back (y/n)?"
;a$: IF a$="y" THEN  GO TO 640
 637 CLS : PRINT "After many minutes of looking   you stumbl
e over a secret door!.Going through it you are headingfor a
jagged path.": INPUT "Will you turn back (y/n)?";a$: IF a$="
y" THEN  GO TO 640
 638 GO TO 1000
 640 PRINT "Running away from the church,   you are heartene
d to see a      housing estate and shops up      ahead. You s
pend the rest of theday shopping and forget about   the trea
sure until it's too      late.": PRINT AT 11,1; INK 3; FLASH
1;"PRESS ANY KER TO RE-START NOW!"
 641 PAUSE 0: RESTORE : GO TO 1
 700 REM east
 710 PRINT "A long path stretches out to TheBeach.Press any
key for a quick PEEK ": PAUSE 0: CLS
 720 INK 1: PRINT AT 10,0;"TTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTT"
: INK 0: PLOT 128,88: DRAW -40,-45: PLOT 128,88: DRAW 40,-45
: PLOT 128,88: DRAW 0,-45: PLOT 128,88: DRAW 18,-45: PLOT 12
8,88: DRAW -18,-45: INK 6: PLOT 0,99: DRAW 45,30: DRAW 30,10
: DRAW 10,30: DRAW 8,-30: DRAW 30,-1: DRAW 20,5: DRAW 23,0:
DRAW 34,10: DRAW 40,-5: DRAW 15,-1
 730 INK 0: INPUT "Do you want to head for it, or  turn back
 and go North, where   you have a chance to turn round (To h
ead there press 'A' and to turn back, press 'B'";a$: IF a$="
b" THEN  GO TO 102
 740 PRINT "You slump down, soaking in the  sun.": IF INT (R
ND*2)+1=2 THEN  PRINT "You forget the whole idea of    treas
ure, and spend the rest of the day on the beach": PRINT AT 1
1,1; INK 3; FLASH 1;"PRESS ANY KEY TO RE-START NOW!": PAUSE
0: GO TO 1
 741 PRINT "There are some cliffs ahead,    with some steps
leading up the  side.": INPUT "Will you go up? (y/n)";a$: IF
 a$="n" THEN  GO TO 750
 742 PRINT "When you finally complete the   climb up the 632
 steps, some    silly fool at the top of the    cliff blindf
olds you. This is   'The Blindfold of SLEEP'. By thetime you
 wake up again, your    little transistor radio tells   you
that the treasure has been  taken. You've failed.": PRINT :
PRINT  INK 3; FLASH 1; BRIGHT 1;"PRESS ANY KEY TO RE-START,
NOW!!"
 743 PAUSE 0: CLS : RESTORE : GO TO 1
 750 PRINT "You are heartened to see a hous-ing estate and a
 shopping centreup ahead. You forget the        treasure tot
ally as you are     shopping, until it is too late.": PRINT
: PRINT  INK 3; FLASH 1; BRIGHT 1;"PRESS ANY KEY TO RESTART,
 NOW!!!": PAUSE 0: RESTORE : GO TO 1
 800 REM south
 801 PRINT "This is a bleak dusty road, withsparse to attrac
t your attentionon either side, but then, far   ahead you se
e something glitter-ing.": INPUT "Do you want to ex-plore th
is strange sight? (y/n)";a$
 802 IF a$="n" OR a$="N" THEN  GO TO 910
 805 PRINT "As you come closer you see that the object is a
large silver    dome. You enter inside. Press   any key for
a quick PEEK !": PAUSE 0
 810 BORDER 5: PAPER 0: CLS : INK 7: BRIGHT 1: PLOT 64,88: D
RAW 0,64: DRAW 136,0: DRAW 0,-64: DRAW -136,0: FOR a=24 TO 0
 STEP -1: INK 4: CIRCLE 125,116,a: NEXT a: INK 7: PRINT AT 4
,9;"*";AT 9,10;"*";AT 10,18;"*";AT 3,21;"*"
 820 INK 2: FOR a=16 TO 48: PLOT a,48: DRAW 16,24: NEXT a: I
NK 1: FOR a=64 TO 96: PLOT a,48: DRAW 16,24: NEXT a: INK 6:
FOR a=112 TO 144: PLOT a,48: DRAW 16,24: NEXT a: INK 4: FOR
a=160 TO 192: PLOT a,48: DRAW 16,24: NEXT a
 830 PRINT AT 13,27; INK 7; INVERSE 1;"L": PRINT AT 17,5; IN
VERSE 0;"EARTH": PRINT AT 17,4; INK 3;"
                "; INK 7;"FUEL"
 840 PRINT AT 18,0;"The doors close behind you.      Which bu
tton will you press to  open them again?"
 841 INPUT "b/lue, r/ed g/reen, y/ellow?";a$
 845 IF a$="r" THEN  GO TO 860
 846 IF a$="b" THEN  GO TO 860
 847 IF a$="g" THEN  GO TO 880
 848 IF a$="y" THEN  GO TO 900
 860 PRINT #1;"Nothing happens": PAUSE 0: GO TO 841
 880 GO SUB 9999: PRINT "You hear a whistling sound, and the
n a buzzing in your head, a  white whirlwind like mass
 descends and vapourizes you.      The rest of your days are
spent in an endless limba.": PRINT : PRINT  INK 3; BRIGHT 1;
 FLASH 1;"PRESS ANY KEY TO PLAY AGAIN!!!!!": PAUSE 0: GO TO
1
 900 GO SUB 9999: PRINT "There is an almighty roar as theshi
ps engines jump into action. What have you done?! Very soon
 the craft's fuel is used up, andyou are floating around in
spaceuntil your air supply is exhaus-ted. Hard lines!!": PRI
NT : PRINT  INK 3; BRIGHT 1; FLASH 1;"PRESS ANY KEY TO TRY A
GAIN": PAUSE 0: GO TO 1
 910 PRINT "Up ahead you see your home town!Mum's apple pie
and security!": INPUT "Do you want to head for it, and forge
t about the treasure,(a) orturn back to the crossroads, anda
ct from there(b)?";a$: IF a$="b" THEN  GO TO 102
 920 PRINT "you walk back to the town, and  your family is o
verjoyed to see you. They lay on a celebration  meal and you
 tell them about allyour mis-adventures!! Home,      sweet Ho
me.": PRINT : PRINT  INK 3; FLASH 1; BRIGHT 1;"PRESS ANY KEY
 TO TRY AGAIN!!!!!!": PAUSE 0: GO TO 1
1000 PRINT "The path`eventually splits into two.": INPUT "Wh
ich fork will you take?       Left (l), or right, (r)?";a$:
IF a$="l" THEN  CLS : PRINT "After an hour of walking, this
 leads you straight back to the  directions post; what a was
te oftime!!": PAUSE 300: GO TO 102
1001 PRINT "Walking along you come to a     park,with a sand
 pit": INPUT "Will you play? (y/n)";a$: IF a$="n" THEN  GO T
O 1010
1002 PRINT "You start to dig, feeling very  foolish, and sud
denly your      plastic spade meets up with     something ha
rd. It could be a   bomb!": INPUT "Do you want to run, (y/n)
?";a$: IF a$="y" THEN  GO TO 1010
1003 PRINT "You have dug out....                A MILK-FLOAT!!":
 INPUT "Will youexplore it? (y/n)?";a$: IF a$="n" THEN  GO T
O 1010
1004 PRINT "There is a piece of metal at theback of the cart
.": INPUT "Will you touch it? (y/n)?";a$: IF a$="y" THEN  PR
INT "This is the 'Knew I shouldn't   have' rock: It transpor
ts you   back to the beginning! HA HA!!": PRINT 200: GO TO 1
02
1005 CLS : PRINT "That was a wise decision.": INPUT "Will yo
u look through the milk  crates? (y/n)";a$: IF a$="n" THEN
PRINT "There's nothing more you can do,then. You leave the p
ark. Funny place to park a milk float!!": PAUSE 200: CLS : G
O TO 1010
1006 PRINT "In one of the milk-bottles you  find THE DIAMOND
. This is brill-iant. You are a Super-hero!!": GO TO 8500
1010 PRINT "This path eventually leads back to the cross-roa
ds. What a cop- out after all that walking": PAUSE 200: GO T
O 102
6000 FOR n=0 TO 7
6001 READ b: POKE USR "A"+n,b
6003 NEXT n
6004 FOR q=0 TO 7
6005 READ b: POKE USR "T"+q,b
6006 NEXT q
6007 FOR d=0 TO 7
6008 READ b: POKE USR "C"+d,b
6009 NEXT d
6010 FOR n=0 TO 7
6011 READ b: POKE USR "D"+n,b
6012 NEXT n
6013 FOR n=0 TO 7
6014 READ b: POKE USR "E"+n,b
6015 NEXT n
6016 FOR n=0 TO 7
6017 READ b: POKE USR "P"+n,b
6018 NEXT n
6019 FOR n=0 TO 7
6020 READ b: POKE USR "Q"+n,b: NEXT n
6021 RETURN
6100 DATA BIN 01111110,BIN 01000010,BIN 01000010,BIN 0100001
0,BIN 01000010,BIN 01111110,BIN 01000010,BIN 01000010
6110 DATA BIN 0,BIN 10000001,BIN 10000001,BIN 11000011,BIN 1
1100111,BIN 11111111,BIN 11111111,BIN 11111111
6111 DATA BIN 00011000,BIN 00100100,BIN 01000110,BIN 1000100
1,BIN 10010001,BIN 10100001,BIN 11000001,BIN 10000001
6112 DATA BIN 0,BIN 00111111,BIN 01111111,BIN 01100000,BIN 0
1100000,BIN 01100000,BIN 01111111,BIN 00011000
6113 DATA BIN 0,BIN 11111100,BIN 11111110,BIN 00000110,BIN 0
0000110,BIN 00000110,BIN 11111110,BIN 00011000
6114 DATA BIN 00000001,BIN 00000011,BIN 00000111,BIN 0000111
1,BIN 00011111,BIN 00111111,BIN 01111111,BIN 11111111
6115 DATA BIN 10000000,BIN 11000000,BIN 11100000,BIN 1111000
0,BIN 11111000,BIN 11111100,BIN 11111110,BIN 11111111
7000 LET sc=0: LET wounds=0: LET gold=0
7010 RETURN
8000 INK 4: PAPER 0: BORDER 0: CLS
8001 PRINT AT 0,12;"SEA HUNT"
8029 PRINT : PRINT : RESTORE 8040: FOR a=1 TO 21: READ b,c:
BEEP b/2,c+12: NEXT a
8030 PRINT "Find the hidden treasure on     this deceptive b
each. I cannot  give you a clue, the secret liesin the progr
am. In time you willfind  the shortest and most     efficien
t  route through the    spooky place."
8031 INPUT "You can either have a clove of  garlic (a) or 10
 gold pieces (b)";a$: IF a$="a" THEN  RETURN
8032 LET gold=gold+10: RETURN
8040 DATA .66,0,.33,1,.99,2,.66,0,.33,-3,.66,-5,.33,-7,.66,-
8,.33,-7,.99,0,1.98,0,.66,0,.33,1,.99,2,.66,0,.33,-3,.66,-5,
.33,-7,.66,-8,.33,-7,2.31,2
8500 RESTORE 8510: FOR a=1 TO 14: READ b,c: BEEP b,c: NEXT a
: PRINT AT 10,2; FLASH 1; INK 3;"PRESS ANY KEY TO PLAY AGAIN
!": RESTORE : PAUSE 0: GO TO 1
8510 DATA .5,0,.5,4,.5,7,.5,7,.5,9,.5,11,1,12,.5,9,.5,7,.5,5
,.5,4,.5,2,.5,2,1,0
9000 PRINT "You have so many wounds that youdie, to put it b
luntly!": FOR d=0 TO 10: READ a,b: BEEP a,b: NEXT d: PRINT A
T 11,3; INK 3; FLASH 1;"PRESS ANY KEY TO RE-START": PAUSE 0:
 RESTORE : GO TO 1
9001 DATA 1,0,.75,0,.25,0,.5,0,.1,3,.25,2,.25,2,.25,0,.25,0,
.25,-1,1,0
9998 INK RND*8: PRINT  FLASH 1; BRIGHT 1;"PRESS ANY KEY TO T
RY AGAIN!!!!!!": PAUSE 0: GO TO 1
9999 PAPER 7: INK 0: BRIGHT 0: FLASH 0: BORDER 7: CLS : RETU
RN
```

BEACH HUNT

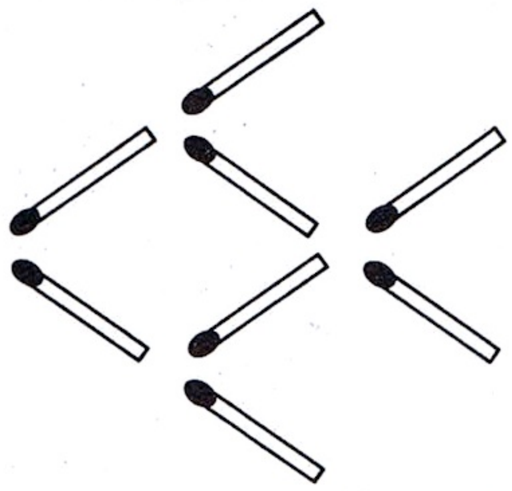




Well ram my rem down the run rim of my rom — if it isn't Lou and Les back with another helping of those puzzles you . . . . . are kind of indifferent about. Sit back and log on — what's the recipe today Jim?

1 WHITEBAIT

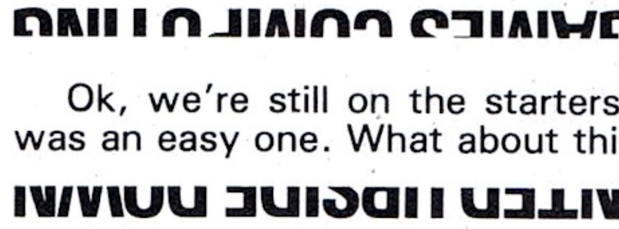
For this little game you need ten matchsticks — eight to make the diagram below; the other two are to be placed between the eyelids . . . .



Can you rearrange him so that he swims in the opposite direction? Oh yes, I nearly forgot; you may only move three matches.

2 SPAGHETTI FALKHESE

Look at the strange hieroglyphics below. Can you decipher a hidden message?



Ok, we're still on the starters, that was an easy one. What about this?

3 EGGS A LA GRECQUE

I suspect Les found this one in a cracker . . . "If it takes one man two minutes to boil one Grade B egg in a pint of water on a Primus stove, how long will it take the same man to boil two Grade B eggs on the same equipment?

4 FISH FINGERS

Ok mathematicians — what three digits give you the same answer whether they are multiplied or divided? And how about added or multiplied? By the way — use of zeros is prohibited.

5 WIENER SCHNITZEL

Yes, sorry about this; it looks a bit like sums to me. Given that AD + AD = FGH
J + I + BC
J squared = EF
Can you substitute figures for letters?



6 BARBECUED SPARE RIBS

No use looking at the title for a clue this month folks. Add a number to this sequence and the tables might be turned.

1 6 3 3 3 4 5 7 ?

7 SALAD BELLE HELENE

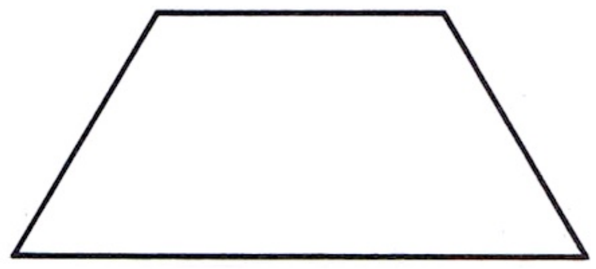
Thelastmessagefromouragentin-Falkoviawasinmorsecodeho-weverhewasinahurryandheforgotab-outthespacingbetweentheletters.C-anyoudecodehislastmessage-asyouc-anseethereareatwowords.

—————.—..... / —.—.—————...

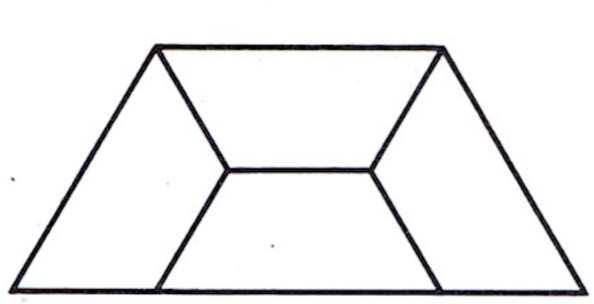


8 YORKSHIRE PUDDING

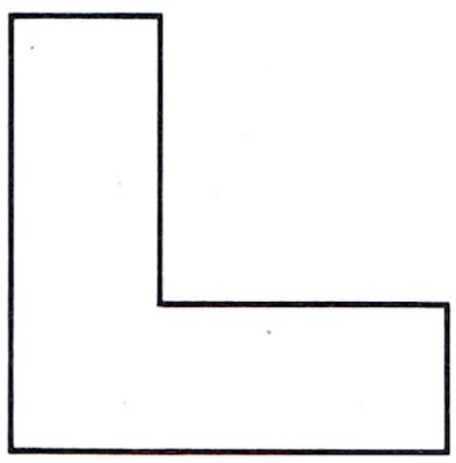
Like every other good wholesome Yorkshire family, the Norks couldn't stand the sight of one another. Things came to a head when they inherited this plot of land . . . . .



No give and all take was their philosophy, so it was with some surprise that we discovered that they had managed to divide the plot equally between the four of them so that each got an identical piece. This was how they did it.



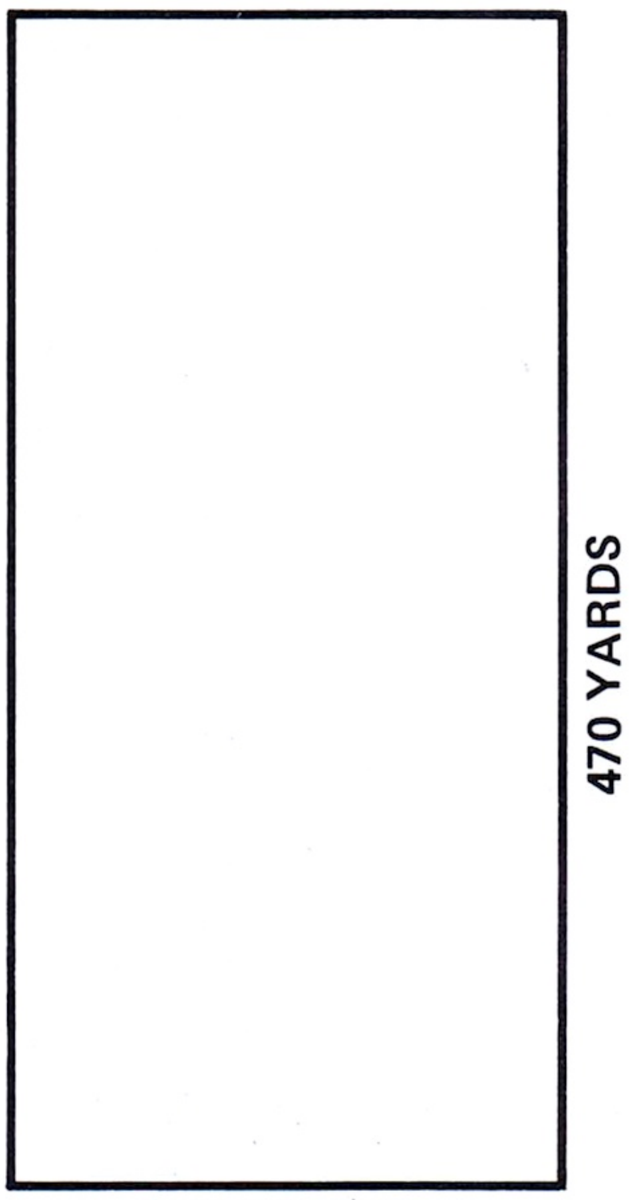
Now try this . . . . .





PUZZLES

On a grey cloudy day soon after, a fine fair girl entered their lives. She promised to marry the Nork who was the first to solve another landscaping problem. Now none of the Norks were married, but each and every one longed for domestic bliss — so desparately that they agreed to give her all the land they had previously inherited if they couldn't solve the problem — after all they had managed it once. The problem she set them was to divide the plot below into **five** identical pieces. Working alone none of the Norks came up with a solution, and the girl, richer by several acres sought, and got, planning permission for a very profitable supermarket on each of the plots . . . . . and lived happily, and singly, ever after. The Norks couldn't do it. Can you?



9 BOMBE SURPRISE

There is one letter missing from the sequence below. What is it — and let's hope it never happens.

S M V _ M J S U N P

10 COFFEE BREAK

For our guest spot this month, say hello to Peter Wood, from Coulsdon Surrey. Pete has sent us a couple of ticklish teasers — he says they've really got them guessing in the Sticks. Here's a clue — there is a common theme to them both:

What is the next letter in this sequence?

T V W X Y ?

What happened last in January 1963, but first in August 1983?

Pete wins a prize for those. Can you do better? We're sure you can.

11 AFTER EIGHT MINTS

This month sees the start of a new regular Crossword, to tax your powers of, umm, endurance to the limits. Try this for size. It's called . . . . . .

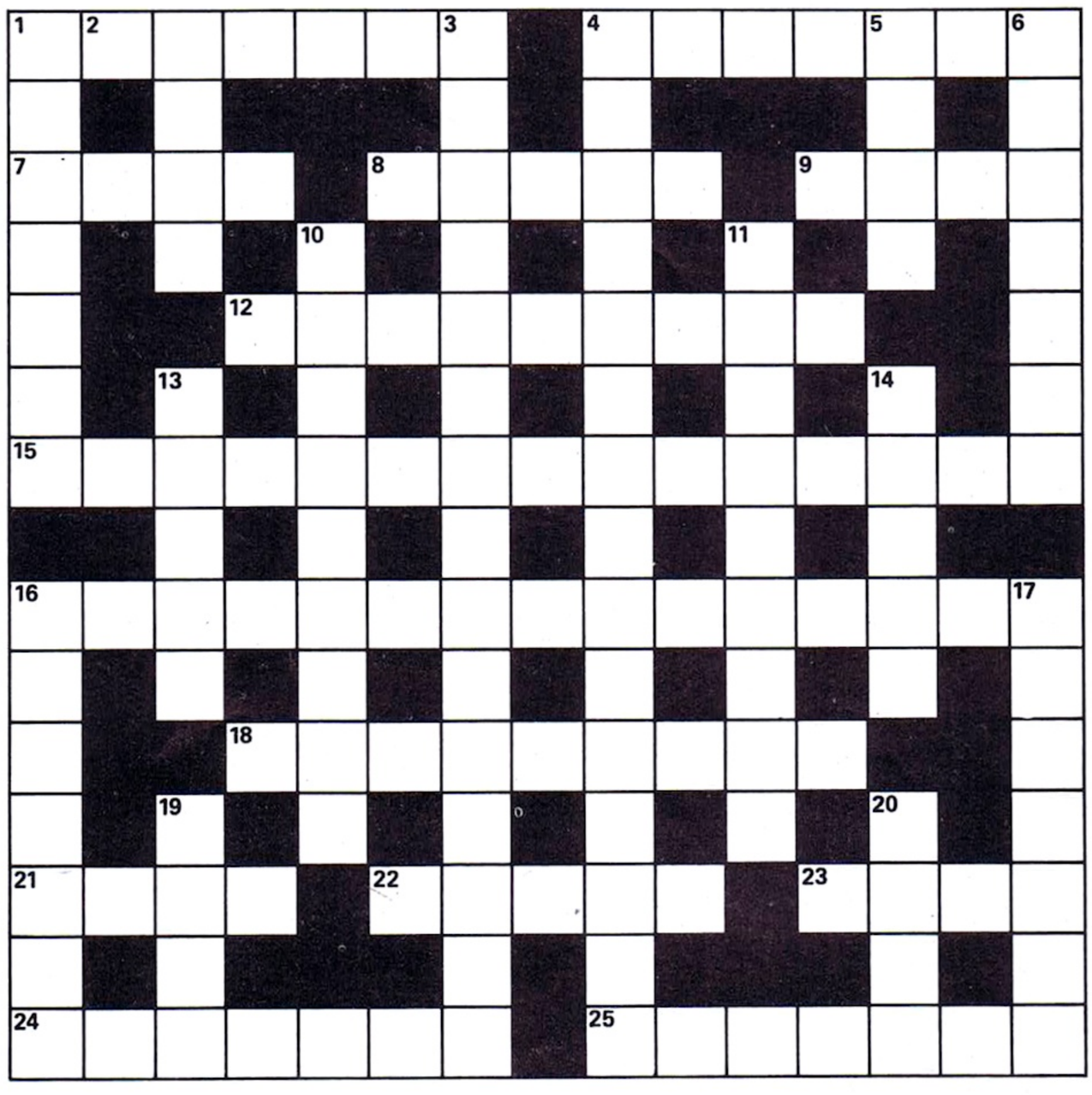
"COMMERCIAL BREAK"

CLUES ACROSS

1. Exhibitionist almost caused David Bailey to Trip! (7)
4. The Mothercare set? (7)
7. Right for, and left after apes' tea parties. (4)
8. Has-beens? (5)
9. Out of control — ate yogurt? (4)
12. Storage for Tom Caxtons — unfinished toilets? (9)
15. Amateur politics — a wash out! (6,9)
16. I'm saving, as bears could turn up in furniture stores. (7,8)
18. Small change from Spanish holiday. (3,6)
21. Leo got out of trouble — but left a smell. (4)
22. Something unpleasant with the Cockburns. (5)
23. The Legionnaire's peanut (4)
24. What we used to want. (7)
25. Goes after, or before it advertising. (7)

CLUES DOWN

1. Cut poor figure on the rocks. (7)
2. Barks worse than bite? (4)
3. Does nicely (8,7)
4. Source of the deepest, and most moving adverts. (6,9)
5. Dog kept in a pretty kennel. (4)
6. Film about the Med. makes a comback — it's all over town. (7)
10. Prayers for small particles. (9)
11. High's following at the Big Store. (3,6)
13. Spent alloy. (5)
14. Material spoilt by blemish. (5)
16. Richard of York etc — only seen at night. (7)
17. Red soil ploughed by conscript. (7)
19. Proper square pair. (4)
20. Experience a loud fish. (4)



Answers Page 46

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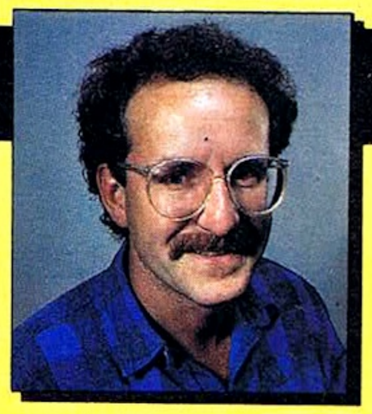

DEVISED BY IAN LIVINGSTONE

The storylines for "Eureka!" are by Ian Livingstone, whose "Fighting Fantasy" books have sold over 2,000,000 copies. He's dreamed up some rather nasty tricks and twists for you in this Epic, because he has also devised the cryptic clues and conundrums in the booklet that goes with the program. He's the one who knows the answers.

"Eureka!" was programmed by Andromeda teams led by Hungarians Donát Kiss and András Császár. It took the equivalent of 5 YEARS to create, and the skills of 4 graphic artists, 2 musicians and a professor of logic too. We told them to stretch the hardware's capabilities, and make sure you were kept awake for hours!! They've done it...

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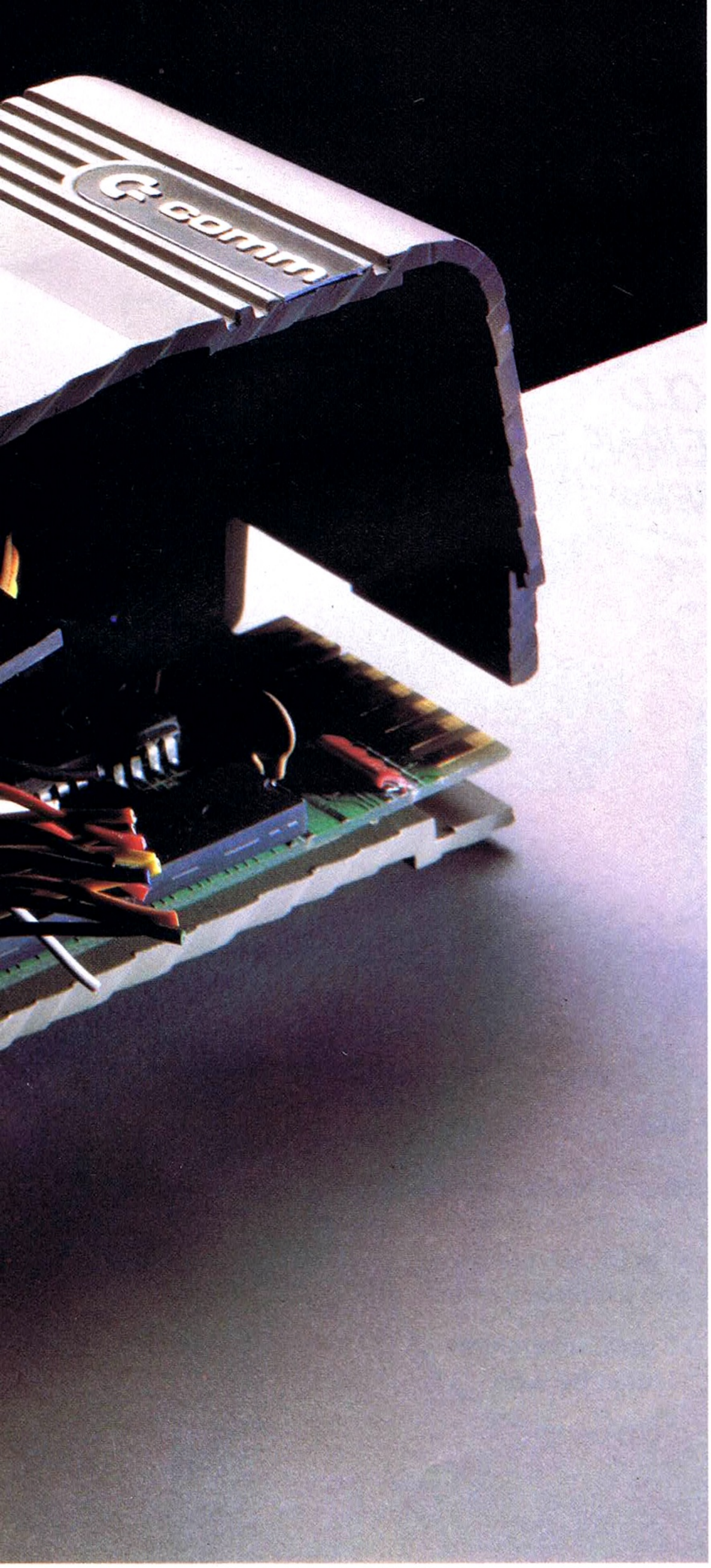



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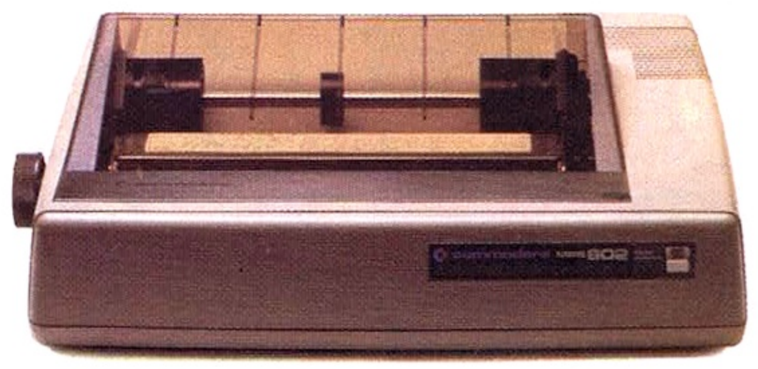

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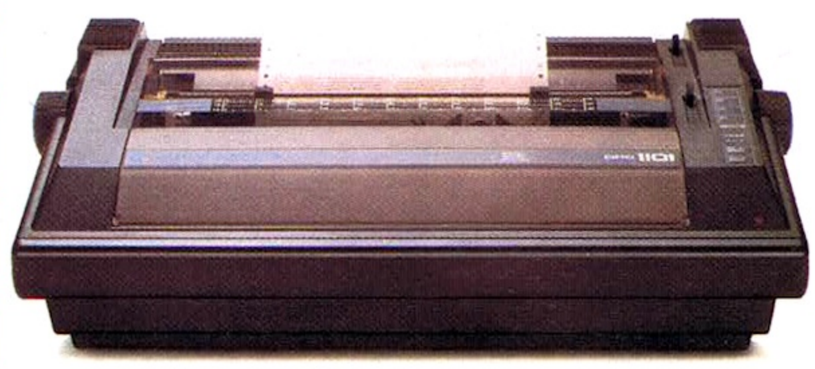

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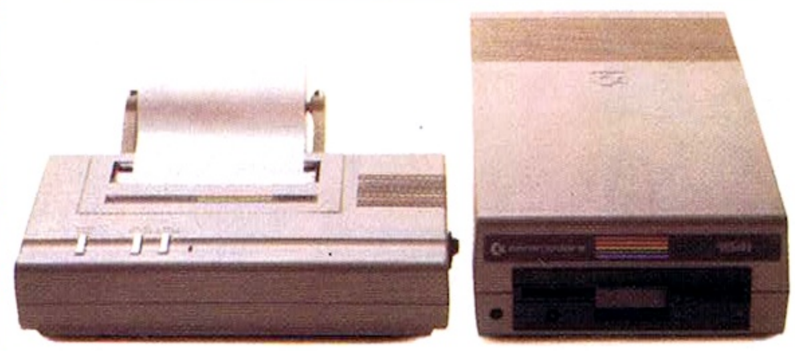

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The Runaway Robot Replies



Dear Games Computing,
We have recently completed a program for the 48K Oric Atmos computer with a view to it being published in your magazine. However, we do not have access to a printer, and thus a listing cannot be obtained to send to you. The program is quite large, (11K), and would take a lot of writing out manually which could incur human error.

Hence, our query: Is it possible to send the program, comprising a cassette and documentation, excluding the listing to be, hopefully, published.

Thank you for your consideration,
Yours faithfully,
A. Smith and I. Bland
Mansfield

All we really need is a tape as we print the listings directly from a working copy of the program. We never print a program from a supplied listing as we can never be sure that it is the same program that we have evaluated, this is why our listings are highly accurate and have very few errors (there are obviously certain exceptions, but by and large they are very unusual).

A listing can be helpful when evaluating a program but it is not really necessary. No program will ever be considered without it being supplied on tape or disk. What is really important is well written documentation, typed if possible, this aids other people in typing in your masterpiece, and us in evaluating it.

Dear Sir,
On reading our July edition of *Games Computing* I was apalled to see the number of Spectrum reviews in your software column, why not call your magazine 'Spectrum Computing'?

The number of Spectrum games reviewed was a massive total of 22 games!!! beating all the other games, even when they were added up, by 18 reviews!

I do not only speak for myself as I am sure that other VIC, Commodore, Atari, Dragon, and BBC owners will second my opinion.

So come on *Games Computing.* Lets have equal reviews of software for all machines.

Other than that you have an ace Mag!
Simon Bently
West Yorkshire

We do not favour any particular machine at all. July had a lot of Spectrum reviews in it because a lot of Spectrum games were released that month. We can't ask the software industry to release its games in a nice spread so that we can have a balanced review section, so occasionally there are 'runs' of a particular type of game, machine, or manufacturer.

Dear Sir,
TI HOME COMPUTER USERS CLUB
PO Box 190, MAIDENHEAD, Berks
Tel: 0628-71696

It may be appropriate to warn your readers not to send any money to the above organisation.

The original TI Users Group, ''TI-HOME'', was transferred to this organisation, without the consent of its members, shortly before TI withdrew from the market. This new group is understood to be in the hands of a PR Company, headed by Ms Ray Hodges(?). The first newsletter was late arriving, and the second. The third newsletter was due APRIL 1984, redated to MAY 1984 after the late arrival of the 2nd issue. There is currently no news of this third newsletter, and I understand new subscriptions are still being sought. The sub is five pounds p.a. for a quarterly newsletter.

The telephone number above leads to the Club Manager, Katie Lomax, who has no idea when the next newsletter will be published, although she does say there will be one: financed by new subscribers? She was not prepared to comment on the liquidity of the company.

For a limited company it is: the headed notepaper is in breach of the Companies Acts by not indicating that liability is limited, and by not stating the registration number, registered office, and names of directors. Ms. Lomax was unable to provide this information.

Ms Lomax does indicate that any users fed up of waiting, and applying for a refund, will receive one. If any of your readers have applied for a refund and NOT received one, I should like to hear of it.

TI owners who are tired of being led a merry dance may wish to know that there IS a TI User Group producing REGULAR newsletters... the current one being 64 pages thick. This is TI* MES, published by Clive Scally, at 40 Barrhill, Patcham, BRIGHTON, East Sussex, BN1 8UF.

Those who formerly wrote for TIdings, the publication of TI-Home, are now writing for TI* MES. TI* MES is Six Pounds per year, for a THICK quarterly newsletter.

Thank you for your time.
Best wishes,
Stephen Shaw
Author & contributor to TIdings and TI* MES.
Proprietor of STAINLESS SOFTWARE.

The TI Home Computer User's Club was set up last year in reponse to consumer demand for a professionally run club for TI-99/4A owners. We have published two issues of the club magazine to date, which was well received by our members.

This year we were not able to print one issue of the magazine for internal administrative reasons, but the next one will be out in October. We have advised all our members in that issue that the expiry date of their subscriptions will be extended to cover four magazines, which is what they have paid for.

If anyone has phoned into the club we have given them this infomation, and we have had no complaints. Any member wishing to have a proportion of their membership subscription refunded is welcome to wrtite to us.

The club certainly has every intention of keeping going, and we would not allow our members to suffer financially in any way.

Ray Hodges
Chairman, TI Home Computer Users Club.

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.
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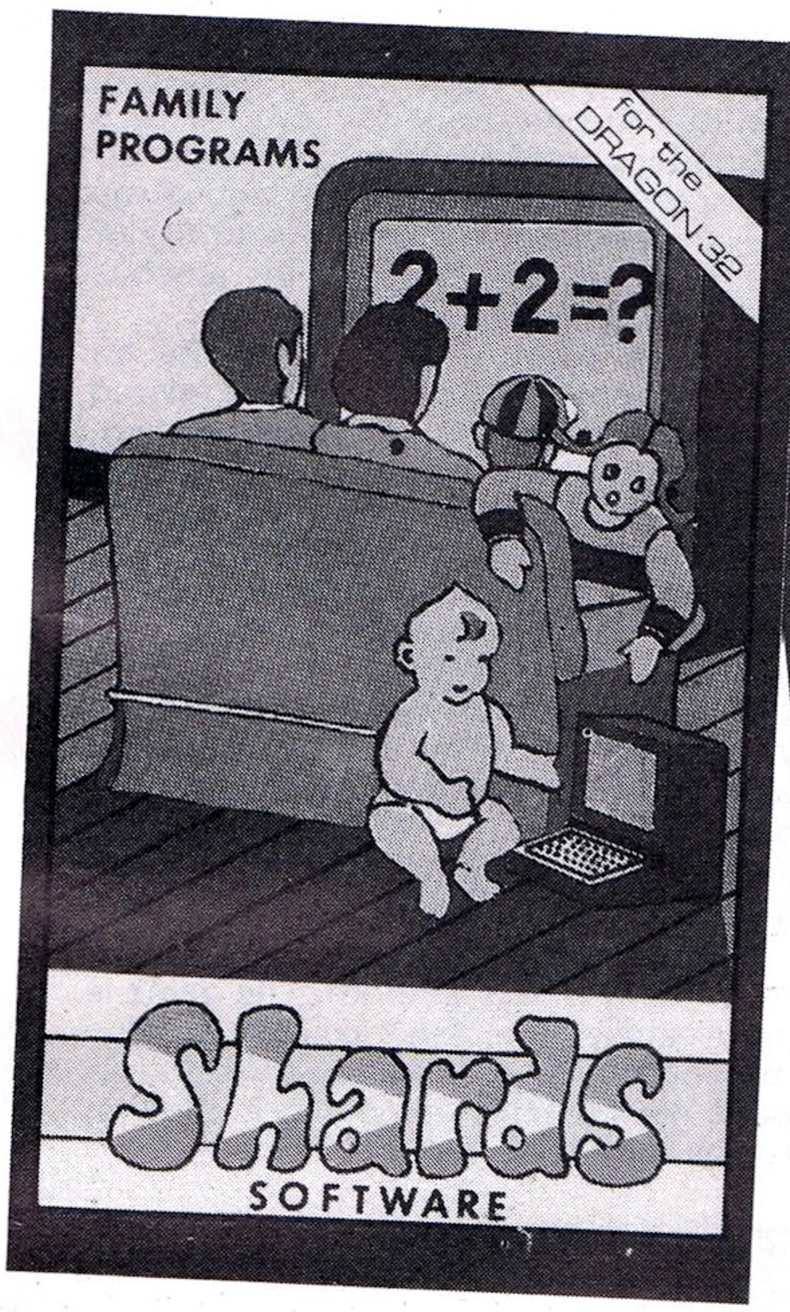
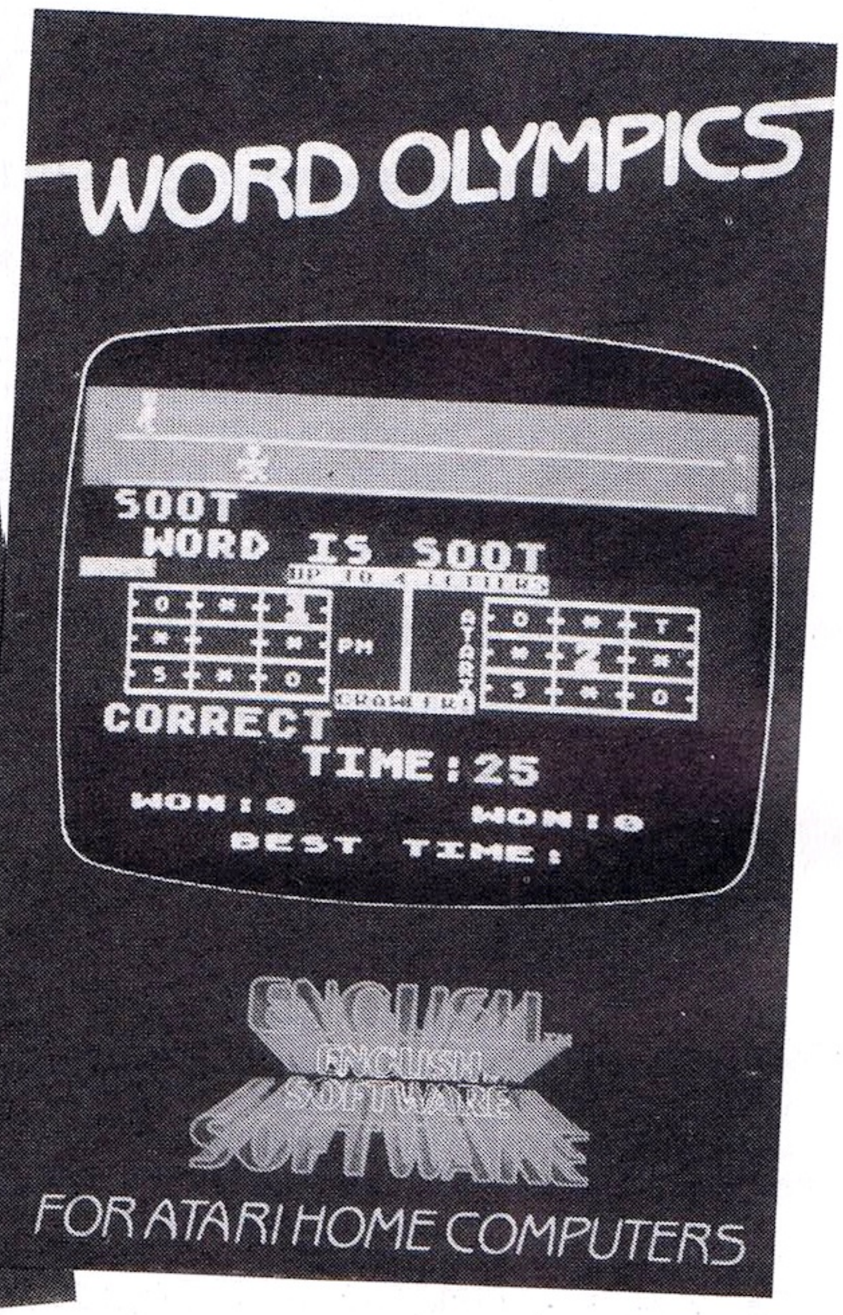






FAMILY PROGRAMS

Runs on: Dragon
Made by: Shards Software
Price: £4.95

Family Programs is a collection of eleven varied items. The best being TUNES, a name-that-tune program with one hundred tunes played in different tempos — great fun and very tricky to name that tune.

Also included in this package is a maths quiz with three levels and a high-res eggtimer. Other programs include a version of Simon called Sarah, a slow tank battle for two players, a finance program quiz on mortgage and savings, and a general knowledge quiz with 750 questions.

All in all good value for the price due to the number of programs on one tape.

ATHLETE

Runs on: 48K Spectrum
Made by: Buffer Micro
Price: £4.95

Athlete features five events. These are the 100 metres,400 metres,110 metres hurdles,400 metres hurdles and the hammer throw.

At first the computer displays an option of either choosing if you want to use a joystick, do training mode, or play. In training mode you must choose which event you want to try and as in play mode you must input your skill level. In all running events you face two competitors, whose speed differs according to skill level. At the bottom of the screen are two gauges, one for distance left and one for power used. If the power bar reaches its full extent your athlete will collapse and consequently lose the race. Because of this any extra power used must be balanced by a loss of energy.

The hurdles are the same as running except that you must jump over the hurdles at the right moment. On the hammer a skill level must be typed in. Then a man rotates in front of you and the appropriate key must be pressed at the right time to make the man throw.

The game is written partly in BASIC and partly in machine code. The graphics are fair, the hammer throwing is poor but the running good. I found the running too easy, but hurdling was hard. Hammer throwing was easy on level one but hard on level 10. The game is good.

WORD OLYMPICS

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

You are in a race against an opponent or the computer. You both have a runner at the top of the screen. The first runner to the finishing post wins.

To gain ground you have to guess the anagram from letters placed in random order in a 3x3 grid to choose a letter you move a cursor with a joystick to the required square and press fire. If your choice is wrong you have to select again but there is a time limit and you also lose if you have too many guesses.

A different way to get extra ground is by pressing fire when 2 out of 3 randomly generated letters match. If the other player presses first or you press at the wrong time you lose ground to your opponent.

At the end of the game the victorious runner jumps in celebration while the loser sinks to the ground.

This multi-skill level game demands sharp reactions and a good knowledge of words. A good idea but it soon gets boring.

REVIEWS

SOFTWARE

HEATHROW AIR TRAFFIC CONTROL

Runs on: Commodore 64
Made by: Hewson Consultants
Price: £7.95

Heathrow Air Traffic Control is a carefully planned and sophisticated simulation of the realistic functions of an air traffic controller with his/her radar screen at London's Heathrow Airport, with the main difference that there is a considerable lack of pressure caused by that 'their lives in your hands' feeling.

This simulation being written by a real Air Traffic Controller, gives the user an expert's insight into the daily operations required to keep track of the immense flow of air traffic, into and out of airports in general.

The simulation is complicated, but this minor factor can only serve to lengthen the 'playability' appeal, as it took several hours to acquaint myself with the terms and phrases. All of which are listed and explained in the detailed and well laid out manual.

Having read the instructions carefully the manual suggests that that demonstration mode should be entered and followed through, so as to get a feeling of the way in which the aircraft should be guided down.

In all there are five aircraft, whose flight path has to be calculated and entered in order to safely land each of the assorted aircraft, namely Concorde, Trident, Boeing 747, a Navajo and a Herald.

BEAKY AND THE EGGSNATCHERS

Runs on: 48K Spectrum
Made by: Fantasy
Price: £5.50

Beaky belongs to the rare goggled variety of Andromedon Armed Condors. He lives on the planet Crackit but his species is dying out as a result of the workings of the evil creatures know as the Eggsnatchers. The Eggsnatchers' sole, malicious intent is to extinguish the Andromedon Condorian race from the surface of Crackit.

You play the part of Beaky who must brood, hatch and rear as many young Beakies as possible through twelve exciting screens of action.

The twelve screens are divided into four life cycles and each life cycle consists of three different screens. Screen one has the Eggsnatchers stealing your eggs then disappearing. In this stage you must shoot at the Eggsnatchers whilst they are holding an egg. When shot they drop the egg and Beaky must pick it up and drop it in its nest. In the last three stages green mutant eggs will drop and if allowed to reach the nest one egg will disappear. Beaky is armed with potent magic seeds which he can spit out at short intervals.

In screen two you must brood the egg. Beaky's eggs only take two minutes to brood but in this time they are under constant threat. The Eggsnatchers drop snowflakes from above the screen which lower the temperature of the eggs. If the temperature reaches zero one egg will be lost.

Also a creature, related to the infamous googly bird and distantly related to our terrestrial frog, makes an appearance. These are called Froogles. Froogles have enormous resources of dark magic. When they appear on the screen they hop towards the next. Once a Froogle reaches this it will release a nitrogen bomb.

The third screen has you rearing the young Beakies. You must capture the wriggly,flying worms to feed the chicks before they die. On the screen at the same time are Eggsnatchers who are dropping bombs into the nest.

The graphics are detailed and the movement is very smooth. The game is very addictive. The sound is also marvellous. A great deal of thought has been put into this game and it show in all the detail.

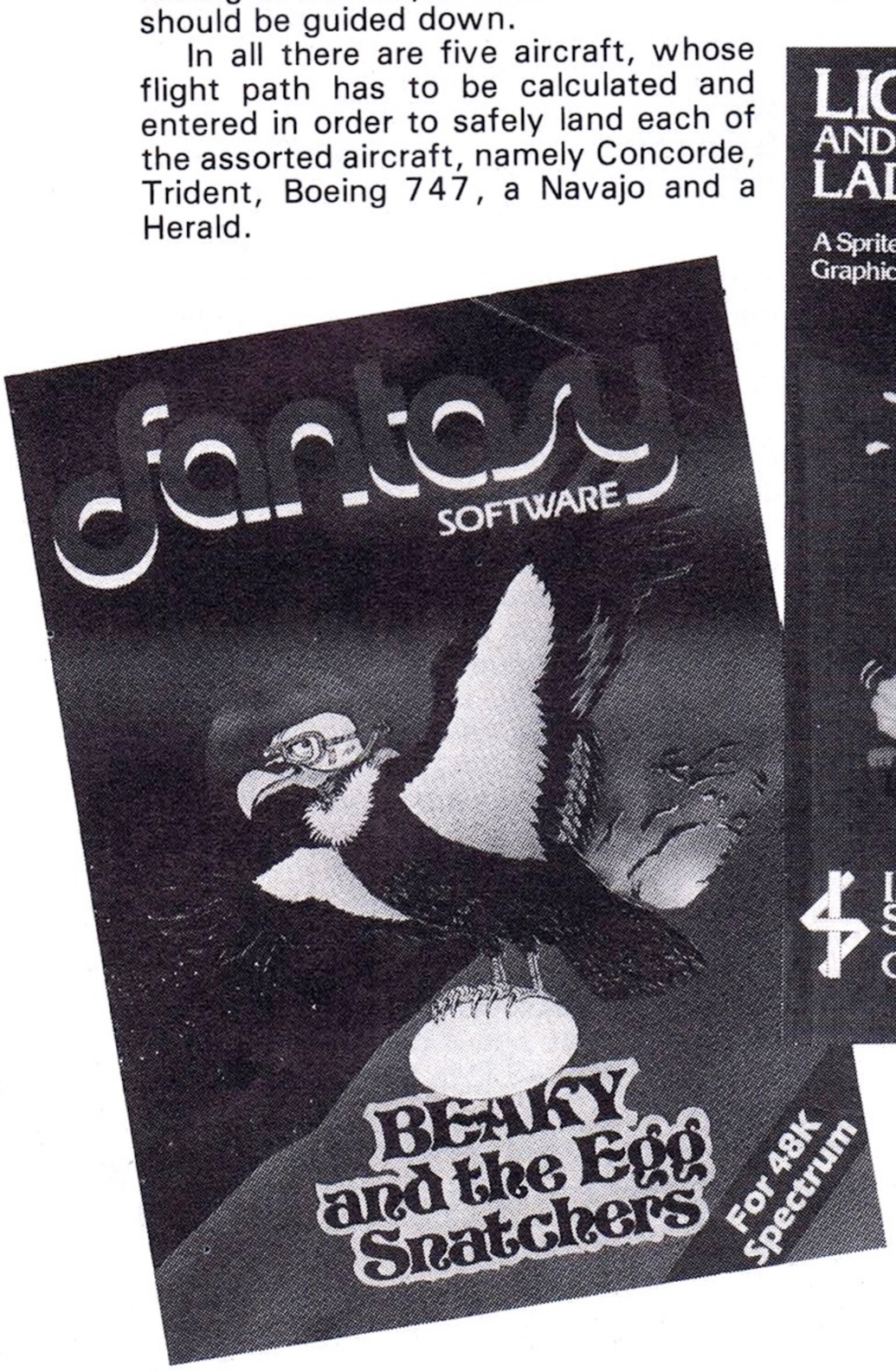
TOOLKIT

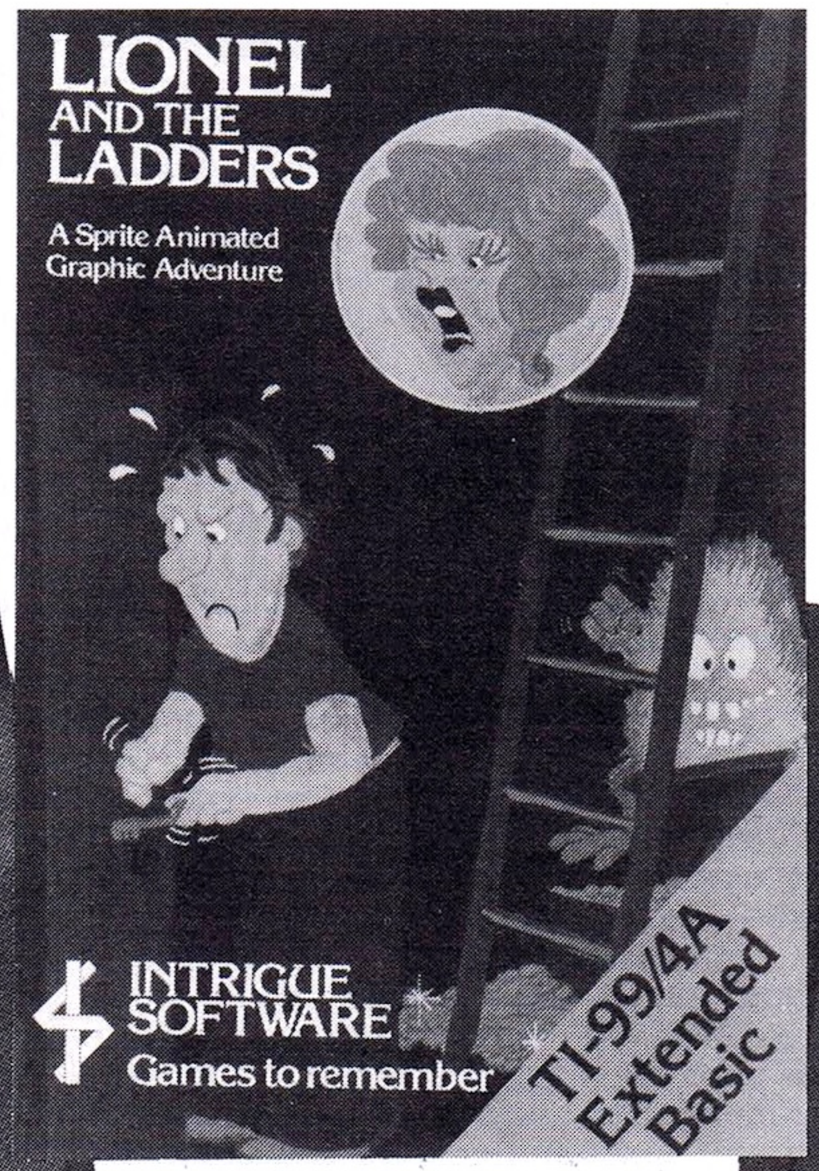
Runs on: Oric
Made by: IMS
Price: £7.95

This programming utility has a 16K version and 48K version the only difference between them is that you must poke into different memory locations.

The program allows auto line numbers,block delete (which deletes a block of a BASIC program) clock,tape directory,erase (which erasess a BASIC program), put the program into lower, upper case, memory stauts, renumber, and a few useful operations.

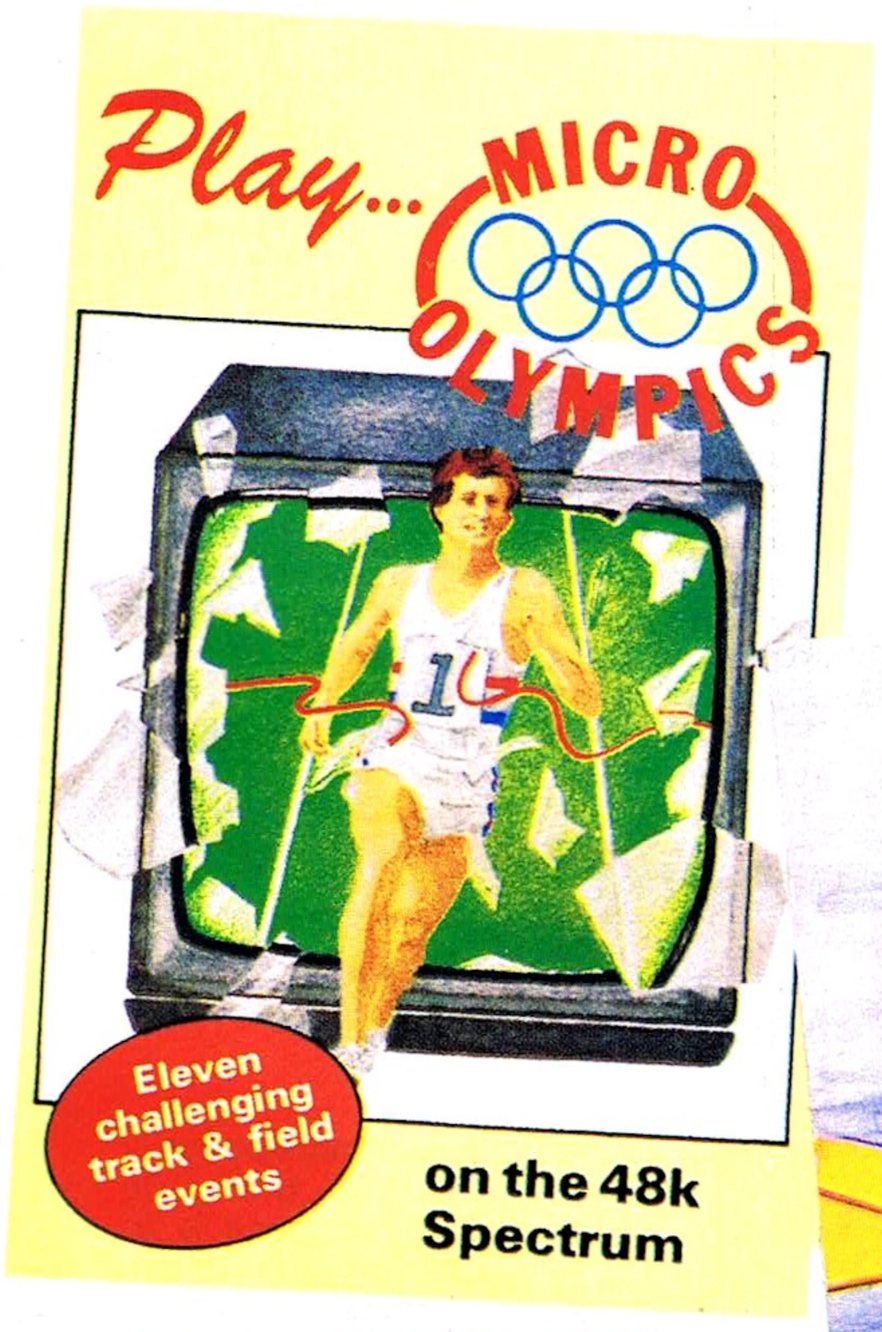
The program is of excellent quality and is very useful.







SOFTWARE



MICRO OLYMPICS

Runs on: 48K Spectrum
Made by: Database Publications
Price: £6.95

Yes, the Olympics have been on everybodys' mind and Database Publications realise it. So, if you feel envious of Seb Coe or Daley Thompson, why not try one of these games?

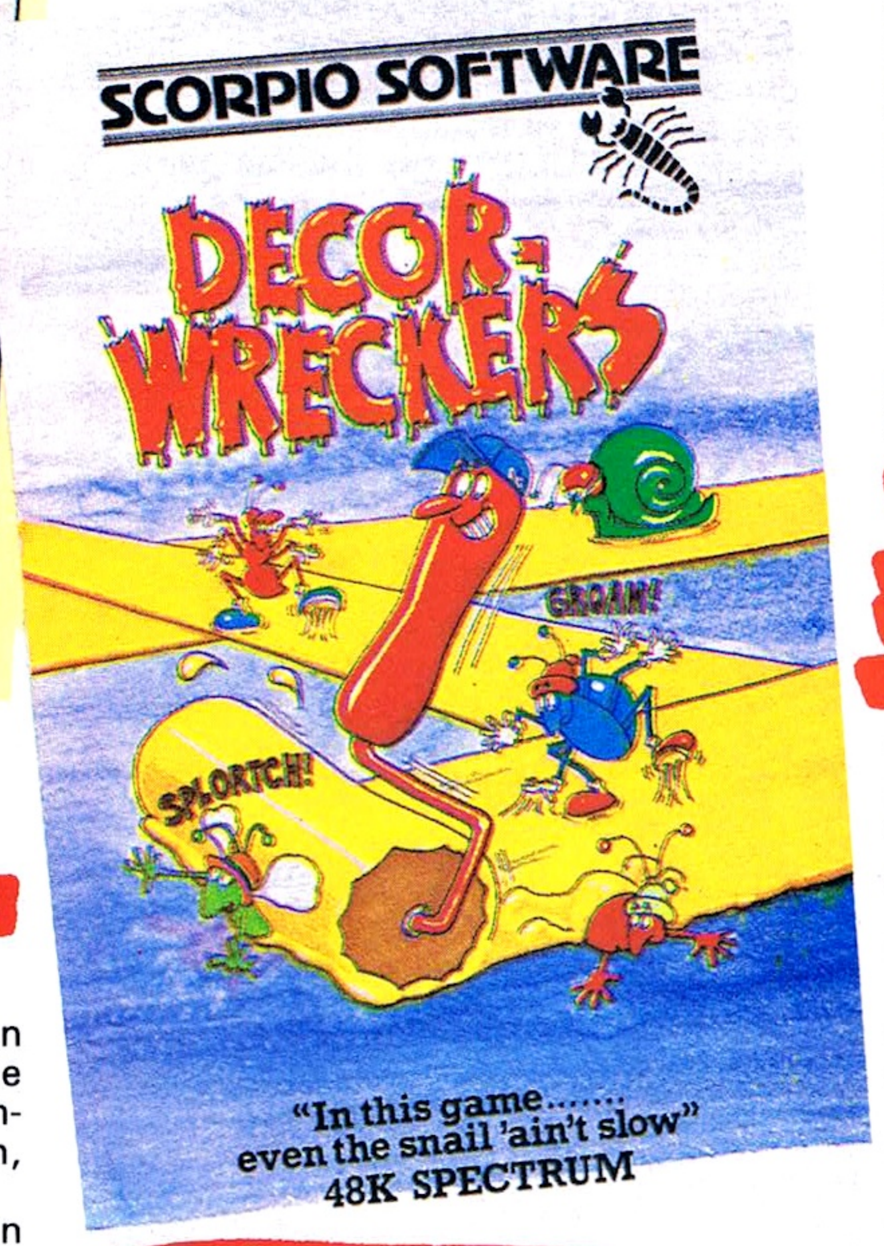
Micro Olympics features eleven events, five running events (100,200,400,800 and 1500) and five field events (high and long jumps,pole vault,the discus,javelin and hammer). All the time you are competing against a very good athlete.

In each event keys must be selected. In running events the keys involved are to move the feet and to run well the keys must be pressed separately very fast. For the long jump, pole vault and javelin events three keys are needed, for two running keys and one for jump/throw. For the remaining events just the throw/jump key is used.

For events like the high jump, hammer or discus a concentration level must be obtained. To do this a sequence of four keys are displayed. The keys are numbers 1,2,3 and 4, but in a different order. The object is to keep the arrow below the plus sign, but the arrow keeps moving away and when it has moved one space to the right the appropriate key must be pressed.

The game resembles the arcade game Track and Field. I found the running very hard because the Spectrum's key board is not really suited to all the bashing that is required.

The graphics are fairly good. There is very little sound used but what there is, which is mainly crowd cheering, adds to the atmosphere of the game. An enjoyable game.



DECOR WRECKERS

Runs on: 48K Spectrum
Made by: Scorpio Software
Price: £1.99

This is a very simple and yet surprisingly addictive package and should sell well as it is excellent value for money. The game itself is simple and well thought out, and the packaging fits the same description.

The task in hand is to paint the screen (excluding border) with a bright yellow paint, using a few units of paint (which tick away as you play and act as a timer) as possible. If the player uses 1000 units or more to paint one screen a life is lost, only three being given. The paint is applied with a roller which moves continously and can be steered using a joystick or keyboard. The speed of play is fast, and the controls are very responsive, so arcade addicts can exercise their reactions to the full.

The skill of the game comes in soon after starting, when Freddie Flies,Bertie Bugs and Sammy Snails arrive on the scene and begin to attack your finish. Freddie Flies are encountered on sheet one, and destroy small patches of paint, which then require repainting. If the player paints all of screen one, he must travel to the bottom right hand corner of the screen, from where he automatically moves to the next screen which is infested with Sid Spiders which destroy entire columns of paintwork. The player must cover this screen before moving to the next, and so on through the screens with increasingly awkward beasties, until three lives are exhausted, and the game finishes.

This is an excellent package at the price and I found myself playing it over and over again.

ARCHIPELAGO

Runs on: Commodore 64
Made by: Talent Computer
Price: £7.95

The scenario of the game is set by displaying a stunning, visual representation of an airship wrecked survivor stranded on one of a group of remote Pacific islands. The survivor is shown to be entering a cave and the game beins.

The screen then displays a randomly drawn maze with your character (a small man) in the top left of the maze. Movements left,right,up and down are controlled by joystick. The object is to reach the bottom right hand corner of the maze once having acquired the five jewels found strewn along the passages.

The maze is also inhabited by dangerous spiders who move intelligently towards the survivor, causing death upon contact. Jewels are collected by passing over them and attacking any spiders that stray too close.

Firing, uses energy which is indicated by the level of the red bar as it falls and rises (when recharged). There are three levels of increasing difficulty, with five screens in each. The first level gives allows a time limit of three minutes (shown at the bottom of the screen) but at higher levels this is gradually reduced.

Overall, I found this to be a very addictive game as getting past the first screen proved to be more difficult than it seemed.

REVIEWS

LIONEL AND THE LADDERS

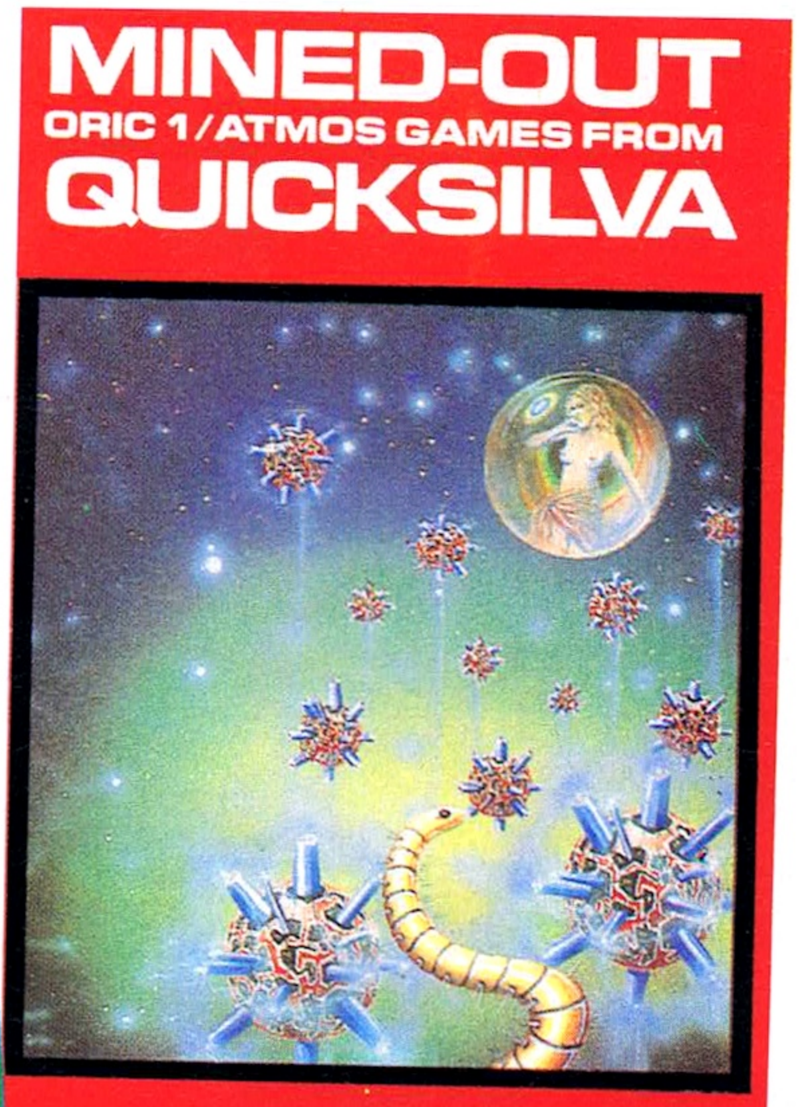
Runs on: TI99/4A
Made by: Intrigue
Price: £7.95 (Extended basic)

Having fallen for the princess from Andromeda, Lionel sets out to rescue her from deep in the labyrinth where she is imprisoned by the suns of Mars. Under keyboard control, Lionel can be made to go left and right along pathways, climb ladders (but not descend), jump to retrieve keys and leapfrog nasties, unlock doors and finally release the princess. In his pursuit he has to avoid the suns of Mars, the shades of wrath and the death stars. To reach the princess he must collect keys to unlock blue doors. On being opened, they become green and thereafter allow free passage to and fro. Red doors are exits which cannot be reentered. If Lionel falls down two levels or bumps into an adversary, he loses one of his three lives.

Both door keys collected and lives left are displayed at the bottom of the screen. Lionel can also collect treasure on the way for bonus points. Only after all doors are unlocked, can Lionel release the princess, in which case he gains an extra life and the game repeats until he loses all his lives. Since the long program is written in TI Extended Basic, there is a time lapse between keyboard entry and screen action, which is frustrating to say the least. However, with a little practice, this can be overcome and, to some extent, conquering the delay becomes an addictive part of the game. A couple of manoeuvres were found which go unpenalized. It is relatively easy to accumulate a good score without opening a door or losing a life by repeating the same circular tour of ascending a ladder, walking a pathway, jumping down only one level and walking back to where you started. Nasties can also be avoided by moving Lionel between adjacent screens indefinitely until they pose the least threat.

High scores can be entered into a Hall of Fame and the keys controlling Lionel altered to your own choosing. But beware, because if you press return as a default when setting your keys you will end up stuck in a game with no controls. Apparently, this occurs because the main program fills the whole TI memory and error checking routines had to be limited by necessity.

The game is stylishly packaged with full instructions and is challenging, if somewhat constrained by the TI Basic. That apart, well done Intrigue for supporting the TI with a good value game.



MINED OUT

Runs on: Oric-1/Atmos
Made by: Quicksilva
Price: £6.95

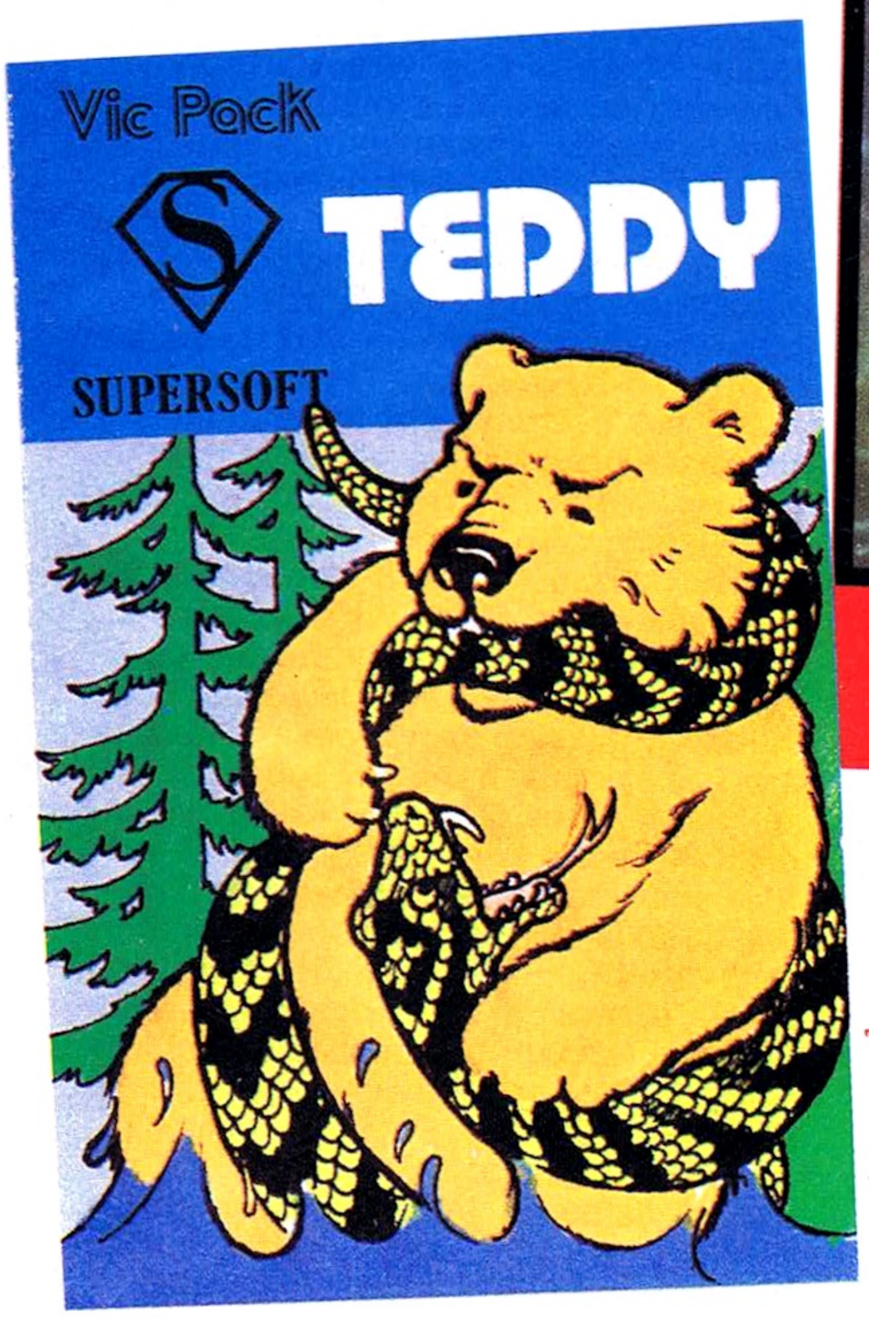
Mined out is unoriginal in concept but is nicely implemented on the Oric machines. The idea of the game is to travel through seemingly endless minefields in order to rescue that star of stage and silver screen, Bill the Worm.

The game loads and the instructions are clear and easy to understand. You are able to define your own keys for movements around the screen — a nice touch that other software houses should take note of. As usual you have to travel from the bottom of the screen to the top avoiding the invisible mines. An indicator lights up when you find yourself adjacent to one or more mines so it does not take much mental power to reach the exit at the top.

Once this has been achieved you move on to the next level and by rescuing lost maidens you gain extra points. In level 3 little creatures occasionally run ascross the screen and these clear away invisible mines and also lay visible ones. Other features include a bug that starts to chase you, so it becomes increasingly essential to keep on the move. However, it is also important to note that the bug is not very bright and hardly matches the speed of Carl Lewis.

The graphics are satisfactory and the sound is minimal, but neither stetches the Oric to its considerable limits. There is no Hall of Fame although the highest score is remembered. The idea is simple, the game fairly addictive and is best suited to family participation.

The arcade fanatic would be best advised to look for something more challenging.



TEDDY

Runs on: Vic 20 + 8K
Made by: Supersoft
Price: £8.95

Teddy. Ah, a nice, innocent gentle game, you think, away from all that violence. If that's the sort of game you were hoping for. I'm afraid you will be disappointed. It all starts off innocently enough with ''The Teddy Bears' Picnic'' being played, but this Teddy is the sort of Teddy that kills all your other soft toys!

The object of the game is to move your Teddy around the screen killing water snakes. But to kill them you must bite them on the behind! (This ruins the image of a Teddy being a lovable, cuddly animal). If Teddy misses and bites the snake in the middle, the snake becomes two snakes. If the snake bites Teddy, he looses a life. There are also goodies left behind by the picnickers which Teddy has to gobble up for bonuses. Picnic baskets etc. (Eat your heart out Yogi Bear).

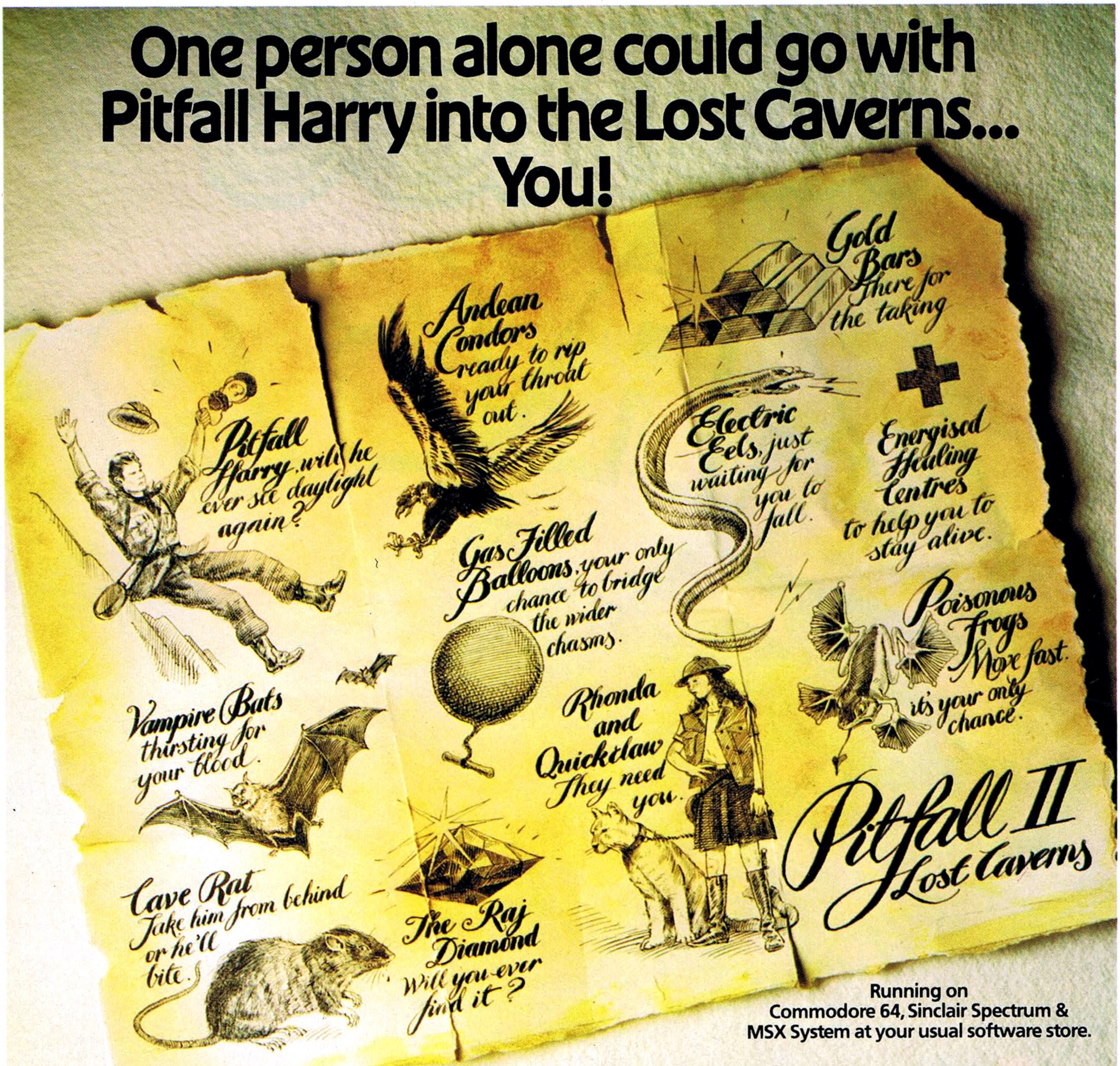
After each stage the last line of the Teddy Bears' Picnic is played and Teddy goes on to the next stage with different coloured and more intelligent snakes.

The graphics and sound effects are good and the games has a brillant high score table. I have one small complaint, however: the high score table and the instructions are a little blurred. It's the choice of screen and ink colour.

Anyway Teddy is ''better than the average game''.

REVIEWS

One person alone could go with Pitfall Harry into the Lost Caverns... You!



Running on Commodore 64, Sinclair Spectrum & MSX System at your usual software store.

Oh Harry. This time he's gone too far.

Somewhere, buried deep in the lost caverns of Machu Pichu, Peru, lies the stolen and, of course, priceless Raj Diamond, along with a hoard of missing gold bars.

Harry's little niece Rhonda and Quickclaw, her cowardly cat, are supposed to be with him, but they strayed away and are lost in the bowels of the caves.

A wealthy university has asked him, while he's cleaning this mess up, to capture an elusive stone-age cave rat.

What fun.

He just has to avoid the occasional poisonous frog.

Oh yes. And the wickedly clawed condors.

The electric eels. And a very nasty line in thirsty vampire bats.

So you can see Harry could do with some help.

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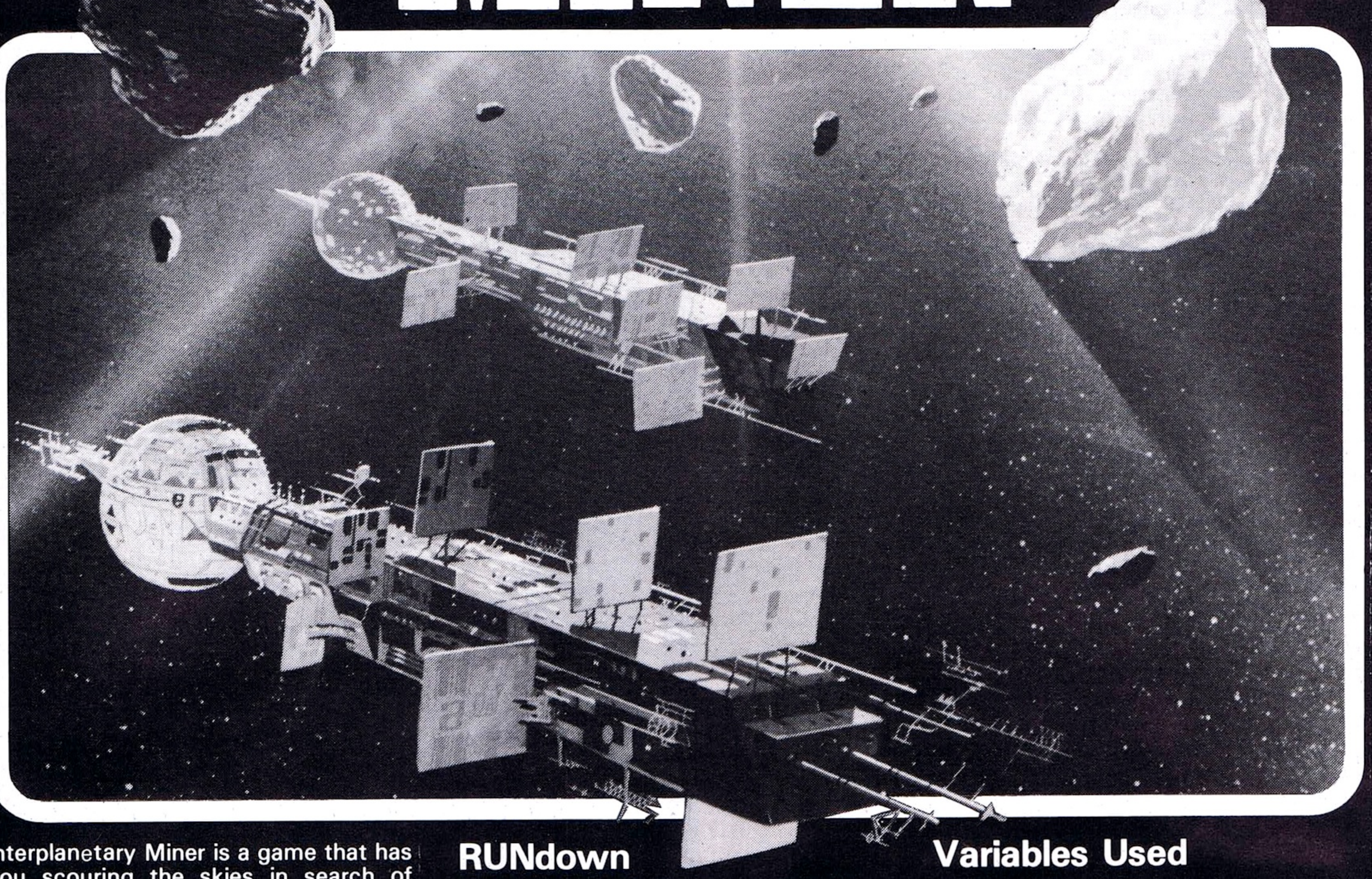
Interplanetary MINER

RUNS ON BBC



Interplanetary Miner is a game that has you scouring the skies in search of minerals and ores. If you succeed there is a strange reward awaiting you!

The game consists of the following:
Part 1 Introduction
Part 2 A Solar System of 9 planets is set up. Each planet has an individual set of characteristics.
Part 3 You are in orbit round Planet 9 You can decide whether to land on the planet to mine ore or you can hyperjump to another planet which may be richer in ore. You must also decide if you will have trouble with the natives, if you need food (You cannot collect any on the poisonous atmosphere planets). If you decide to land a lunar lander procedure comes in. If you land successfully —

Part 4 A picture of your ship is displayed and you are given the options to mine or collect food. If you mine you must decide if you use the ore as cargo or fuel. The mining and food procedures involve the alien characters and planet character ie if hostile they will attack frequently, if ore rare, it will run out sooner. You can then decide to go to another planet. When you have a full cargo you can go home.

RUNdown

Lines	Action
1-150	Introduction Screen (Should be deleted on all other computers except BBC A and Electron)
160-190	Clear space in memory and sets variables to starting positions
200-240	Sets up array of Planets' characteristics, Minerals etc
280-310	Main input for ship in space
340-520	Main Input for ship on Planet
530-760	Displays each planets character
PROCchar:	Draws external view of ship in Teletext (Omit on other machines)
PROCtake:	Take off and Abort procedure
PROCmove:	Hyperjump procedure

The rest of the procedures are self evident.

You must not run out of fuel or food in Space or your crew of 200 will mutiny.

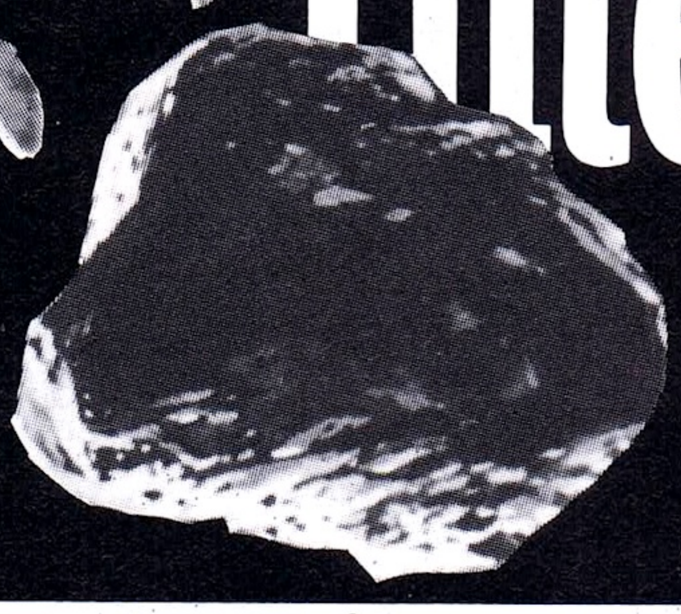
Variables Used

Planets Characters	
A(P)	Minerals
B(P)	Alien behaviour
C(P)	Aliens Technology rating
D(P)	Atmosphere
gp(P)	Gravity — not shown on display but affecting landing procedure
SC%	Score
M2	Moves

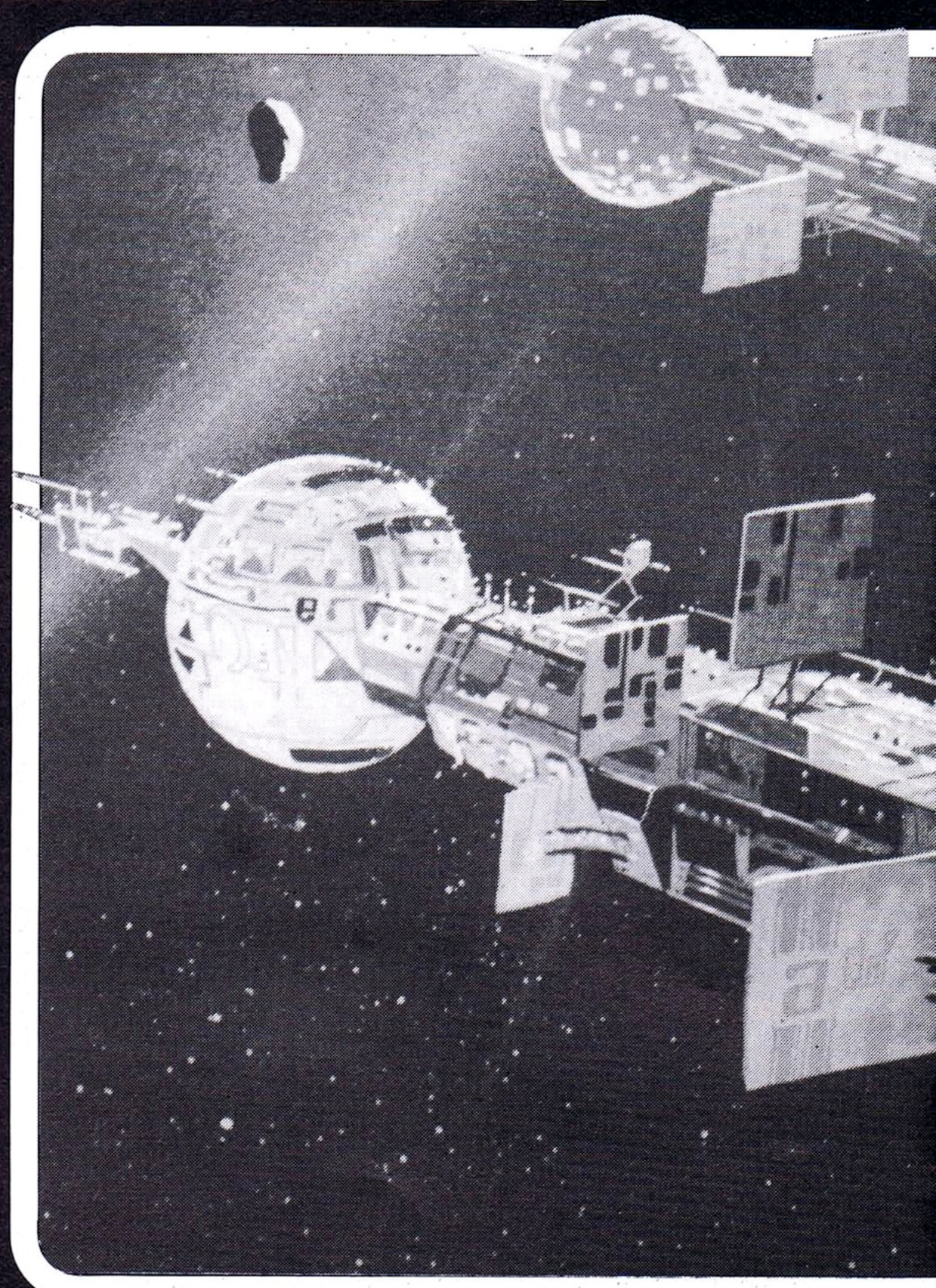
Conversion Clues

To convert the game should be fairly simple: delete lines 1-150 (except in the Electron and Model A) and remove or replace PROCchar, remove all CHR$ signs and the game should work o.k. It is mainly text based, the landing graphics will work on any computer, most other are unnecessary.

Interplanetary MINER



```
    1   ENVELOPE1,8,1,-1,1,1,1,1,121,-5,-5,2,70,70
   10   REM INTERPLANETARY MINER
   20   REM @ A. HARRY
   30   MODE4:VDU23;8202;0;0;0;
   40   VDU19,1,2,0,0,0:PRINTTAB(1,25)" I N T E R P L A
N E T R Y   M I N E R"
   50   PRINTTAB(13,27)"**@ A. HARRY**"
   60   VDU 19,0,7,0,0,0
   70   VDU23,240,60,48,60,60,60,126,153,153
   80   FOR X=1 TO 24
   90   SOUND1,-10,90+X*3,2
  100   VDU 19,1,4,0,0,0
  110   PRINTTAB(19,X);CHR$(240);
  120   PRINTTAB(19,X-1);"  "
  130   TIME=0:REPEATUNTILTIME=10
  140   NEXT
  150   SOUND 1,-10,100,15
  160   MODE7
  170   VDU23;8202;0;0;0;
  180   DIMA(10):DIMB(10):DIMC(10):DIMD(10):DIMN$(10):DI
MM$(10):DIMO$(10):DIMAT$(10):DIMgp(10)
  190   G=31:H=31:J=0:l=0:O=1:e=1:v=1:s=0:W=0:d1=0:y1=0:
c1=0:m1=0:m2=0:SC%=110
  200   REM SET UP PLANET VARIABLES
  210   FOR P=1 TO 9
  220   A(P)=RND(4):B(P)=RND(3):C(P)=RND(3):D(P)=RND(3):
gp(P)=RND(3)
  230   IF A(P)=4 THEN A(P)=1
  240   NEXT
  250   PROCintro
  260   P=9
  270   GOTO 530
  280   INPUTTAB(14,23);"ENTER COMMAND";X$;:SOUND2,-10,2
00,1
  290   IF X$="J" AND l=0 INPUTTAB(14,23);"WHICH PLANET
 ";W:CLS:m2=m2+1:SOUND2,-10,200,1:PROCship:PROCsup:PROC
move:GOTO530
  300   IF X$="H" OR X$="h" THEN m2=m2+1:PROChome
  310   IF X$="L" THEN fuel=8200:m2=m2+1:PROCland
  320   CLS:GOTO 270
  330   END
  340   REM landed
  350   CLS:PROCchar
  360   IF H<0 THEN H=0
  370   IF H>31 THEN H=31
  380   IF G<0 THEN G=0
  390   IF G>31 THEN G=31
  400   IF J<0 THEN J=0
  410   IF J>31 THEN J=31
  420   PROCsup:PRINTTAB(5,2)"Do you wish to "
  430   PRINTTAB(5)"1) Collect food"
  440   PRINTTAB(5)"2) Mine ore"
  450   PRINTTAB(5)"3) Take off"
  460   INPUTTAB(5)"Enter number 1-3";I
  470   IF I<1 OR I>3 GOTO 350
  480   IF I=1 m2=m2+1:PROCfood:GOTO 350
  490   IF I=2 m2=m2+1:PROCmine:GOTO350
  500   IF I=3 AND G>0 THEN CLS:m2=m2+1:PROCtake ELSE IF
G<1 AND I=3 GOTO 350
  510   CLS:GOTO 350
  520   END
  530   IF P>9 THEN P=9
  540   IF A(P)=1 THEN M$(P)="RARE"
  550    IF A(P)=2 THEN M$(P)="MODERATE"
  560    IF A(P)=3 THEN M$(P)="RICH"
```



```
  570   IF B(P)=1 THEN N$(P)="HOSTILE"
  580   IF B(P)=2 THEN N$(P)="NEUTRAL"
  590   IF B(P)=3 THEN N$(P)="BENEVOLENT"
  600   IF C(P)=1 THEN O$(P)="ADVANCED"
  610   IF C(P)=2 THEN O$(P)="STANDARD"
  620   IF C(P)=3 THEN O$(P)="PRIMITIVE"
  630   IF D(P)=1 THEN AT$(P)="POISONOUS"
  640   IF D(P)=2 THEN AT$(P)="EARTH TYPE"
  650   IF D(P)=3 THEN AT$(P)="BREATHABLE"
  660   PRINTTAB(0,2);CHR$(131);CHR$(157);CHR$(132);"
     PLANET ";P;" STATUS "
  670   PRINTTAB(0,5)" MINERALS: ";TAB(30);M$(P)
  680   PRINT" ____________________________________"
  690   PRINT" NATIVES:"TAB(30);N$(P)
  700   PRINT" ____________________________________"
  710   PRINT" TECHNOLOGY:"TAB(30);O$(P)
  720   PRINT" ____________________________________"
  730   PRINT" ATMOSPHERE:";TAB(30);AT$(P)
  740   PRINT" ____________________________________"
  750   PROCsup:GOTO280
  760   END
  770   DEFPROCmove
  780   m1=0
  790   FOR t=1 TO 10:VDU23;8202;0;0;0;
```

```
  800  PRINTTAB(16,15);"                "
  810  PRINTTAB((RND(30)+2),(RND(10)+4));CHR$(128+(RND(
8)));"."
  811   SOUND1,1,100,10
  820  NEXT
  821  TIME=0:REPEATUNTILTIME=300
  830  G=G-(2*(ABS(P-W))):H=H-(2*(ABS(P-W)))
  840  P=W
  860  CLS:ENDPROC
  870  DEFPROCtake
  880  PROCship:PRINTTAB(2,18)CHR$(151)"   x//t":PRINTC
HR$(151)"////¦¦¦¦/////":PRINTCHR$(151)"/    ////    /"
:PRINTCHR$(151)"/             /":PRINTCHR$(151)"/
    /"
  890  s=0
  900  PRINTTAB(27,19)CHR$136;CHR$131;CHR$157;CHR$132;"
RETROS":PRINTTAB(27,20)CHR$136;CHR$131;CHR$157;CHR$132;
"  ON"
  910  IF gp(P)=1 THEN G=G-1 ELSE IF gp(P)=2 THEN G=G-2
 ELSE G=G-3
  920  FOR X=1 TO 50
  930  PRINTTAB((RND(30)+2),(RND(10)+4));CHR$(128+(RND(
8)));".":NEXT
  940  FOR L=1 TO 40:PRINTTAB(30,22)CHR$129"HEIGHT";L:T
IME=0:REPEATUNTILTIME=2:SOUND0,-10,5,2:NEXT
  950  CLS:GOTO530
  960  ENDPROC
  970  DEFPROCship
  980  PRINT''CHR$(131);CHR$(157);CHR$(132);"
 SHIP'S STATUS"
  990  PRINTTAB(1,4);"_____________________________
_____"
 1000  PRINTTAB(0,17)" _____________________________
_____"
 1010  IF J>31 THEN J=31
 1020 IF H>31 THEN H=31
 1030  IF G>31 THEN G=31
 1040  ENDPROC
 1050  DEFPROCsup
 1060  IF J>31 THEN J=31
 1070  IF H>31 THEN H=31
 1080  IF G>31 THEN G=31
 1090  IF J<1 THEN J=0
 1100  IF G<1 THEN G=0:PROCstrand
 1110  IF H<1 THEN H=0:PROCstarve
 1120   F$=STRING$(G,"/"):PRINTTAB(0,18);CHR$(129);"FUE
L: ";CHR$(145);F$
 1130   I$=STRING$(H,"/"):PRINTTAB(0,20);CHR$(132);"FOO
D: ";CHR$(148);I$
 1140   K$=STRING$(J,"/"):PRINTTAB(0,22);CHR$(130);"CAR
GO:";CHR$(146);K$
 1150  ENDPROC
 1160  DEFPROCchar
 1170  PRINTTAB(5,8)CHR$(151);"//ws"
 1180  FOR t=1 TO 5
 1190  PRINTTAB(5)CHR$(151);"////"
 1200  NEXT
 1210  PRINTTAB(4)CHR$(151);"6////i"
 1220  PRINTTAB(4)CHR$(151);"5 // j"
 1230  PRINTTAB(0);CHR$(144+RND(4));"//////////////////
//////////////////////"
 1240  ENDPROC
 1250  DEFPROCmine
 1260  CLS:PRINTTAB(0,2);CHR$(131);CHR$(157);CHR$(132);
"          MINING REPORT      "
 1270  REM
 1280  H=H-3
 1290  IF A(P)=1 THEN O=(RND(2)-1)
 1300  IF A(P)=2 THEN O=(RND(2))
 1310  IF A(P)=3 THEN O=(RND(3))
 1320  IF A(P)=1 THEN m1=m1+4
 1330  IF A(P)=2 THEN m1=m1+2
 1340  IF A(P)=3 THEN m1=m1+1
 1350  IF e=1 THEN O=O+(INT(RND(1)))
 1360  IF m1>16  THEN O=0
 1370  IF O<2 GOTO 1390
 1380  IF D(P)=1 THEN O=INT(O/2)
 1390  CLS:PRINTTAB(0,2);CHR$(131);CHR$(157);CHR$(132);
"          MINING REPORT      "
 1400  PRINT''CHR$(129);"Your mines have extracted ";O;
" megagrams":PRINTCHR$(129);"of ore"
 1410  IF O>0 PRINT''CHR$(129);"How much will you use f
or fuel";:INPUT W
 1420  IF O=0 THEN TIME=0:REPEATUNTILTIME=200:GOTO 1440
 1430  IF W>O GOTO 1390
 1440  G=G+W:J=J+(O-W)
 1450  IF s=0 PRINT'CHR$(131);"Do you wish to enslave t
he natives":INPUT" Y/N "Z$:s=1
 1460  IF Z$="Y" OR Z$="y" THEN e=1:v=v+2
 1470  IF B(P)=1 THEN v=(RND(10)+6)
 1480  IF B(P)=2 THEN v=RND(10)
 1490  IF B(P)=3 AND e=0 THEN O=O+(INT(RND(1)))
 1500  IF v>10 THEN PRINT''CHR$(129);"The natives have
attacked your ship and";:PRINTCHR$(129);"some of your s
upplies have been destroy";:PRINTCHR$(129);"ed"
 1510  IF v>10 THEN TIME=0:REPEATUNTILTIME=400
 1520  IF v>11 AND C(P)=3 THEN G=(G-RND(2)):H=(H-RND(2)
):J=(J-RND(2))
 1530  IF v>11 AND C(P)=2 THEN G=(G-RND(4)):H=(H-RND(4)
):J=(J-RND(4))
 1540  IF v>11 AND C(P)=1 THEN G=(G-RND(10)):H=(H-RND(1
0)):J=(J-RND(10))
 1550  IF G<0 THEN G=0
 1560  IF H<0 THEN H=0
 1570  IF J<0 THEN J=0
 1580  CLS
 1590  ENDPROC
 1600  DEFPROCfood
 1610  CLS:PRINTTAB(0,2);CHR$(131);CHR$(157);CHR$(132);
"          HARVEST REPORT     "
```

```
 1620   IF D(P)=1 PRINT''CHR$(129);"The atmosphere and
food are poisonous  ";:PRINTCHR$(129)"to your crew":TIM
E=0:REPEATUNTILTIME=300:ENDPROC
 1630  IF C(P)=1 THEN y1=(RND(6)+2)
 1640  IF C(P)=2 THEN y1=(RND(4)+2)
 1650  IF C(P)=3 THEN y1=(RND(6)-1)
 1660  IF y1<0 THEN y1=0
 1670  PRINT''CHR$(129)"The crop this year is ";y1;" un
its of food"
 1680  PRINT:INPUT" How much will you take "Y
 1690  IF Y>y1 CLS:GOTO1670
 1700  IF d1<3 THEN H=H+Y
 1710  IF Y>(y1/2) THEN d1=d1+1
 1720  IF Y=y1 THEN d1=3
 1730  PRINT:INPUT" Will you give gifts Y/N  "K$
 1740  IF K$="Y" AND RND(6)=2 THEN d1=d1-1
 1750  IF d1=3:PRINT''CHR$(129)"The natives have revolt
ed against you  ";:PRINTCHR$(129)"and attacked":TIME=0:
REPEATUNTILTIME=300
 1760  IF d1=3 AND C(P)=1 THEN G=(G-RND(8)+2):H=(H-RND(
15)):J=(J-RND(15))
 1770  IF d1=3 AND C(P)=2 THEN G=(G-RND(7)):H=(H-RND(7)
):J=(J-RND(7))
 1780  IF d1=3 AND C(P)=3 THEN G=(G-RND(4)):H=(H-RND(4)
):J=(J-RND(4))
 1790  IF d1=4  THEN di=0
 1800  ENDPROC
 1810  DEFPROCintro
 1820  PRINTTAB(0,5);CHR$130;"You are an interplanetry
miner, explor-";CHR$130;"ing a 9 planet system,trying t
o collect";CHR$130;"enough ore for your company."
 1830  PRINT''CHR$132;"You can hyper-jump from 1 planet
s orbit";CHR$132;"to another, but a jump costs a day's
  ";CHR$132;"fuel & food and a number of jumps may  ";C
HR$132;"be required to get to distant planets  ";
 1840  PRINTCHR$132;"You also use food for each days mi
ning"
 1850  PRINT''CHR$134;"You will be given particulars ab
out the";CHR$134;"planet you are orbiting, and the lowe
r ";CHR$134;"half of the screen will give you an up ";C
HR$134;"date on your ship's supplies"
 1860  PRINTTAB(12,22)CHR$(136)"PRESS SPACE":REPEATUNTI
LGET=32
 1870  CLS:PRINTTAB(15,6)"CONTROLS"
 1880  PRINT'TAB(10)"J _ HYPERJUMP"
 1890  PRINT'TAB(10)"H _ HEAD FOR HOME"
 1900  PRINT'TAB(10)"L _ LAND ON PLANET"
 1910  PRINT'TAB(10)"1-9 LANDING THRUSTERS"
 1920  PRINT'TAB(10)"A _ ABORT LANDING"
 1930  PRINTTAB(12,22)CHR$(136)"PRESS SPACE":REPEATUNTI
LGET=32
 1940  CLS
 1950  ENDPROC
 1960  DEFPROCland
 1970  VDU23;8202;0;0;0;
 1980  TIME=0:now=0:speed=1:height=46:Y%=920:X%=960
 1985  IF gp(P)=1 THEN gravity=0.001 ELSE IF gp(P)=2 TH
EN gravity=0.002 ELSE gravity=0.003
 1990  CLS:PROCship
 2000  PRINTTAB(11,18)"miles"
 2010  PRINTTAB(11,19)"feet"
 2020  PRINTTAB(11,20)"speed"
 2030  PRINTTAB(11,21)"burn "
 2040  F$=STRING$(G,"/"):PRINTTAB(0,23);CHR$(129);"FUEL
: ";CHR$(145);F$;
 2050  oldY%=Y%
 2060  totalmass=33000
 2070  burnrate%=0
 2080  VDU5
 2090  REPEAT
 2100  burn$=INKEY$(0)
 2110  *FX 15 1
 2120  IF burn$="" THEN burnrate%=0 ELSE burnrate%=VAL(
burn$)*30
 2130  IF G=0 AND height>0 OR G<0 AND height>0 THEN bur
nrate%=0:FOR X=100 TO 1 STEP-1:SOUND1,-5,120+X,1:NEXT:s
peed=100:GOTO2440
 2140   burntime=(TIME-now)/100
 2150  now=TIME
 2160  IF burn$="A" OR burn$="a" THEN CLS:PROCtake
 2170  slower=(burnrate%/totalmass)*2*EXP(burnrate%*bur
ntime/totalmass)
 2180  height=height-speed*burntime-burntime*burntime/2
*(gravity-slower)
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Interplanetary MINER

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 2190  speed=speed+burntime*(gravity-slower)
 2200  burnt=burnrate%*burntime
 2210  fuel=fuel-burnt
 2220  IF fuel<=0 THEN G=G-1:fuel=1650:F$=STRING$(G,"/"
):PRINTTAB(0,23);CHR$(129);"FUEL: ";CHR$(145);F$;" "
 2230  totalmass=totalmass-burnt
 2240  IF height<0 THEN height=0
 2250  Y%=height*20+32
 2260  IF height<6 THEN PRINTTAB(27,18)CHR$130;CHR$157;
CHR$132;"CARRAIGE":PRINTTAB(27,19)CHR$130;CHR$157;CHR$1
32;"  DOWN "
 2270  PRINTTAB(16,18)INT(height)
 2280  IF height<20 AND height>6 PRINTTAB(0,15)CHR$(129
)"_____+_____"
 2290  PRINTTAB(16,19)(height*5280)MOD5280
 2300  PRINTTAB(16,20)INT(speed*3600)
 2310  PRINTTAB(16,21)burnrate%
 2320  IF burnrate%>0 THEN PRINTTAB(27,21)CHR$131;CHR$1
57;CHR$132;" THRUST"
 2330  IF burnrate%=0 THEN PRINTTAB(25,21)"
 ":SOUND0,0,5,0
 2340  IF burnrate%>0 THEN SOUND1,-8,245,3
 2350  PRINTTAB(16,21)burnrate%
 2360  IF height<6 THEN FOR X=8 TO 16:PRINTTAB(0,X)"
                                    ":NEXT
 2370  IF height<=2 AND height>1 THEN PRINTTAB(19,10)"+
":PRINT''TAB(12)"    .......":PRINTTAB(12)".........
...."
 2380  IF height<=1 AND height>0 THEN PRINTTAB(19,13)"+
":PRINTTAB(12)"................."
 2390  IF height<=0 PRINTTAB(12,14)".......+......."
 2400  IF height<=4 AND height>2 THEN PRINTTAB(19,8)"+"
:PRINT'''TAB(12)"    ........":PRINTTAB(12)"
  .": PRINTTAB(12)"................."
 2410  IF height<6  AND height>4 PRINTTAB(7,6)CHR$136;C
HR$129;"   LANDING GEAR ON   ";CHR$(137):SOUND2,-8,69,2

 2420  IF height<4 AND height>0.5 PRINTTAB(7,6)CHR$136;
CHR$132;"   STABILISER'S ON    ";CHR$(137):SOUND2,-8,81
,2
 2430  UNTIL height=0
 2440  IF speed>0.004 THEN  SOUND4,-15,100,70:PRINTTAB(
13,11);CHR$(141);CHR$(136);CHR$(129)"CRASHED!":PRINTTAB
(13,12);CHR$(141);CHR$(136);CHR$(129)"CRASHED!":PROCre

 2450  TIME=0:REPEATUNTILTIME=70:GOTO 350
 2460  ENDPROC
 2470  DEFPROCstarve
 2480  CLS:PROCship:PRINTTAB(2,7)CHR$(129);"Your crew h
ave rebelled because of   ":PRINTCHR$(129)"
 lack of food!":PROCre
 2490  ENDPROC
 2500  DEFPROCstrand
 2510  CLS:PROCship:FOR X=1 TO 30:PRINTTAB((RND(30)+2),
(RND(10)+4));CHR$(128+(RND(8)));".":NEXT:PRINTTAB(0,7)C
HR$(129);"You are stranded in space with no fuel":PROCr
e
 2520  ENDPROC
 2530  DEFPROCre
 2540  INPUTTAB(6,14);"Do you want another go (Y/N) ";Y
$
 2550  IF Y$="Y" OR Y$="y" RUN ELSE CLS:END
 2560  ENDPROC
 2570  DEFPROChome
 2580  CLS:PROCship:PROCsup:PROCmove
 2590  CLS:PROCship:PROCsup
 2600  IF J<31 PRINTTAB(0,5)CHR$(129)"You are met by a
fearful looking alien ";CHR$(129)"of no mean stature";C
HR$(136);CHR$(129);"It's the boss gulp!"CHR$(129)"He lo
oks at you and says 'What do you  ";
 2610  IF J<31 PRINTCHR$(129)"mean coming back without
a full cargo  "CHR$(129)"get back there at once!"
 2620  IF J<31 AND H<6 OR J<31 AND G<6 THEN PRINT'CHR$(
129)"He sighs and says 'But I can see from  "CHR$(129)"
your supplies you can't, Your demoted  "CHR$(129)"to  c
hief bottle washer!":VDU7:PROCre
 2630  IF J<31 THEN TIME=0:REPEATUNTILTIME=600:P=9:ENDP
ROC
 2640  SC%=SC%-m2:IF SC%>100 THEN SC%=100
 2650  IF SC%<=50 THEN PRINTTAB(10,10)"YOUR EFFICENCY I
S ";SC%;"%":PROCre
 2660  SOUND1,-10,97,2:SOUND1,-6,89,2:SOUND1,-9,69,2:SO
UND1,-9,69,6:SOUND1,-7,41,4:SOUND1,-6,89,2:SOUND1,-10,1
05,2:SOUND1,-9,69,6
 2661  IF SC%>50 THEN PRINTTAB(0,5)CHR$(130)"You enter
the bosse's office he's there"CHR$(130)"behind the desk
. WELL DONE! he says    "CHR$(130)"with miners like you
 this company could"CHR$(130)"go far. you're over ";SC%
;"% efficent."
 2662 IF SC%>50 THEN PRINT'CHR$(132)"You could go far i
n this company too By"CHR$(132)"the way Id like you to
meet my daughter"CHR$(132)"She smiles coyly and waves a
 slimy blue"CHR$(132)"tentacle at you!":PROCre
 2663 ENDPROC
```

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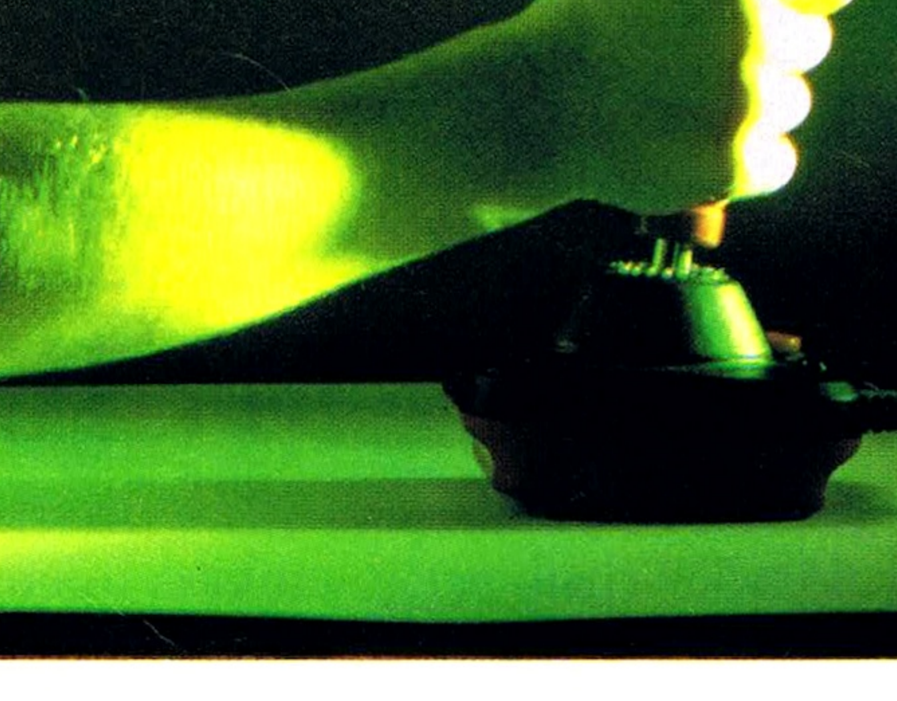

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Acornsoft are issuing a nationwide challenge to all Acorn Electron and BBC Micro users.

It's the challenge to join a new and exclusive group of computer games players: The Elite.

With 3-dimensional graphics, Elite is a game which is light years ahead of any other.

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Then, and only then, will you qualify to call yourself a member of The Elite.

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In Elite, all players start as equals.

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Trade with 2,000 planets in eight galaxies.

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ce among the Elite?

That cargo can be anything from foodstuffs to contraband. If you decide to trade in contraband, the rewards will certainly be higher. But so will the risks you take.

To ply your trade, you can dock at any of 2,000 planets in eight galaxies.

However, before you dock, you must use your wits to assess the planet's political climate and the perils which may be waiting for you.

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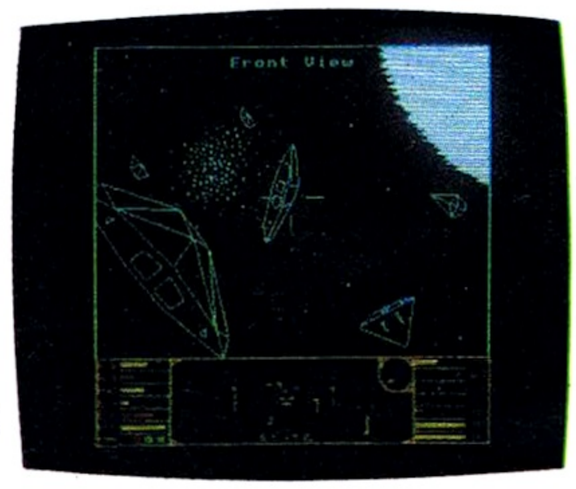
We're waiting to recognize your skills.

Achieving higher status in Elite will tax your skills to the limit. Which is why you must download your game onto cassette or disc each time you take a break from play.

When you reach the rank of "Competent" or higher, you should send us the secret code number revealed to you by your computer.

We will send you in return a special document which certifies your achievement. And you stand to win a valuable prize.



Are you ready to accept the challenge?

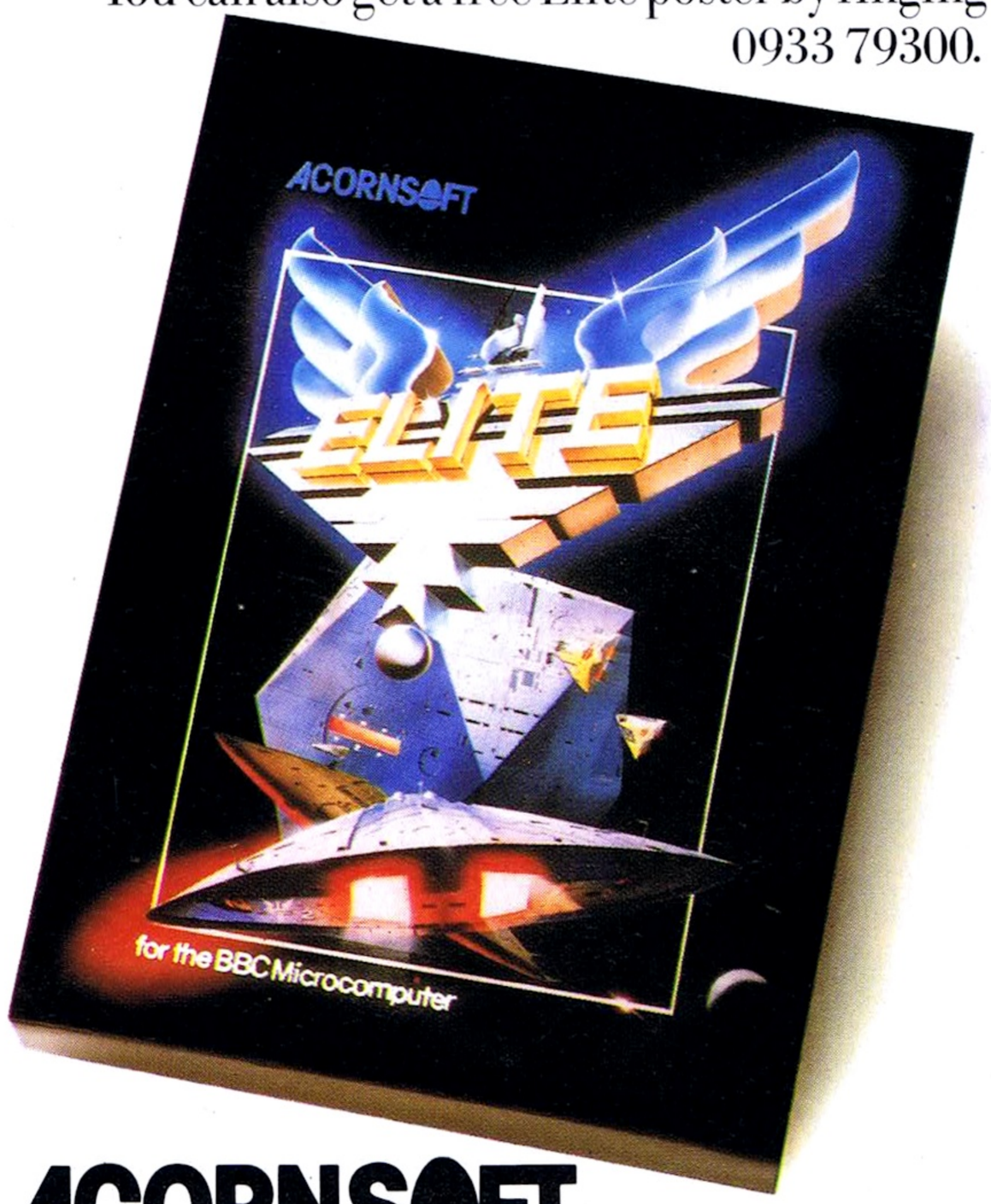
Elite is available on both disc and cassette for the BBC Micro and on cassette for the Acorn Electron.

With either, you will get "Elite: The Dark Wheel," a compelling novel which sets the whole mood of your adventure. You'll also get a flight training manual which will get you fit to roar into the unknown in your Cobra spacecraft.

Your Acornsoft dealer now has the entire package at £14.95 on cassette, or £17.65 on disc (for the BBC Micro) and £12.95 for the Electron. (For the address of your local stockist, call 01-200 0200.) Credit card holders can simply telephone 0933 79300 during office hours.

Alternatively, you can order by post from: Acornsoft, c/o Vector Marketing, Denington Estate, Wellingborough, Northants NN8 2RL.

You can also get a free Elite poster by ringing 0933 79300.



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D·O·M·A·R·K

Games with large prizes for completion are not new, but we've found one that stands out from the crowd.

When Dennis Wheatley wrote his famous thriller 'The Devil Rides Out' I bet the last thing he thought would happen to his novel was that it would be turned into a computer game. But that's exactly what Domark directors Dominic Wheatley (yes, he is related to Dennis) and Mark Strachan plan to do with it after they hit success with their massive new 'epic' for which they are giving a £25,000 reward to the first person to solve it.

Mark and Dominic's master plan to evolve this 10 games-in-one-pack adventure/arcade extravaganza started at the very beginning of this year when the pair knew precious little about computers. 'I had a Spectrum,' said Dominic 'but I knew absolutely nothing about them' added Mark. Both have learned an awful lot since, and the result is 'Eureka'.

Their idea to give away such a huge prize for solving this 300k modular game came to them during their work for an advertising agency where they were account directors when researching ideas for a prospective client. When they hit upon their own idea they decided it was so good that it was not going to go any further than their local pub, the Kings Head. This became the planning room for Eureka during its initial stages with meetings held regularly after work between the pair.

It wasn't long before Mark and Dominic's bosses thought that something was up and as a result the two left the company, CBH & Partners, amicably, to begin their quest for money to invest in their new software business.

In The Beginning

They decided to set up Domark (get it?) in an unconventional way as far as the software business goes. Most firms receive program ideas from programmers, but not Domark. No. 'Do' and 'Mark' (they're still arguing about whose name should appear first) thought of a program to market first.

Then they set about financing the project and commissioning expert programmers to work for them. Finding the money to pour into the venture turned out to be a trickier task than they at first thought. They took the traditional route via the City and approached merchant bankers and venture capitalists with a view to investing in them. But no-one wanted to know — because the sum of money they were after the financiers thought was too low, despite most people being immensely interested in the Domark plan.

'Eventually we managed to find someone who was interested in the project and prepared to invest some of his private funds in us,' explained Mark. Life was now looking up and through a



contact at Tigress Marketing they were soon put in touch with some Hungarian programmers — now the ball was rolling at last.

'We decided to take a marketing stance, as that is where our own expertise lay and we tried to find out what people really wanted from a game. We just looked at it all from a consumer viewpoint and ended up commissioning our own market survey.' This provided them with an extremely clear picture of the market and an invaluable tool with which to fashion Eureka.

The object of Eureka is to solve numerous adventure games using a carefully and cleverly written book of riddles which contains specially commissioned full colour illustrations by Young Artists in which clues to the games are hidden.

You're probably thinking, 'Oh, another adventure with a huge prize at the end.' But this is different. The planning, forethought, originality behind Eureka is extremely unusual and the end result is an original idea which will not only give many people ideas of getting rich quick, but also many hours of entertainment.

The modular game takes the player from the creation of the world from dinosaur times, to life with the Romans, onto Merlin, World War II and modern day wonders of 007. And the player has to save the world from the evil character Von Berg who is holding the world to ransom.

Eureka took about 10,000 man hours of programming, three months and a team of 20 to complete and will initially be available for Spectrum and Commodore 64 computers. It will be on sale mail order only, which is being handled by a well-respected mail order house Mailcom in Milton Keynes. And if you're worried about sending off your cheque/postal order for the product in case you are sent nothing in return Domark assured Games Computing that you can stop worrying now. They have admirably put the consumer first and are not waiting for your money to be able to develop the product. Thousands of the games are waiting to be delivered to customers.

In fact, Domark is so concerned that the credibility of the company is kept intact that Mark has issued an invitation through Games Computing to allow people to see for themselves that Eureka tapes are now being stored in the Mailcom warehouse. Eureka costs £14.95 which is a little more expensive than most games, but then most games don't give you the opportunity to win £25,000, and you get 10 games to play, not just one.

The competition closing date is 31 December 1984 which gives you all a good, long time to solve the tricky riddles that you'll be confronted with. If you think you have solved the ultimate riddle you must ring a special ansafone number which will record all claims strictly in the order in which they have been phoned in.

And if no-one succeeds in winning the £25,000 outright the reward money will be shared out between the players. Eureka incorporates standard software protection routines but Domark are relying heavily on every player's integrity not to copy the game. They are certain that every person attempting to solve the riddles will be so intent on winning the reward money that they will not want to share their discoveries with others. You cannot solve the games by playing the program alone, you must use the book of riddles too and this has been specially printed so that it is impossible to photocopy it. If you stake a claim for the money you must also have proof of purchase otherwise your claim will be invalid.

Eureka is being launched at this year's Personal Computer World Show and will be on sale from then on. Just write, enclosing your cheque or postal order to Domark, 228 Munster Road, Fulham, London, SW.

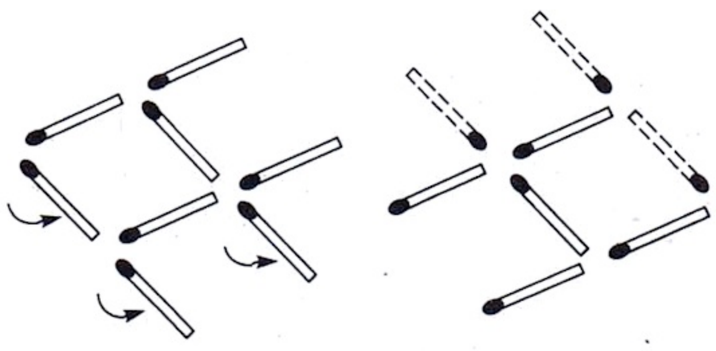
We saw the prototype of Eureka, in fact we saw the first working Commodore 64 version (which, incidentally will be able to be turbo loaded) and it certainly looked very interesting even in that form. Much time has been spent on creating the graphics for Eureka by a team of graphic artists and the result is extremely worthwhile. Much of the graphics used are in real-time and have been cleverly designed to give the effect of not only movement but also perspective, so that monsters and objects alike appear to be looming horribly closer than you feel is safe for you.

Even if you don't win the £25,000 prize the game is definitely worth playing and will give you plenty of fun doing so. And if you think it stretches your pocket too far, how about asking Father Christmas to pop it in his sack of presents?

PUZZLES

ANSWERS

1. WHITEBAIT



2. SPAGHETTI FALKHESE

GAMES COMPUTING

PRINTED UPSIDE DOWN

3. EGGS A LA GRACQUE

Two minutes — what else?

4. FISH FINGERS

1 x 1 x 1 = 1
1 ÷ 1 ÷ 1 = 1
1 + 2 + 3 = 6
1 x 2 x 3 = 6

5. WIENER SCHNITZEL

5		6	3
2	8		
	1	0	4
7			9

6. BARBECUED SPARE RIBS

If you're lucky enough to own a Dansette, or your Hi Fi is just a stereogram, you'll see the different record speeds are 16, 33.3, 45 and 78.

Anyone got a 16 rpm record?

7. SALAD BELLE HELENE

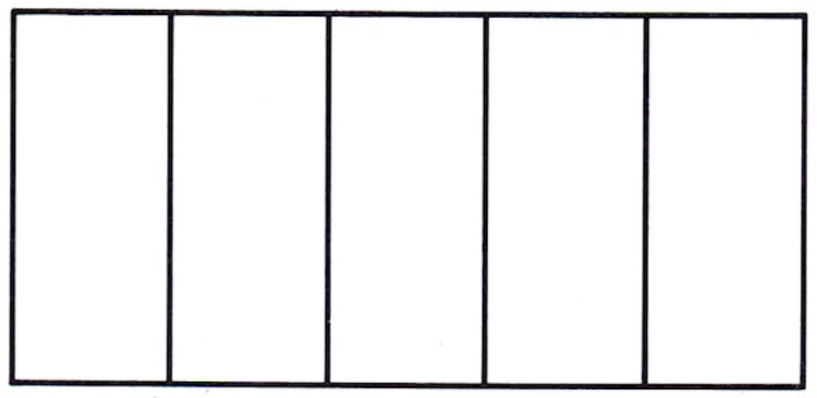
There is only one answer that makes any sense, and that is -

MORSE CODE

and that doesn't make much sense.

8. YORKSHIRE PUDDING

For the benefit of the person who actually had to look -



Perhaps Red Herring should have been on the menu.

9. BOMBE SURPRISE

The letter missing is ''E''. Why? They are the first letters of the planets in our solar system — stretching out from the sun. In my best Patrick Moore voice . . .

SUN MERCURY VENUS EARTH MARS JUPITER SATURN URANUS NEPTUNE PLUTO



10. COFFEE BREAK

Good old Pete — he deserves his prize. The theme is motor cars — in particular their registration marks. After Y of course came A — the Government did us out of Z, as well as I and Q and O and U. As for the other, 1963 was when it all started — with A as suffix. By 1983, only 20 years later they'd got to the end and rather than use the letters they forgot, they started again with A — as a prefix.

11. COMMERCIAL BREAK

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

SPECIAL SUPPLEMENT
GAMES COMPUTING
TOP 100 1984

Chart TOPPERS

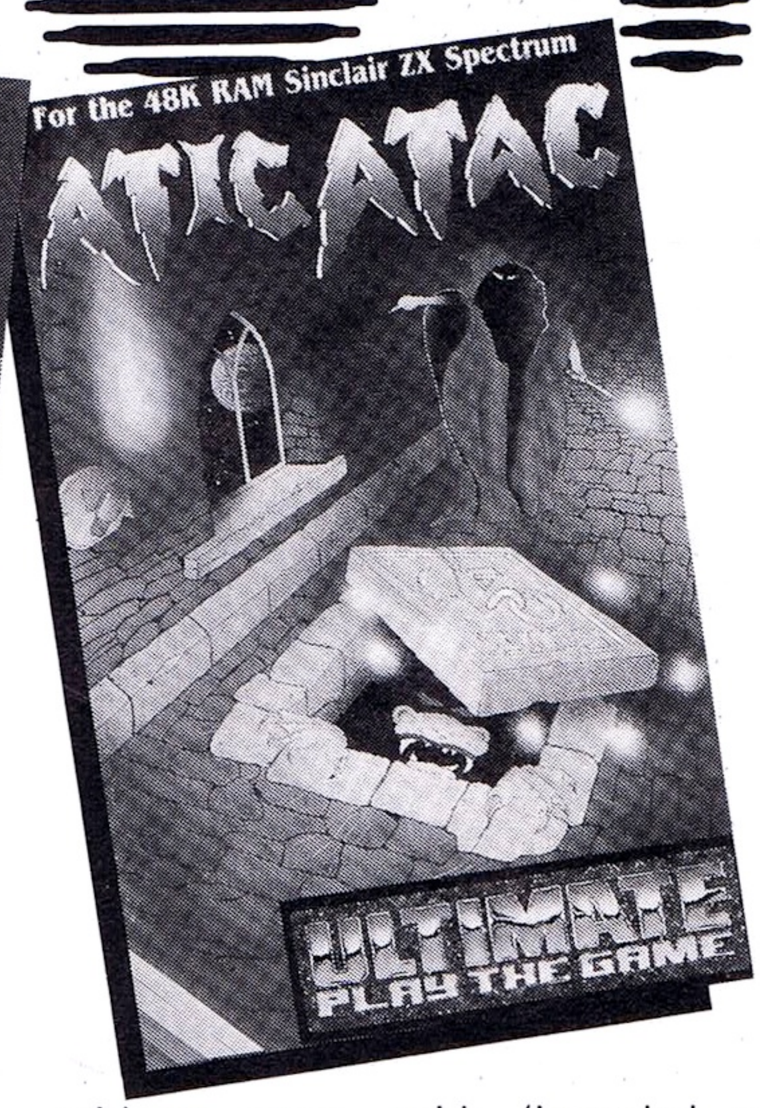
I know what you're saying — why isn't such-and-such in the Top Ten (or even the Top Hundred). Well, we can't please everyone, so tough.

There are many games like "Sabre Wulf" and "Tornado Low Level" that will certainly figure in an All-Time Top Ten in six months' time, but they haven't been out long enough yet.

Others, like "Trashman" and "Jammin" were wonderfully different programs that would definitely have made the Top Ten, if only ten was a bigger number.

So, like them or not, here they are. . .





1. Jet Set Willy

It was almost inevitable that Matthew Smith's latest and most extravagant creation "Jet Set Willy" would have pride of place in most people's all-time chart. But what magic formula has virtually guaranteed any subsequent Matthew Smith game megahit status even before release?

Originality

Bill Hogue's "Miner 2049er" was the very first platform game, beating "Manic Miner" to the shops by some months. Nevertheless, Smith's original treatment of an existing game concept makes "Jet Set Willy" the definitive platform game. The transition from the level 1-level 2-multi-screen-game to the go-where-you-like approach meant, for the first time, that players could explore the many rooms of Miner Willy's cliff-top mansion in almost any order they liked (although not always with the desired results). It should also be noted that Software Projects were the first to introduce an anti-piracy card with "Jet Set". It would be interesting to know how effective it proved to be.

Strategy

As with most multi-screen games, each room in "Jet Set Willy" can only be successfully negotiated with careful planning. But what makes "Jet Set" special is that the order in which the rooms are visited is not predetermined. Another feature which lifts "Jet Set" above other games is that the action in certain locations is not self-contained, meaning certain places can only be reached via a different entrance even though they are visible at the time.

With "Jet Set Willy", Matthew Smith has taken a platform game, added a large portion of his bizarre sense of humour and garnished it with intrigue and adventure to produce the most palatable game yet for the Spectrum.

2. 3D Ant Attack

Sinclair must be rueing the day when they sent back a demo videotape of a recently-finished programme called "3D Ant Attack" without even looking at it because they didn't have a video recorder on which to view it. Soon after that, Sandy White flew to Southampton to sign a contract with Quicksilva that was to make "Ant Attack" Game of the Year and Sandy White a software celebrity.

Originality

The key to Ant Attack's success lies in the "Softsolid 3D" way in which Antescher appears on the screen. White recreated the whole city in three dimensions inside the computer. The television screen is a moving window through which buildings and ants are clearly visible from a choice of four different viewing angles.

"Ant Attack" has built up a cult following so that a month rarely goes by without some quirk (intended or unintended) being reported in letters columns. Avid "anters" have discovered small rooms with a window into which your hero or heroine can be taken, yet more people have profited from the discovery that ants can be used as a springboard.

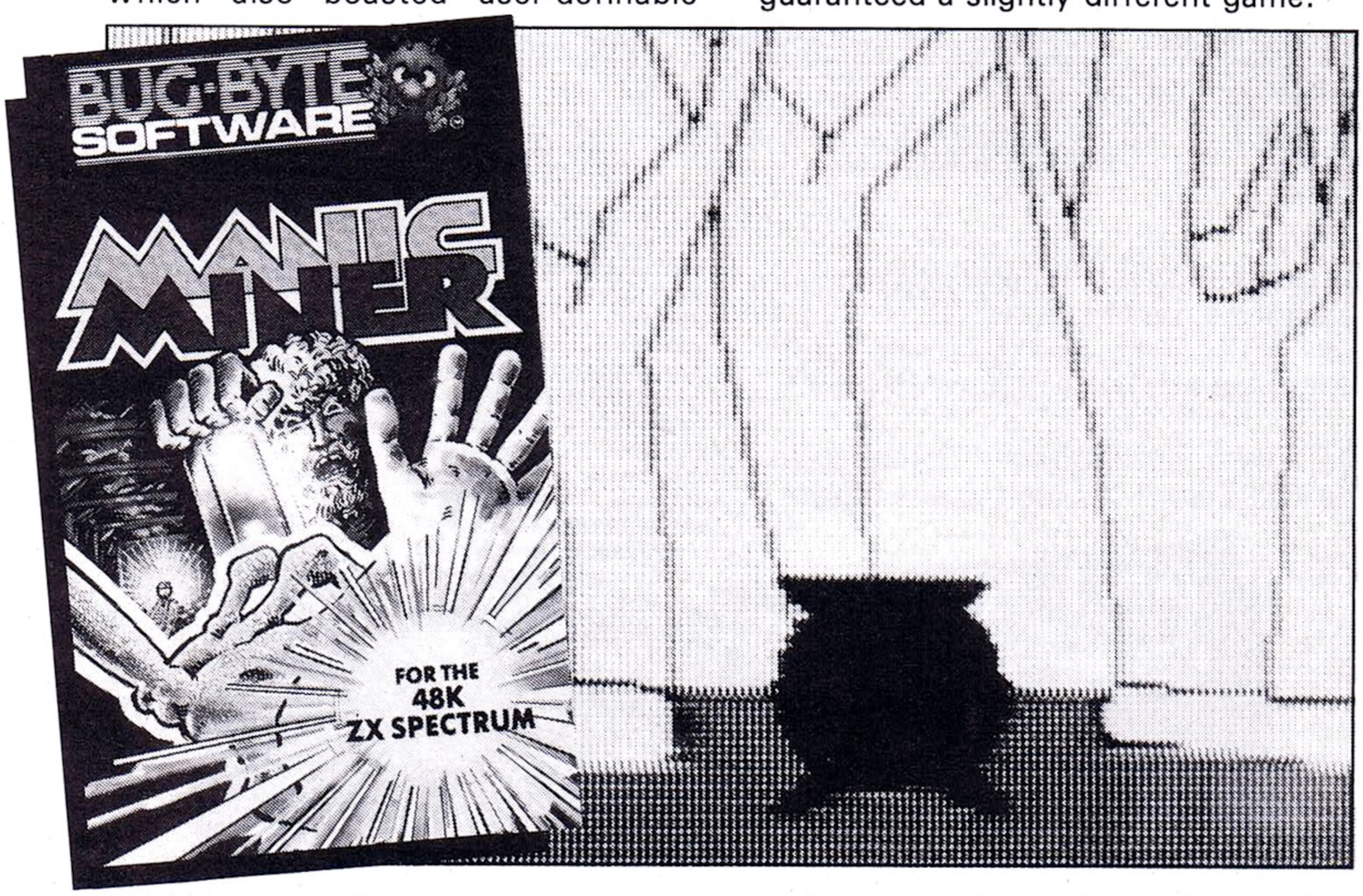
"3D Ant Attack" has spawned many clone-like games, but still remains one of the most outstanding and — for its time — original games ever produced.

3. Atic Atac

The term "arcade-adventure" is widely, and often inaccurately, used to describe a game which supposedly draws on the elements of both subspecies of the family.

Sadly, there have been very few true arcade-adventures on the market, but the one after which the phrase was actually coined is "Atic Atac". When

''Atac'' was released last Christmas, its publishers, Ultimate, had already built up a huge following with such hits as ''Jet Pac'' and ''Cookie'', which used high-quality software sprites giving a refreshingly un-Spectrum-like feel to their games. Ultimate continued in this vein and introduced some new sound and movement routines in ''Atic Atac'' which also boasted user-definable graphics at their best.



''Atic Atac'' was just about the first game, together with ''Ant Attack'' (see above) where a player actually had to make a map, in this case a three-storey mansion, to stand any chance of finding the three parts to the Golden Key. The rooms are all inter-linked with a series of secret passages and staircases and are riddled with mummies, draculas and skeletons, to name but three.

Only by dedicated exploration and a degree of lateral thinking could you succeed in escaping the mansion. A combination of adventure and a severe case of zapping the monsters makes ''Atic Atac'' good clean fun for all the family!

4. The Hobbit

Tolkien could have had no idea what would happen to his book fifty years later. Phillip Mitchell bought Bilbo and his friends to life as they wandered about Wilderland with, and sometimes without, your control!

New Ground Broken

Prior to the advent of ''The Hobbit'', keyboard interaction between adventure and adventurer was limited to simple verb/noun inputs rarely of more than three or four words. All this changed with the advent of ''Inglish'' billed as the most sophisticated language recognition program yet developed on any microcomputer and, refreshingly, it was everything it was cracked up to be. Players could now enter sentences like ''Carefully take the lamp and the rope out of the barrel and go east'' and with such versatility a new breed of computer adventure was born.

The other, no less important, breakthrough made in ''The Hobbit'' called ''animaction'', meant that each character and creature was capable of performing a wide range of actions and of making decisions based on what was happening. This meant that each time you played ''The Hobbit'', you were guaranteed a slightly different game.

A degree of pseudo-real-time added to the sense of reality that prevails in this classic adventure which has since, justifiably, become a standard by which others have since been judged.

5. Commodore International Soccer

It is rumoured that Commodore wanted to sell advertising space on the perimeter boards that line the pitch in ''International Soccer''. In the end, only in-house advertising appeared on the boards but it is precisely this kind of attention to detail that makes a good game great.

''International Soccer'' has sold in very large quantities and deservedly so, because it broke new ground in a number of directions at the same time:

1. Firstly, many K-conscious consumers and programmers were given a sobering lesson on what can be achieved when one is limited to 16K of memory.
2. Secondly, many software manufacturers and distributors were given an equally acute education of the joys of vertical integration (making their own components) which allowed Jack Tramiel to offer cartridge-based games retailing at £9.95, knocking £20 off traditional Rom game prices.

The other main reason ''International Soccer'' has sold so well is simply because it is the most realistic and accessible football programme on the market with large, well-designed expanded sprites moving on a smooth scrolling backdrop. You know you're viewing the work of a real professional when the captain of your team proudly steps up to take the trophy from Commodore's pixel princess.

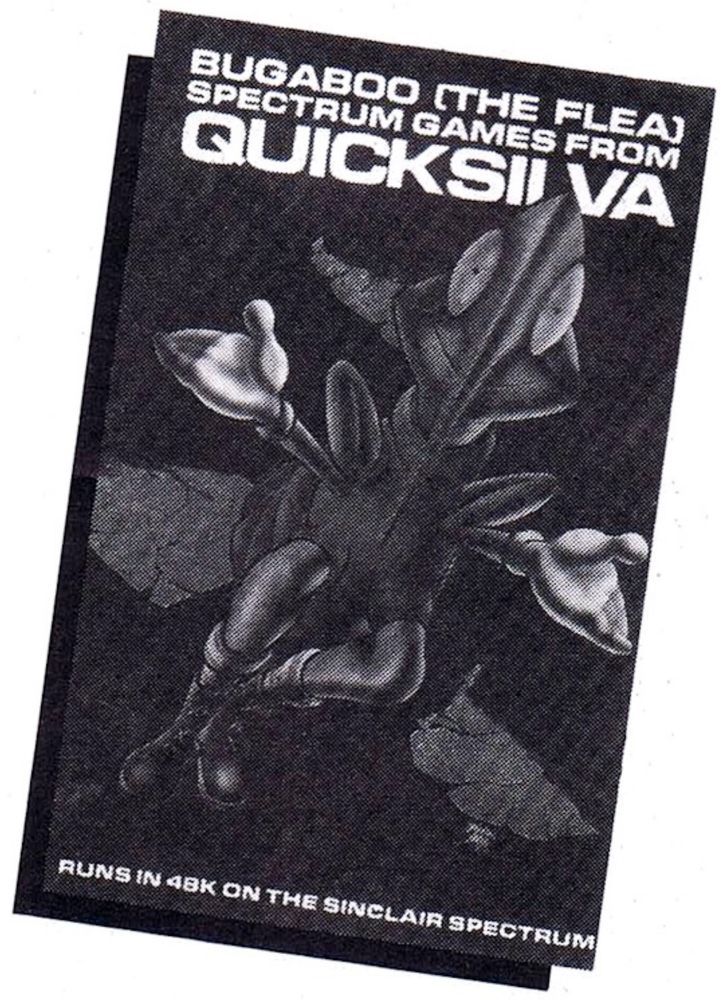
6. Manic Miner

Allowing for the fact that ''Miner 2049er'' was the sacred, not to mention lucrative, source from which all platform games flowed (or should it be gushed?), ''Manic Miner'' started an epidemic of platformitis that very few game designers seem to have been inoculated against.

Such everyday items as mutant telephones, bouncing cheques and man-eating toilets frequent twenty screens of Dali-esque mayhem, making ''Manic Miner'' a paradise for ardent arcaders.

Another reason the Bug Projects — sorry, Software Bytes — hit game is well placed in the Top 100 is that when ''Manic Miner'' was released, the Spectrum had about as much quality software support as Tranmere Rovers. If ever a game persuaded people to buy the computer so that they could play it, this was it — the only really good reason for owning a Spectrum hitherto was ''The Hobbit''.

''Manic Miner'' reflected not only Matthew Smith's programming skill but also a perverse sense of humour which blossomed in ''Jet Set Willy''. One wonders what Smith has up his sleeve for this Christmas!



7. Pole Position

One of the most eagerly-awaited games which made the transition from arcades to home computers was the Grand Prix simulation game ''Pole Position''.

This was one of the first cockpit arcade games where the player actually sat inside a simulated car where the screen was the front windscreen and a real steering wheel replaced joysticks or

Chart TOPPERS

buttons.The heightened involvement that this kind of game gave combined with state-of-the-art perspective graphics made ''Pole Position'' an arcade hit and more or less ensured that it would prove just as popular with computer owners.

Originally for the Atari 400/800 computers and later for the CBM 64 (and now for the Spectrum), ''Pole Position'' was one of the first games with first person graphics where the player was ''looking along the track'' rather than viewing proceedings from directly above.

Billboards and other drivers flash past with believable sound effects as you eat up the track and a scrolling background of snow-capped mountains complete the picture of a game which is so gripping that you find yourself physically leaning into the corners.

8. Booga-Boo

Since Noland Bushnell's ''Pong'' (the original computer game) there have been very few others that could justifiably be desribed as wholly original. ''Space Invaders'', ''Pac-Man'', ''Frogger'', ''The Classic Adventure'' and ''Miner 2049er'' were all ''firsts'' that most people will have either played or seen. But another, more recent game, ''Booga-Boo'', is worthy of the same accolade.

The simplest ideas are the best and this one is no exception because the game involves you in little more than helping a flea escape from an underground cavern before becoming the latest gourmet attraction for the Fire Dragon or the Venus Fly-Traps.

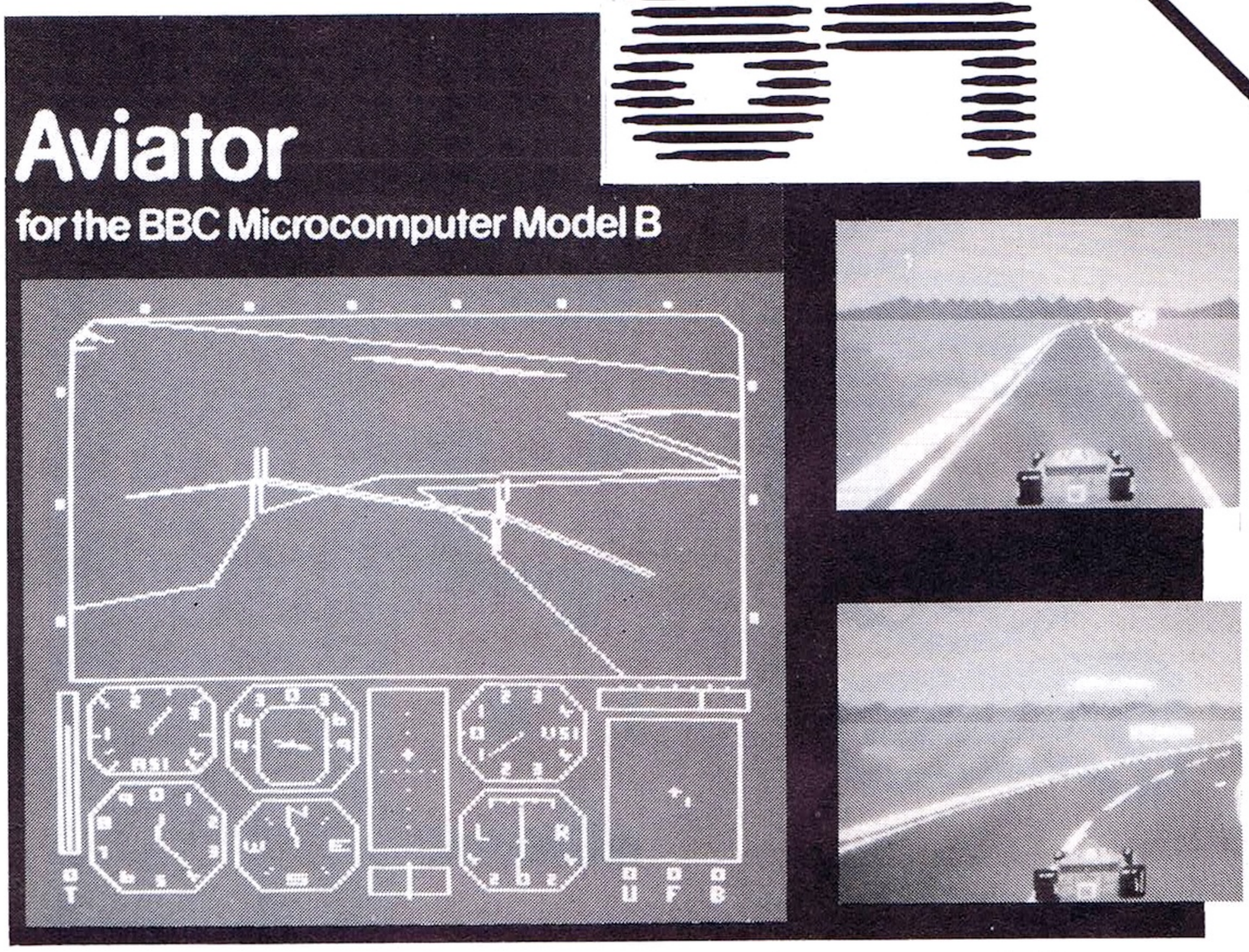
'''Booga-Boo'' has many outstanding and original features worthy of a mention. Firstly, the use of joysticks to control the distance and height of the fleas jumps is inspirational.

The graphics, reflecting their European origins, are well-designed and colourful with the careful attention to detail which is ever-present in top-class games.

The game itself can be played almost immediately — no ten-page instruction manual here — and as such is instantly appealing which is a real benefit when a game is reviewed by a harrassed hack with twenty games to review in one evening.

This music, although simple, is complimentary to the general feel of the action which is a refreshing change from the gory sound effects that plague some games.

In finishing, it must be emphasised just how original ''Booga-Boo'' is — it is worth noting that nobody has dared to make a ''Booga-Boo'' lookalike, something that occurs with all the other originals just mentioned.



9. Aviator

It is just as well that Acornsoft chose to go for a Spitfire rather than a larger, less manoeuvrable aircraft, because flying under bridges is not exactly a pilot's picnic.

The BBC computer has an even smaller memory than the British electorate which makes ''Aviator'' even more impressive. Set in a 15-mile square 3D world there is little scenery over much of the area, but a river, complete with bridge, and a town (Acornsville, of course) suddenly appear in the distance.

''Aviator'' does not suffer at all from being one-coloured, as the dashboard display showing airspeed, height, rate of climb, etc., are all well laid out and easy to read.

Worthy of special mention are the engine sound effects which vary in volume and pitch depending on which manoeuvre you're doing at the time. Only when you fly towards Acornsville are the real quality of graphics revealed as a dot becomes a series of dots which become buildings that you will no doubt crash into, although the Red Barons amongst you will score points for flying in between them.

Points can also be gained for exhibiting certain flyings skills such as flying beneath the bridge over the river — not easy! With a 28-page manual and keyboard overlay, ''Avaiator'' is a worthy contender for the best program ever for the Beeb.

10. Chequered Flag

''Chequered Flag'' was another watershed in the constant rise in the quality of Spectrum games during the past twelve months. Its graphics were bettered only by Atari's ''Pole Position'' but it still remains a masterful piece of programming on a graphically-retarded machine.

What ''Chequered Flag'' lacks in graphics is more than compensated for in excellent game design and screen layout. A clearly-displayed dashboard with temperature, fuel, RPM, speed and gear indicator gives the player enough to think about without the tiny detail of keeping the car on the track! If you continually over-rev the engine, it will overheat, so here is a game where driving flat out does not always bring results as the programme, as in real life, restricts you within the parameters of the engine's capabilities.

Just when you thought you knew how to drive without blowing up your engine, you discover glass and oil on the track, no doubt left there by another, less careful driver, and before you know it you have skidded off the track into a telegraph pole.

With ten tracks and three cars to choose from and so many potential difficulties to overcome, including hills, it will be a while before the game design and play depth of ''Chequered Flag'' is surpassed.

by Dave Bishop

TOP 100

1984

CHARTBUSTERS

At last! This is the GAMES COMPUTING Top 100 software chart.

We've been putting our brains together here at the GC office (and there aren't many of those I can tell you) to compile a chart of the 100 games we considered to be the best of those that have so far been around in 1984. You can use it, if you like, to complete your own software library by using the GC chart as a guide to getting the best software.

Deciding on the final running order of the chart was a very hard job indeed and some of us almost came to blows in the process, because of course everyone has his or her own favourite games for varying reasons.

In compiling the chart we took into consideration things like how well the games have sold, how original the games were (in fact, this was the most important consideration of all), the standard of the games' presentation and of course, value for money. How well the games played was also, naturally, a major factor.

We hope you enjoy reading our **1984 Chartbusters** and the relevant features surrounding it.

1	JET SET WILLY	SOFTWARE PROJECTS
2	3 D ANT ATTACK	QUICKSILVA
3	ATIC ATAK	ULTIMATE
4	HOBBIT	MELBOURNE HOUSE
5	INTERNATIONAL SOCCER	COMMODORE
6	MANIC MINER	SOFTWARE PROJECTS
7	POLE POSITION	ATARI
8	BUGABOO	QUICKSILVA
9	AVIATOR	ACORN
10	CHEQUERED FLAG	PSION

11	REVENGE OF THE MUTANT CAMELS	LLAMASOFT
12	DALEY THOMPSON'S DECATHLON	OCEAN
13	JET PACK	ULTIMATE
14	ALICE IN VIDEOLAND	AUDIOGENIC
15	JACK AND THE BEANSTALK	THOR
16	BEACHEAD	US GOLD
17	TORNADO LOW LEVEL	VORTEX
18	GUARDIAN	ALLIGATA
19	DEMOLATOR	ACORN
20	SON OF BLAGGER	ALLIGATA
21	FIGHTER PILOT	RICHARD WILCOX
22	MATCH POINT	PSION
23	FLIGHT SIMULATOR	PSION
24	GYRUSS	PARKER
25	JAMMIN	TASK SET
26	GHOULS	MICRO POWER
27	MEGAMANIA	ACTIVISION
28	MUGSY	MELBOURNE HOUSE
29	SABRE WULF	ULTIMATE
30	ATTACK OF THE MUTANT CAMELS	LLAMASOFT
31	SHEEP IN SPACE	LLAMASOFT
32	CHOPLIFTER	BRODERBUND
33	BUZZARD BAIT	TOM MIX
34	TRASHMAN	NEW GENERATION
35	OSTRON	SOFTEK
36	SPLAT!	ISL
37	TRANS AM	ULTIMATE
38	STONKERS	IMAGINE
39	NIGHT GUNNER	RICHARD WILCOX
40	COOKIE	ULTIMATE
41	TENNIS	ATARI
42	URBAN UPSTART	RICHARD SHEPHERD
43	UGH!	SOFTEK
44	LUNAR JETMAN	ULTIMATE
45	TIMEGATE	QUICKSILVA
46	POOL	DYNABYTE
47	HUNCHBACK	OCEAN
48	SPACESHUTTLE	MICRODEAL
49	Mr WIMPEY	OCEAN
50	ALCHEMIST	IMAGINE
51	VALHALLA	LEGEND
52	FALCON PATROL	VIRGIN
53	HOVER BOVVER	LLAMASOFT
54	COLLOSSUS CHESS	AUDIOGENIC
55	ZZOOM	IMAGINE
56	SCRABBLE	PSION/LITTLE GENIUS
57	GRIDRUNNER	LLAMASOFT
58	ARCADIA	IMAGINE
59	PLANETOIDS	ACORN
60	AIRSTRIKE 2	ENGLISH SOFTWARE
61	ORBITER	SOFTEK
62	ZALAGA	AARDVARK SOFTWARE
63	KILLA GORILLA	MICRO POWER
64	FRAK!	AARDVARK SOFTWARE
65	METAGALACTIC LLAMAS	LLAMASOFT
66	CHUCKY EGG	A and F SOFTWARE
67	CYLON ATTACK	A and F SOFTWARE
68	CYBERTRON	ANIROG
69	CHINESE JUGGLER	OCEAN
70	DECATHLON	ACTIVISION
71	MICRO OLYMPICS	DATABASE PUBLICATIONS
72	Q* BERT	PARKER
73	STARSHIP COMMAND	ACORN
74	FREEZ BEEZ	DYNABYTE
75	PITFALL	ACTIVISION
76	H.E.R.O.	ACTIVISION
77	PARSEC	TEXAS INSTRUMENTS
78	HUSTLER	BUBBLE BUS
79	PENETRATOR	MELBOURNE HOUSE
80	MOTOR MANIA	AUDIOGENIC
81	737 FLIGHT SIMULATOR	ANIROG
82	KRAKATOA	PSS
83	SCUBA DIVE	DURELL
84	PAC-MAN	ATARI
85	RADAR RAT RACE	COMMODORE
86	FRED	QUICKSILVA
87	INFERNO	RICHARD SHEPHERD
88	WACKY WAITERS	IMAGINE
89	ANDROID 2	VORTEX
90	1994	VISIONS
91	SAVAGE POND	STARCADE
92	BEAR BOVVER	ARTIC
93	PARATROOPERS	RABBIT
94	ADVENTURE-MANIA	INTRIGUE
95	TRIAD 64	SUMLOCK
96	SPACE PILOT	ANIROG
97	SUPER PIPELINE	TASK SET
98	FIRE ANT	MOGUL
99	BLUE MAX	SYNAPSE
100	PEGASIS	AUDIOGENIC

TOP PROGRAMMERS

The computer software industry has been likened to the record industry. True, it shares some similar grounds: young people, charts, even the recording media is the same, and record companies are producing games. The big difference is personalities. There are a few big names and the rest disappear into limbo.
Games Computing sent Mike Roberts into deepest Slough to see what the programmers at a typical software house get up to.

The software house in question is Romik. Romik has been in operation for the past few years, starting with some very good VIC games and now covering six other computers as well.

I arrived at Slough British Rail station none the worse for wear after the rigours of Paddington. Mike Barton, Romik's founder and Managing Director (the MIK in Romik), turned up in his Rolls and whisked me back to Ajax Avenue — the home of Romik software.

Mike Barton got into computers when his Mattel Intellivsion kept breaking down. The local Dixons offered him a VIC 20, which was the latest wonder machine (you know — bags of memory, hi-res, colour, sound). Soon afterwards he joined the fledgling Rabbit Software. After seeing the poor quality of games on the market he left Rabbit, taking one of their programmers, and formed Romik. The company has since gone from strength to strength.

Once at Romik I met three of their programmers:

Darren Hall is an eighteen year-old who is starting a year at Marconi's in St. Albans after just leaving college. After his year there he will be moving on to the University of Essex to do Electronics.





Darren has been in at the start of Romik with such best selling VIC games as Multisound Synthesizer, Space Fortress, and Space Escort.

What kind of start do top programmers get off to: ''Well, I started about two and a half years ago on my school's RML 380. It wasn't very good, you could just about get it to print up your name and that was it!''. ''I got a VIC soon afterwards and things went on from there''.

Some programmers spend a long time every week on their masterpieces, and Darren? ''Only about 12 hours a week on and off, but that's only during the holidays. Whilst I was at college I did very little''.

How much does a top programmer make for a hit game like Multisound Synth? ''You can make quite a reasonable amount. I've got a two litre Capri and a good hi-fi, but the insurance on the Capri is double the price I originally paid for the car!''.

Steve Clark is the old timer amongst the three programmers that I saw. At 20 years of age he is older than a lot of commercial programmers.

Steve actually owns 10% of Romik and was originally with Rabbit, but left with Mike Barton. He is the author of Myriad, which was a best selling game for its time. This year he has started working full time at Romik, handling organisation as well as writing in-house development software. Up until this year Steve was at Imperial College taking a degree in Computer Science.

Steve started his life with computers back in 1978 when reading one of the first British computer magazines and an article by Donald Alcock author of Beginning Basic. ''My school then got a Commodore PET, and I got one as well''.

''Myriad was written on a PET using Supersoft's MIKRO assembler — it filled up three PETs worth of memory!''.

''I do very little actual programming work myself now due to my involvement in the organisation of Romik, it's probably only about two hours a week''.

With all this work going on does anybody have any time for recreation? ''What's recreation?'' Steve replies. ''There's not much time for anything other than working. I can go from 10 am to 10 pm in a day''. ''I used to work at weekends, but you can work too hard'', ''I like playing with my Missile Command arcade game and I've got two cars''. The cars Steve refers to are a Capri (Capris seem to be almost obligatory at Romik), and a Jaguar XJ12 which is currently having modifications made to it.

Steve likes racing and cars, which is very much like Mike Barton who used to own a Nova (the sports car, not the Vauxhall) and likes pottering around in his Rolls.

Chris Ratcliffe also writes for the VIC 20, although he converted some of his games to run on the Lynx. Power Blaster and Atom Smasher both are for the VIC and the Lynx. Floyd's Bank was written only for the Lynx.

Chris likes the larger Lynxes, ''the 128K model is very good, especially with disks. Disk accessing is as good as a BBC''. ''It is a real shame that they aren't sold any more''.

Next year Chris is entering Birmingham University to do a degree in Physics. He is taking this year 'off' to write computer games full time at Romik. Chris keeps the most normal hours of them all — 10 am to 6 pm.

Chris' latest project is one that will spread Romik's name over 15 million breakfast tables. The game features Dunk of Weetabix fame fighting off the nasty Titchies. Chris has written the VIC version. The game has excellent graphics and features Dunk throwing missiles at the evil Titchies that crawl down the screen invader-like.

The game is not going to be sold through shops at all (this is a game that took seven months to develop!). The game will only be available by sending in tokens to Weetabix, along with £3.75 (or £2.75 if you are a Weetabix club member). The game is aimed at the younger sector of computer users and is very good.

Does Chris eat Weetabix? ''No, I rarely eat any breakfast at all, though there is always a packet in the house''.



ROCKMAN FILES



This month our Simon takes a rest as we have the latest report on the new machine that everybody's been talking about

Is Commodore's new wonder machines really going to take the world by storm? Mike Roberts has been putting the new Commodore C16 under the microscope and wondering if it is too little too late.

The Commodore C16 is in the same type of box that has clothed Commodore 64s, and VICs for the past few years. The colour scheme is rather different to the CBM 64 and looks like a photograph of one printed in negative form — gunmetal box and a grey keyboard.

The ports around the back of the box show a departure from the 64/VIC stable which were almost identical. What's missing is the RS232C interface (nobody will miss that) and the parallel user port (I will miss that as I drive my Oric printer on it!).

Some things have been changed: The cartridge/expansion port has been reduced in size to stop people shoving CBM 64 cartridges into a C16 — although why anybody would want to do this is beyond me. The two D9 connectors of the CBM 64 have been dispensed with and replaced with mini DIN connectors. This means you can only buy Commodore's joysticks. This is a very odd thing to do, Commodore's joysticks are awful. It is the work of a minute to make an adaptor to use any joystick but this really should not be necessary. There is also one other problem with joysticks which I will come to later.

The Cassette recorder socket is also a mini DIN connector, this is because the C16 cassette deck is different to the old tape decks. This dosen't really matter with the C16 as cassette decks get supplied with the computer.

Thankfully Commodore have left the serial BUS, and the audio/video connector alone. All Commodore's existing peripherals will work straight off, so there are already printers and disk drives available for the computer, this is a welcome change from the usual state of affairs in the computer industry where the user has to wait up to two years for any peripherals at all.

The keyboard is up to Commodore's usual excellent standards and probably represents most of the component cost of the machine (it did on the CBM64 and VIC). Changes made from the VIC/64 keyboard are four seperate cursor keys, an escape key, and various modifications to the layout of the keys to facilitate the changes. The cursor keys are now on the top right of the keyboard. This is confusing to a user that is experienced with the Commodore keyboard of old but it is extremely logical for the first time user.

Commodore's big TED

Moving on to the internal hardware reveals some surprises. Most of the insides is driven via one big chip. Called either the 7501 or the TED chip depending on your inclination, it combines a 6510 processor at 2MHz with a sound generator, timers, input/output, memory banking, and graphics generation. In all it has 33 registers to control things (in order of graphics ability: the Spectrum has 1, MSX has 6, the BBC has 17, the Commodore 64 has 47,).

Sound ability is as good as any other computer although it only has two channels. Graphics ability is superb. It is natural that this and the Plus 4 will be compared with the Commodore 64 as there are a lot of similarities in spec, the graphics are different and there are currently two schools of thought as to which is better the CBM64 or the C16.



The big difference is sprites. These wonderful things that make games programming easy have been chopped from the C16. In their place is a software simulation of them from Basic where you can extract an area of the screen and store it in a string. This string can then be recalled and put back on the screen at any point. There are also other options to manipulate these objects, but they are not sprites, a large 120 byte object takes about a quarter of a second to write to the screen.

Great Graphics

The trade-off against the sprites is more colour. The screen of the C16 can have 128 colours (121 excluding black) made up of 16 colours and 8 luminence levels and flashing. Screen size is 40x25 text with four other graphics modes. The other graphics modes are 320x200 with the previously mentioned 128 colours being used in a colour map system, and 160x200 in a multicolour form. Both hires screens have an option to leave four text lines at the bottom of the screen. There are some other graphics modes and options but these are only available by POKEing and I don't have any detailed information on them.

The Basic is wonderful. It is the best Basic on the market, it beats the Amstrad, QL, Enterprise, and all the other 'new wave' computers. Whether this Basic is better than BBC Basic is a matter of personal preference, I think it is but there is bound to be somebody who disagrees with me.

This Basic is called Basic V3.5. The Basic in the 64 and VIC is V2.0, the Basic in their business machines is V4.0, this version has the added commands of 4.0 plus loads of extra commands, instructions, and functions to handle all the extra facilities. This is quite a departure for Commodore who haven't changed their Basic for donkeys years in the name of 'compatibility'.

Well the C16 has an excellent Basic with structuring (DO/LOOP/WHILE/UNTIL), the most comprehensive set of graphics commands that I have ever come across, and a new extended screen editor making it the easiest computer that I have ever seen to program.

Basic Rundown

The extensions to the screen editor involve a lot of escape codes and the correction of a pseudo-bug (I call it a pseudo but because nobody is sure whether it is a bug or not — it has been present since the first PETs were sold some seven years ago). The escape codes are a series of letters that you press after pressing the escape key. For instance ESC V scrolls the screen up, ESC B and ESC T set the top and bottom of the screen window, and ESC O will cancel the insert, quotes, and reverse modes.

While investigating the ROM in the machine I came across a strange oddity. I was PEEKing the top end of ROM to

Here is a list of the instructions that the C16 understands:

ABS	IF . . . GOTO	RGR
ASC	IF . . . THEN . . . ELSE	RIGHT$
ATN	INPUT	RLUM
AUTO	INPUT#	RND
BACKUP	INSTR	RUN
BOX	INT	SAVE
CHAR	JOY	SCALE
CHR$	KEY	SCNCLR
CIRCLE	LEFT$	SCRATCH
CLOSE	LEN	SIGN
CLR	LET	SIN
CMD	LIST	SOUND
COLLECT	LOAD	SPC
COLOUR	LOCATE	SQR
CONT	LOG	SSHAPE
COPY	LOOP	STatus
COS	MID$	STOP
DATA	MONITOR	STR$
DEC	NEW	SYS
DEF FN	NEXT	TAB
DELETE	ON . . . GOSUB	TAN
DIM	ON . . . GOTO	TI
DIRECTORY	OPEN	TI$
DLOAD	PAINT	TRAP
DO	PEEK	TROFF
DRAW	POKE	TRON
DSAVE	POS	UNTIL
END	PRINT	USR
ERR$	PRINT#	VAL
EXP	PRINT USING	VERIFY
FOR	PUDEF	VOL
FRE	RCLR	WAIT
GET	RDOT	WHILE
GETKEY	RDOT	
GET#	READ	
GOSUB	REM	
GOTO	RENAME	
GRAPHIC	RENUMBER	
GSHAPE	RESTORE	
HEADER	RESUME	
HEX$	RETURN	

see what the Basic keywords were (I got the machine before I got a manual!). Doing this produced garbage and not the codes that I was expecting. However, entering the montitor and interrogating memory revealed them there. What's this I thought, Commodore trying to protect their ROMs against investigation? No they couldn't be that silly, it turns out that all the memory paging systems of the Plus 4 have been left in, so when you try to PEEK the ROM the Basic pages it out to allow access to the RAM beneath. This is alright in a 64K Plus 4 but in a 16K C16 there is no memory there — just garbage.

This brings me onto another point. The Basic is ideal for an inexperienced user or an experienced Basic user, but what about us machine code hacks and people that wouldn't use Basic if they were paid to?

The answer is TEDMON this is a full feature single pass assembler, disassembler, monitor, debugger. It is similar to Extramon 7.5 and is very good indeed. This makes writing assembly language very easy as you already have most of the development software built in.

Here is a list of monitor commands.

Tedmon Commands

A ASSEMBLE	Assemble a line of 6502 code.
C COMPARE	Compare two sections of memory and report differences.
D DISASSEMBLE	Disassemble a line of 6502 code.
F FILL	Fill memory with the specified byte.
G GO	Start execution at the specified address.
H HUNT	Hunt through memory for all occurrences of certain bytes.
L LOAD	Load a file tape or disk.
M MEMORY	Display the hexadecimal values of memory locations.
R REGISTERS	Display the 6502 Registers.
S SAVE	Save to tape or disk.
T TRANSFER	Transfer code from one section of memory to another.
X EXIT	eXit TEDMON.

The monitor can also be called by using the reset button. This is a great feature and is in a little recess just by the power supply. Press it in and the machine goes back to its power on state — memory contents are preserved but it is awkward to get at them. The beauty of it all is when you keep the STOP key pressed down at the same time as you press in the reset key. The computer jumps into the monitor, key in 'X' (for exit) and you are back in Basic. Complete with intact program.

A Great All-round buy.

The Manual is excellent and way past Commodore's usual standard. It is informative and instructional for the first time user. For the experienced person there are memory maps and register details.

The C16 comes supplied as a package with a cassette recorder, some good games, and the much sought after 'introduction to Basic Vol 1'. Intro to Basic is two long tapes full of introductory programs and a large book. The large book takes the user through the rigours of programming in the easiest way possible. Last Christmas my shop was selling it for the Commodore 64 as fast as we could get them. Somebody who has never used a computer before will get the hang of things very quickly.

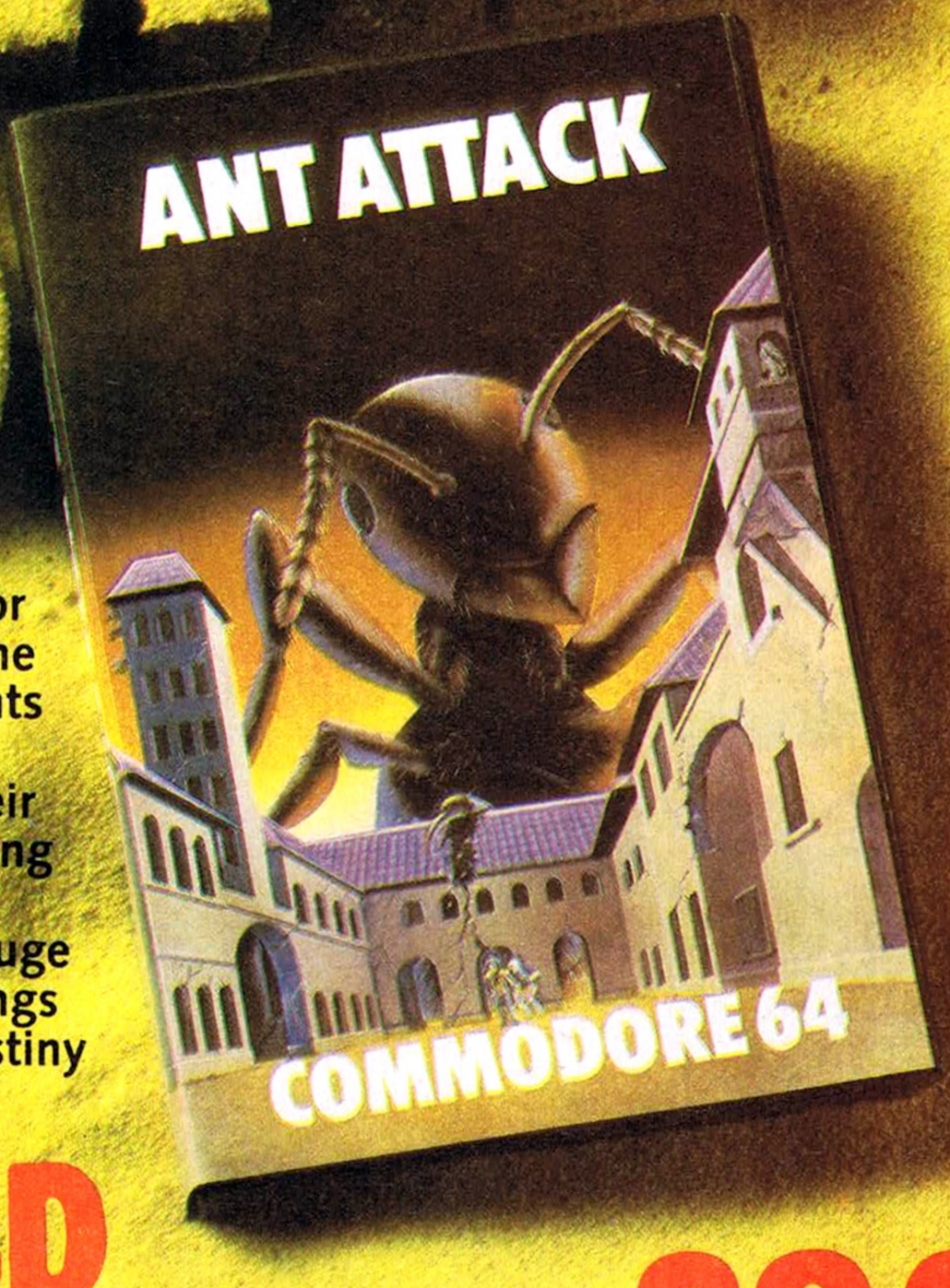
The price of the whole package is £129.95. Remembering that the spec is similar to a BBC, way above an Electron, Atmos, or a VIC, and makes the Spectrum look like a Sinclair Executive. At only 16K the C16 looks a bit on the slim side, especially as the system cuts out 4K for the operating system and screen. This leaves you with 12K for programs. This is not too bad considering that Commodore machines are very frugal with memory consumption.

The big 'Arrgggh' comes when you use hi-res graphics. Hi-res chops out another 10K. It doesn't need a Spectrum — sorry pocket calculator — to work out that there is only 4K left for the user. All we can hope for is that the memory expansion units become available ASAP.

To conclude: if Commodore get there finger out (which they will) and get this computer out in time for **Christmas in large quantities** (which if I know Commodore they certainly will, having a manufacturing capability of around 1 computer every five seconds at Corby), then the low end of the computer market's (150) days are numbered — probably on one hand. This is a real computer. It has all the features of a computer many times its price. The only comparable computer is the Atari 600XL which, plus compulsory cassette deck, up until production stopped last month, is slightly more expensive and a lower spec. This is the ultimate machine for this price, it will take the computer industry a long time to recover from this one.

They came from out of the desert to the lost city of Antescher and discovered the HORROR of the ANTS...

ANT ATTACK 3D



The Walled City of Antescher has rested for a thousand, thousand years in the midst of the Great Desert inhabited by only the deadly Ants who have made it their home.

Then one day He and She arrive to play their games through the wind-swept streets, ousting the Ants from their exclusive occupation.

But the City seems to have a presence, a huge brooding entity which hangs over the buildings and in some mysterious way controls the destiny of those below ...

ANT ATTACK 3D

Turbo load Commodore 64 £8.95

available from

QUICKSILVA

Quicksilva Mail Order, P.O. Box 6, Wimborne, Dorset BA21 7PY. Tel. (0202) 891744

Selected titles available at:
WHSMITH Boots WOOLWORTH John Menzies
and leading multiple retailers and specialist computer stores.

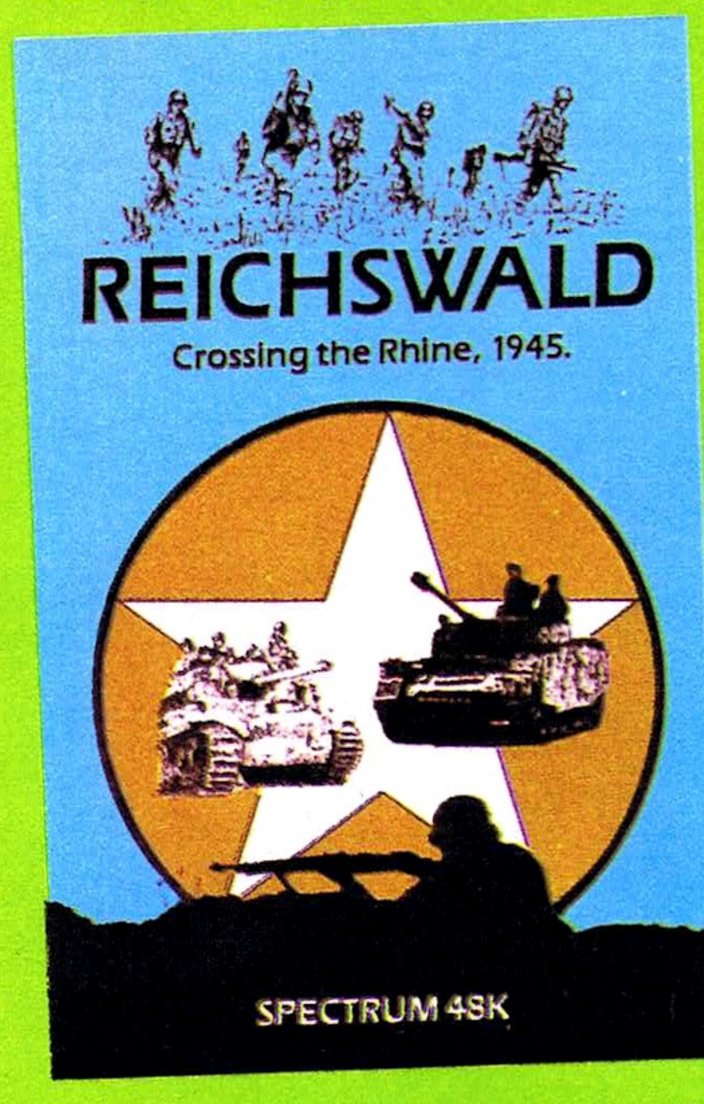
BrainWare

REICHSWALD

Runs on: 48K Spectrum
Made by: Gamesworld
Price: £1.99

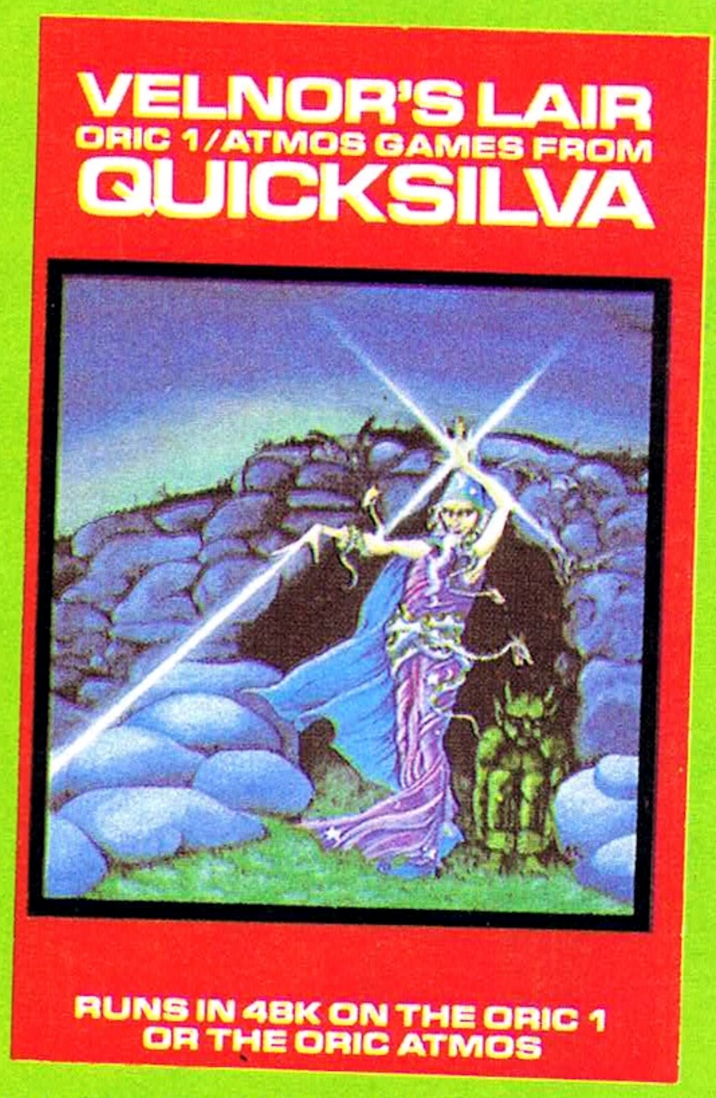
This is a simulation of an American 2nd World War offensive in which the player controls American troops attempting to secure a bridgehead over a section of the Rhine.

The possible bridging points are defended by German troops, although the American force is superior. Your troops can be positioned and moved as units or divisions using the cursor keys. Sixteen units must be positioned at the start — three armoured divisions, five infantry divisions, three engineer units, five reconnaissance units. Each unit has three strength values which are affected during combat. Even the terrain is taken into account — a feature unique to Reichswald. Movement is delayed to different extents by forest, swamp, hills, cities and bridges, although movement is clear on roads and in unmarked areas. Armour is prohibited in swamp areas.



The simulation is based on a real offensive, and so is obviously not easy. If you succeed in capturing a bridgehead, then you must capture the city areas within the time limit which is imposed over the whole attack. There is a lot of tedious waiting during simulation, as the computer calculates casualties and strategy for each section of the attack. The graphic mapping is adequate but not clear as it could be, and the controls are fairly unresponsive.

This is a well engineered program, and more convenient than the board games available for the wargames enthuisiast. A genuine enthuisast should not mind the pauses as these are valuable planning time, and the complexity of the program alone means that it is good value for money.



VELNOR'S LAIR

Runs on: Oric-1 /Atmos 48K
Made by: Quicksilva
Price: £6.95

This is one of very few adventures currently available for the Oric machines and is a credit to the slowly growing library of Oric Software.

When the game has loaded you are told that the evil black wizard Velnor has found out how to conquer the earth and that there is not time to mass an army against him. Velnor has hidden himself in Mt Elk and the earth's future depends on a sole brave person — and you are the 'hero'.

Because this is a D & D style adventure you can choose whether you want to be a warrior, wizard or priest. Obviously battle is easier if you are a warrior but your magic will be extremely limited. As you progress through the labyrinth you will meet many strange creatures but do not always fight them because some are also enemies of Velnor and they will help you. You will soon find out that Velnor has chosen the most fearful beast to guard him — it will take you along time before you find out what it is.

Because it is such a complex adventure there is a save game feature and it holds to save the game at various specific points. Battles are in real time and you can run away but beware, the monsters will follow and may even catch you up. You start with a strength of 10 and as you battle any injuries will show up since your strength will drop.

The response time by the computer is very quick and the screen display is very neat. There are no graphics and only minimal sound but this takes nothing away from the game. Well done Quicksilva!

MYSTERIOUS FAIRGROUND

Runs on: Spectrum 48K
Made by: Buffer Micro Ltd
Price: £5.50

Mysterious Fairground is an adventure set exactly where the title suggests, in a mysterious fairground. To win you must find the five items of treasure hidden within the fairground and afterwards escape alive.

Around every corner, another puzzle awaits to tax your brain and perils follow you in every twist and turn of your journey through the tunnels of love, ghost train and house of horrors.

To succeed you must be preapred to risk your life and experiment with situations in order to discover a solution. If the experiment fails and you die then its back to square one, a little wiser however than before.

Mysterious Fairground has an extensive vocabulary and incorporates a large number of new and original situations to encounter. Instead of the usual castles, forests and blacksmiths forges, here you will encounter ghost trains, a tunnel of love, a hall of mirrors and many more.

To gain a one hundred percent score you must combat all opposition correctly, collect each of the five treaures and complete the game by escaping safely. An exciting game with many taxing challenges but unfortunately once you have mastered this adventure you will quickly loose interest for the situations you find yourself in become familiar and easy to conquer. A good game however and worthy of any adventure collector's library.



BrainWare

For Thinking Players

STARTRADER

Runs on: 48K Spectrum
Made by: Bugbyte
Price: £7.95

Startrader is recorded in two sections — the instructions are of high quality, and very clear, and recorded on one side of the cassette. The other side carries the main program. The game is designed to combine the reaction skills of an arcade game with the logic and complexity of an adventure, but I would credit it with only partial success in this respect as the arcade section is excellent, with full 3D effect, and relative ship/alien movement superbly portrayed. The trading/adventure section, although entertaining is unfortunately marred by the rapid time elapse, which means that it is necessary to eat, drink and sleep urgently very often, which is tedious and annoying to say the least,

The object is to succeed as an interplanetary trader by studying the stock exchange and buying cheap goods on one planet to sell at a profit on the next. The action section is confined to the space fight, during which you will probably be attacked by space pirates against whom you may defend yourself with a laser and batteries (if you can afford to buy them). This excellent action, with the 3D effect making the standard "shoot 'em up" idea much more difficult and graphically interesting.

On landing on a planet you will have to pass through customs, and you can choose the degree to which you are honest with the customs officers:-ranging from total declaration to bribery, but if your bribe is too low all your goods are confiscated and you are jailed before release with very little money.

As a summary I would say that this game is of a high standard and improves with play as you learn the tricks of rapid trade to help avoid the tedious process of refreshment.



THE VALLEY

Runs on: Spectrum 48K
Made by: ASP Software
Price: £4.99

The Valley is an adventure game with a difference. As you play you see a plan of where you are moving and you choose your directions using the cursor keys. You can be any of five characters: Wizard, Thinker, Barbarian, or Cleric. Whatever you decide on, your aim is to become the highest rank which is the 'Master of Destiny'. There are 28 ranks in all, the lowest being monster food. To obtain the highest rank possible, you must collect treasures, fight monsters, and venture through perils such as swamps, woods, temples, Vounim's lair and the Black Tower.

You start in one of two safe castles at either end of the screen. A safe path is drawn between the two which you can follow, but if you do your rank will go no higher than monster food. To gain a higher rank you must leave the safety of the path to explore some of the sceneries within the valley. Here you may find treasure if you are lucky but you may also find some rather unsavoury monsters who will drain you of your stamina and may, if you are not careful, eliminate you completely.

NEW VENTURE

Runs on: 48K Spectrum
Made by: Falcon Computing
Price: £6.95

This package is a simulation of starting a new business venture; namely opening a new shop, and trying to succeed in the complex world of business. The shopkeeper (player) can use the following options to make his/her business profitable: Commence trading, Advertise, Visit bank, Check bank statements, Update stock, Make Insurance enquiries, or quit.

The success of your venture is gaged partly by the value of your assets, but mainly by the luxuries you can (and have) afford(ed) to purchase. These range from a microwave oven, through various cars, a house, and financially the ultimate status symbol — the FALCMOBILE at which level the game finishes.

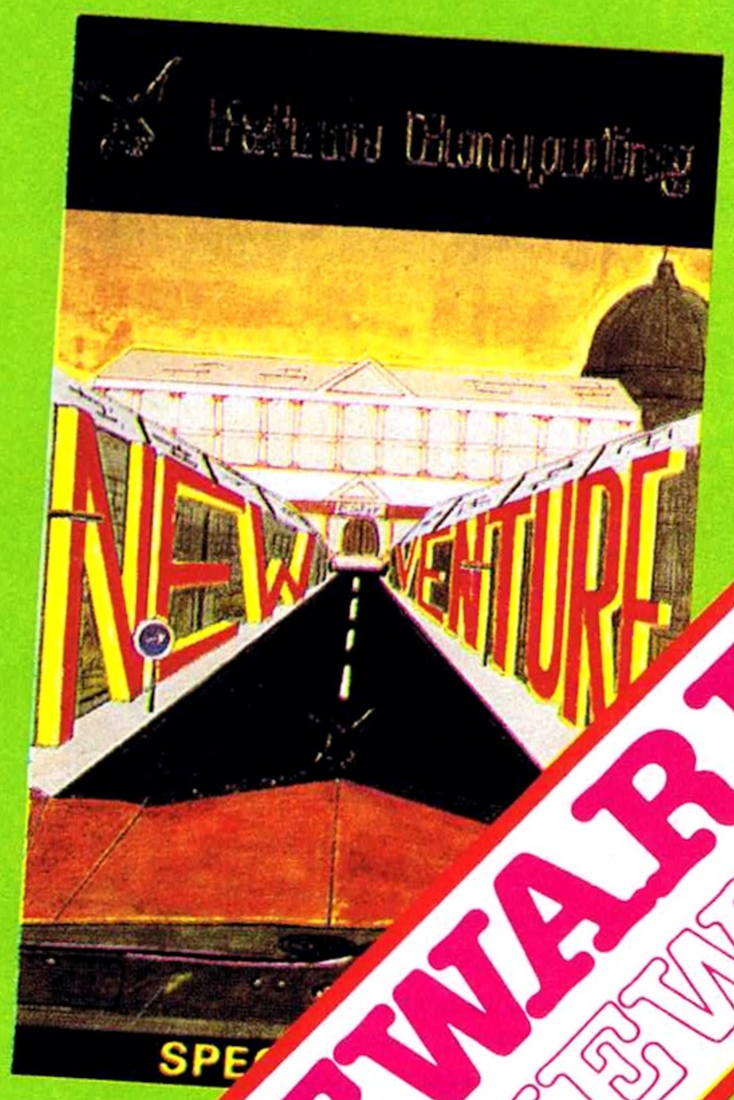
Much thought has to be put into stocktaking and advertising as seasonal factors can greatly affect levels of stock required e.g. If you choose to run the newsagents then you could also sell gifts, icecream, fireworks and easter eggs at certain times of the year. When the season for a particular item is over, these items can be sold at cost price to clear your stock, and give you cash to buy more saleable items.

The graphic display is excellent, graphs of stock levels, sales etc. are displayed, and percentages of stock sold etc. I found it very difficult to make sufficient profit to buy luxuries, as I ploughed most of my profit back into the business. I agree with suggestions that the minimum age limit for play should be that of an intelligent 14 year old, as a lot of careful planning is required to make a go of the business.

Another feature is the ability to choose from four different sites and six different businesses, so that you have a business which means something to you e.g. a village grocers or a highstreet sports shop. You may choose an accountant to help you through your difficulties, and can borrow from the bank at realistic rates of interest. You must also take wages, bills, taxes and accidents into account.

The only feature which I spotted as not being true to life was the stock turnover in my highstreet newsagents — if I sold for example 50% of my newspapers one month, I did not have to destroy the out of date papers and totally restock, but I could keep the old papers and sell some of them with my new papers on the following month.

On the whole, I found the program intellectually stimulating, with many entertaining features — a good insight into the finance of shopkeeping.



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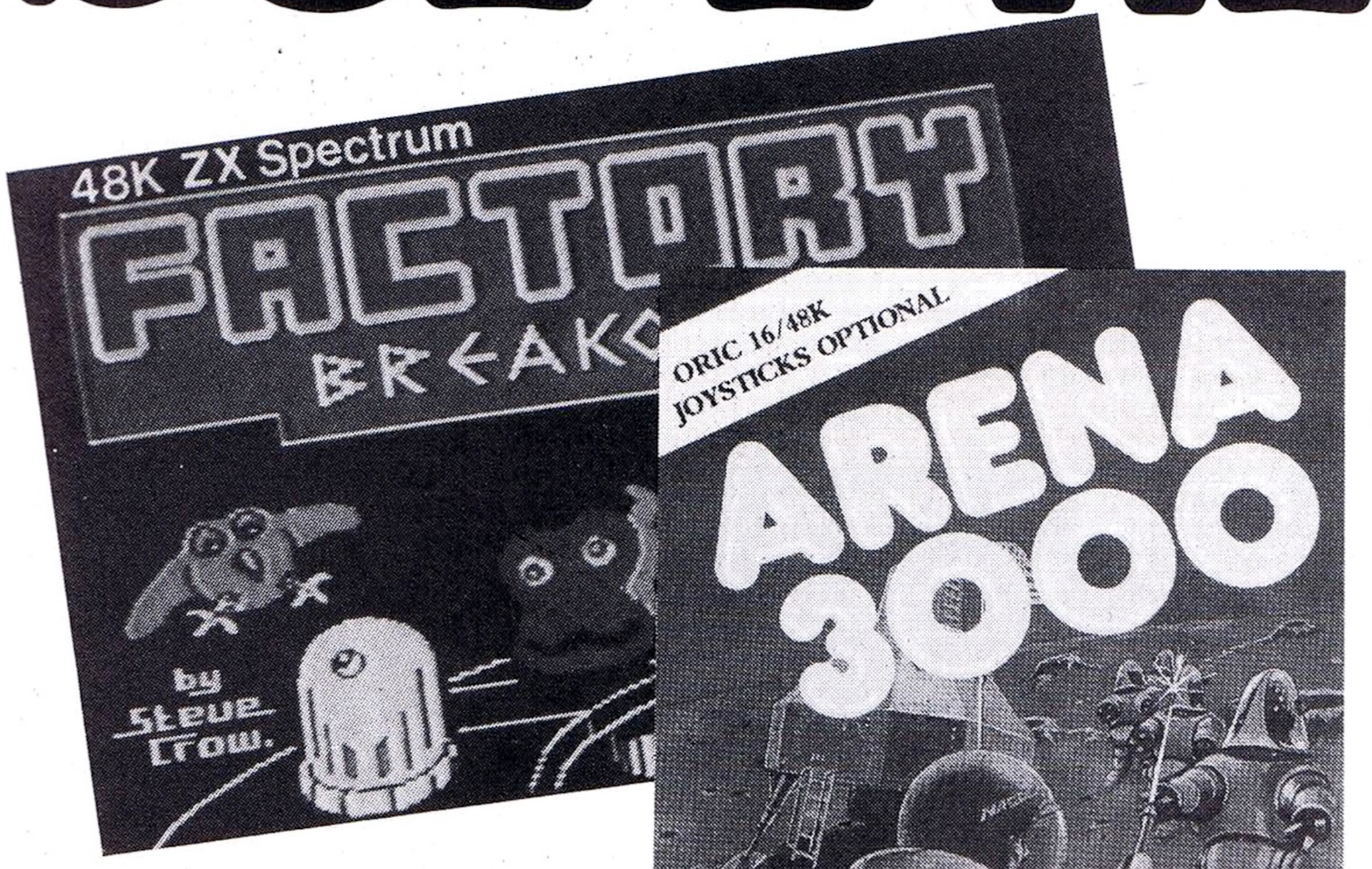

FACTORY BREAKOUT

Runs on: 48K Spectrum
Made by: Poppy Soft
Price: £5.50

The story behind Factory Breakout is that a robot factory on the plant Vial has been taken over by aliens who have activated the factory's self-destruct mechanism. You've guessed it, you are the only remaining robot and your name is Zirky. Zirky must evade the nasties and break out of the factory.

The first scene has Zirky still in his egg capsule but the self-destruct mechanism has caused deadly micron rays to shoot at him from all directions. Zirky must hold these rays back whilst a column of energy is building up to allow him to break free. In the next screen Zirky must cross the perilous rejection line whilst dodging the killer canary. The final screen has Zirky being chased by three weird looking aliens. He must go through the doors on the screen, changing their colour, until they are non-existent when he will move on to the next level. Zirky's only protection is the forcefield which allow him to kill the nasties.

Factory Breakout is very addictive and it worked superbly. Both graphics and sound are excellent. The graphics are very detailed and the movement is very smooth with no flicker at all. The game features five skill levels ranging from Alpha to Epsilon levels. Alpha is hard but comparatively easy compared to Epsilon. This game stands up well with the high standard set by many other software houses.

ARENA 3000

Runs on: Oric-1 /Atmos 48K
Made by: Microdeal
Price: £5.50

Microdeal may well have had a success with Space Shuttle but this does not compare with it. It is the year 3000. The display shows you in the middle of the screen and you are surrounded by various creatures. The cursor key moves you around the screen and the space bar allows you to fire in the direction that you are pointing. By pressing two keys at once you are able to move in a diagonal direction.

The object of the game: zap away to your hearts content. The creatures move towards you but it would be silly to say that they pose a threat — they don't. As each arena is cleared so the next one appears, the only difference being that the beasts begin to change shape.

The graphics are not very good and the sound used makes a rather loud din. There is a hi-score table but no instructions within the program.

There is little else to say about this game, it holds no interest, it is not addictive, is poorly thought out and uses none of the potential that the Oric possesses. If you like arcade games you will dislike this.

GRAB IT

Runs on: Commodore 64
Made by: Voyager Software
Price: £6.95

Here is a game that loosely resembles the traditional Breakout, with a few differences (namely, the lack of both the bat and ball!).

The object of the game is to manoeuvre the alien creature positioned at the centre of the screen, with the aid of a joystick. He must collect each of the bricks/platforms, found horizontally at the base of the screen, and deposit them at the space ship found at the top of the screen.

Between the journey from the top of the screen to the bottom, various hazzards have to be avoided. On the first level there is a hot air balloon that bounces around the enclosure. As each screen is cleared of bricks the number and speed of the hazards increase.

There are six levels, each starting with the number of hazards associated with the number of the skill level.

The game has a two player option, giving each player three lives, alternating between players at the loss of each life.

SWOOP

Runs on: Commodore 64
Made by: Micro Power
Price: £9.95

This arcade game is a version of the familiar game of galaxians, where the player's laser base (found at the bottom of the screen) has the task of destroying the swooping Birdmen.

There are several layers of the three types of Birdmen arranged in rows and columns. Each of the three types of Birdmen homes in towards the Player's laser base at a different speed and angle. The swooping birdmen must be destroyed before they reach the bottom of the screen.

If a Birdman does reach the base of the screen, it will lay an explosive egg on the path of the laser base. The eggs,

REVIEWS

SOFTWARE

if avoided, then disintigrate after five seconds.

After clearing the first sheet an additional laser base is awarded and then a further one for every alternate screen that is cleared.

There are four levels of difficulty, each requiring the survival of eight sheets before the next level of difficulty is reached.

FELIX IN THE FACTORY

Runs on: Commodore 64
Made by: Micro Power
Price: £9.95

The name of the game should give an idea as to the nature of the game, as the scenario is based around the workings of a factory (surprise surprise).

The object is to manoeuvre the factory worker, Felix, using either the keyboard or joystick along the conveyor belt, jumping over obstacles and around the various levels of the factory by travelling either up or down the ladders connecting the levels, whilst avoiding the gremlins, in order to collect the oil can. The 'can' having been collected has to be returned to the insatiable oil guzzling generator. If the oil level, shown at the top of the screen gets too low, the screen will flash and soon the generator stops and the game is over.

Bumping into packages, moving along the conveyor belt, causes Felix to be temporarily stunned, but an encounter with the edge of the screen will result in the loss of a life. Another hazard that has to be avoided is a rat which runs across the various levels. A bag of rat poison can be collected and left on a particular level to kill the speeding rat.

In general, this is the type of game that could be compared to that of 'Monsters' for the BBC computer, with the difference that the level of decreasing oil has to be replenished rather than oxygen.

CASSETTE 50

Runs on: Commodore 64
Made by: Cascade
Price: £9.95

This is a unique cassette in that a large number of assorted games have been compiled to provide the entertainment derived from the sheer diversity of the audio/visual impacts achieved by the Commodore 64.

Most of the games use either the keyboard or a joystick and provide full on-screen instructions. Examples include a pac-man look alike, adventures, lunar lander, noughts & crosses, blackjack, hangman etc.

There are 50 games in all, mostly written in Basic, thereby providing the best educational tour guide for those who prefer working with the user guide, rather than 'on' a user guide. As most of the games are in Basic they are listable and therefore allow the user to learn by experimentation (i.e. the 'What happens if. . . ' method).

For the price of a single arcade game, this collection of games may not have the same addictive appeal but it does provide a little something extra than just entertainment.



COMPOSER

Runs on: Oric/Atmos
Made by: Sector 7
Price: £6.50

After a quick and error free load the menu is presented on the screen. By immediately opting for the play command the program proceeds to play 51 bars of Mozart's ''Eine Kleine Nachtmusik'' — very impressive indeed. There are also two other pieces of music on the cassette and these can be loaded in at any time.

The main use of 'Composer' however is to help you to compose your own music. A maximum of 80 bars can be typed in and the music can then be altered, if necessary, by deleting, inserting and copying new bars. A graphic display of each bar is available and after every bar is written the computer will play it so that you can check to see if it is right. One, two or three of the channels can also be changed within any given bar. Yet another feature enables you to change the speed,sound,key and name of the music. Obviously all music can be saved and reloaded at will.

Composer has to be one of the best utility cassettes currently available for the Oric-1 48K and certainly provides value for money.

DEATHSTAR

Runs on: 48K Spectrum
Made by: Amazing Games
Price: £5.50

This software from amazing games is of truly amazing quality in the most contorted sense of the phrase — it is such a poor quality program that had I written it I would have dismissed it as slow, unresponsive and graphically uninteresting. The nearest to space flight my copy achieved was the flight from my hand to the dustbin!

The so-called ''3D'' effect apparently consists of a segmented border changing colour in a sequence — a seemingly good idea for three dimensional movement simulation, but in its present form it should not have travelled further along the production line than stage one prototype. The effect is improved somewhat when an alien craft is actually approaching — but here again the effect has been poorly and amateurishly achieved — no smooth moving graphics here, but five sudden jerk-like jumps forward in space during which the craft assumes five different shapes!

The object of the game is to save the rebels encamped on the 4th moon of Yavin, which is achieved by destroying the Imperial deathstar. To reach the star you must blast through sectors of aliens, the sectors being separated by a force wall which must be passed through.

The game as a whole is an uninspiring version of a good idea. I certainly would not buy it, as I consider it very poor value for money, and of dubious entertainment value.

CYBERTRON MISSION

Runs on: Commodore 64
Made by: Micro Power
Price: £9.95

This is an arcade/adventure type of game, whereby the player has to manoeuvre the character, using either the keyboard or the joystick, through the mazes of Fort Cybertron. The object being to locate the stated items and then procede, having collected them, to the safe (which also has to be located).

Touching the safe, with the appropriate items, will transport the player to the next level, whereupon he will be given another list of items to be located. An item can be found in a room, each of which is designed as a simple maze and has to be carefully negotiated without touching the walls, as this can result in instant death. Whilst avoiding the walls the player also has to either kill or avoid

the several inhabitants of each room. These do not fire on the first levels but with higher levels the aliens fire and move intelligently towards the player.

Staying in a room for more than a certain period of time can be hazardous to a high score, as a Spook promptly homes in and another spitely life bites the dust.

There are a total of 64 rooms in all, 16 rooms on each level, in the form of a 4x4 grid, therefore there must be only 4 levels to the game.

This game bears a very close resemblence to its popular BBC counterpart.

post station at the Edge of Time is being attacked by Zzyaxian cyborg arachnid mutants (or just bathroom spiders).

The spiders descend from the top of the screen on threads, which can be broken by either shooting at them or just leaving them to disintegrate on their own. Shots can be fired by pressing the fire button, which then causes the llama to spit a laser bolt in the direction of its movement. If the spiders are not shot in mid-air, they then fall to ground and mutate into a creature called a Weeviloid which then proceeds to move towards you (presumably for revenge).



METAGALACTIC LLAMAS BATTLE AT THE EDGE OF TIME

Runs on: Commodore 64, Vic 20, Spectrum
Made by: Llamasoft
Price: £7.95

This another arcade game in the series devised by Jeff Minter featuring the mystical charms of the Llama, either being attaced or attacking some alien force.

In this particular scenario, the Out-

To help destroy these creatures, a deflective force field is provided at the top of the screen, controlled by the vertical movements of the joystick, and so any shot fired at this force field is deflected back to ground thereby eliminating the creatures in its path.

Only three chances/lives are available, to attain as high a score as possible.

This is a difficult but yet addictive game with a simple and uncluttered screen layout that should give hours of frustrating entertainment.

CHESS II

Runs on: Oric-1 /Atmos 48K
Made by: Tansoft
Price: £9.99

This version of chess is based on the original chess program by Tansoft but it plays a better and quicker game. After the game loads you can choose what level you want and whether you want to play black or white. There is also a very interesting speech option and this announces the move that the computer makes. At first, and especially as no hardware is used, the speech is difficult to understand but the more you play the easier it becomes to make out the words. Although the speech has no real purpose it is very enjoyable and shows what can be achieved with the superb sound that the Oric possesses.

Skill level 1 is the easiest and the computer takes just 5 seconds to respond. The documentation that comes with the cassette claims that the computer may make some crazy moves; they are right. On both levels 1 and 2 the Oric will do anything to get you in check even at the expense of losing its own queen. Unless you are the real enthusiast you will be unlikely to play on the higher levels, the main reason being that on level 5 the computer takes 5

REVIEWS

SOFTWARE

hours to respond. Luckily there is a save game feature which comes in very handy.

The graphics are superb with each piece clearly defined and all the moves are recorded on the left of the screen. If in trouble you are able to resign and several other options allow you to change sides at any time, set up the board in a special way or wipe out various sections of the chess board. All in all this is an excellent game: good graphics, nice screen display and speech make it one of the best offerings for the Oric machines. If you like chess this is for you.

ADVANCE TO MAYFAIR

Runs on: 48K Spectrum
Made by: Amazing Games
Price: £5.50

An excellent program like this is tremendous value at £5.50, I would have expected to pay more for it. It is a version of the internationally famous property trading game which most of us have spent so many wet afternoons playing. I found it more entertaining than the original board game in fact, and games definitely take a lot less time as it is impossible to cheat or quarrel when the game is between you and your micro. Thankfully no graphic representation of the board is attempted, as this would be time and memory consuming and no doubt confusing.

There are many features which make play easier: full status reports (including assets of each player, unsold properties, which sets are completely owned by one player, how many buildings are on each site, what their mortgage values are, etc. etc.), SAVE and LOAD of prolonged games, voluntary mortgages at any stage etc.

The object is to bankrupt the computer — something which the instructions say is a rare event, but I succeeded in doing so on both of my first two games on both occassions by an asset margin of around £4500. On the second occasion the victory print out read : I HAVE 17 POUNDS, I MUST PAY YOU £1100 on one of my built up areas.

Most of the game is enjoyable and faultless. There is however one bug (apart from spelling errors) which I found in the hotel buying option on the menu. This resulted in a error statement every time this option was chosen. Thankfully a minor alteration to the program on loading can cure this error. Another thing which I would like to see changed concerns the voluntary and compulsory mortgage routine. I would like to be free to consult the status reports before deciding which property to mortgage, but at present this is not possible, and if you are not careful to remember which property you own, you may find yourself playing guessing games when you have to type in the name of one of your properties to be mortgaged.

On the hole this is a challenging, high quality product, and the original strategy, which is not lost by the conversion to computer, makes a welcome change to arcade games.

FUN-PACS 2 and 3

Runs on: T1 99/4A (unexpanded)
Made by: Virgin Games
Price: £6.95 each

T1 owners should take heart that Virgin of the records fame is producing software to support their machines after production has stopped. Each of these two tapes contain three games.

On Fun Pac two you will first find Escape the Mugger, a topical is somewhat inflammatory title for a game in which, as the would-be victim trapped in a locked room, you must avoid being caught. Points are gained by picking up the muggers' spoils, like handbags and wallets, which he drops in pursuit of you. He may also drop the key to the room which you must acquire to release yourself. You can build walls to protect yourself, but after a time you'll find the bricks run out. Once you've discovered how to trap the mugger the game loses much of its appeal. Control of movement is by keyboard or joystick.

Starship Supernova, the second program is a text adventure in which, as captain of a space salvage tug you spy a likely prize in an apparently deserted cruiser heading for destruction in a supernova. After entering the cruiser to shut down the engines you find youself trapped and are doomed if you can't find the flight controls before the clock runs out. Despite occasional misplaced clues and some irritating spelling mistakes, which should have been vetted out, the game provides a tricky challenge.

The final program on this tape, called Gunfighter, is a novel text game for up to six players. The object is to use your wits and guns to out-flight wild west cowboys generated by the computer or created by the other players who are your opponents. Each character has ratings on courage, muscle power, speed, etc. If you wipe out the lot you're the winner. The presentation of this game is probably the most interesting of the three, but since I've always ended up dead immediately, I feel a bit put out at having to endure the instructions all over again before I can seek revenge.

Fun-pac three consists of three graphics games, all of which unfortunately suffer from the limitations of TI Basic. The task in Game one, Nuclear Disaster, is to remove ten unconscious scientists, one at a time, from the research centre where there is a leaky reactor to a decontamination chamber. You must then make it safe by sealing the six exits with blocks from an adjacent room before the radiation level reaches 100% and the earth is destroyed. The robot you use to move the scientists and blocks is not affected by radiation but scientists die if they make contact with it. There are six levels of difficulty. It's o.k. but not exciting.

On game two up to four can play up to 18 holes of golf and, as on any real course, hazards include water, trees, bushes and bunkers. After keying in the direction and strength of strike and club selection (which confusingly has the reverse weighting to real golf) the shot is taken by pressing the space bar. There's a chance you might miss or slice the ball though, if you hit it full strength. A score card for each player appears at the end of every round. Most enjoyment is derived if playing against opponents.

In game three, Sea Wolf, as commander of a submarine, your job is to torpedo somewhat disjointed tankers and supply ships as they jerk their way across the screen. You up and down periscope to get this view of them and at the same time by using your radar screen you must steer clear of an enemy destroyer which is tracking you down. Points scored depend on where you hit the ships with your torpedoes. It's not a game of addictive qualities.

Part of the blurb on both Fun-Pac tapes is given over to a rather contrived biography of the author of the programs, when perhaps more complete instructions would have been appreciated. A good point in Virgin's favour is the offer of free membership to its "Games Gang" for one year, with free quarterly newspapers and special offers in return for some details about you and your computer. If the information is used properly, it should help Virgin to produce quality software to satisfy the demands of TI owners. These present offerings are reasonable value for money, but are not awe inspiring.

REVIEWS

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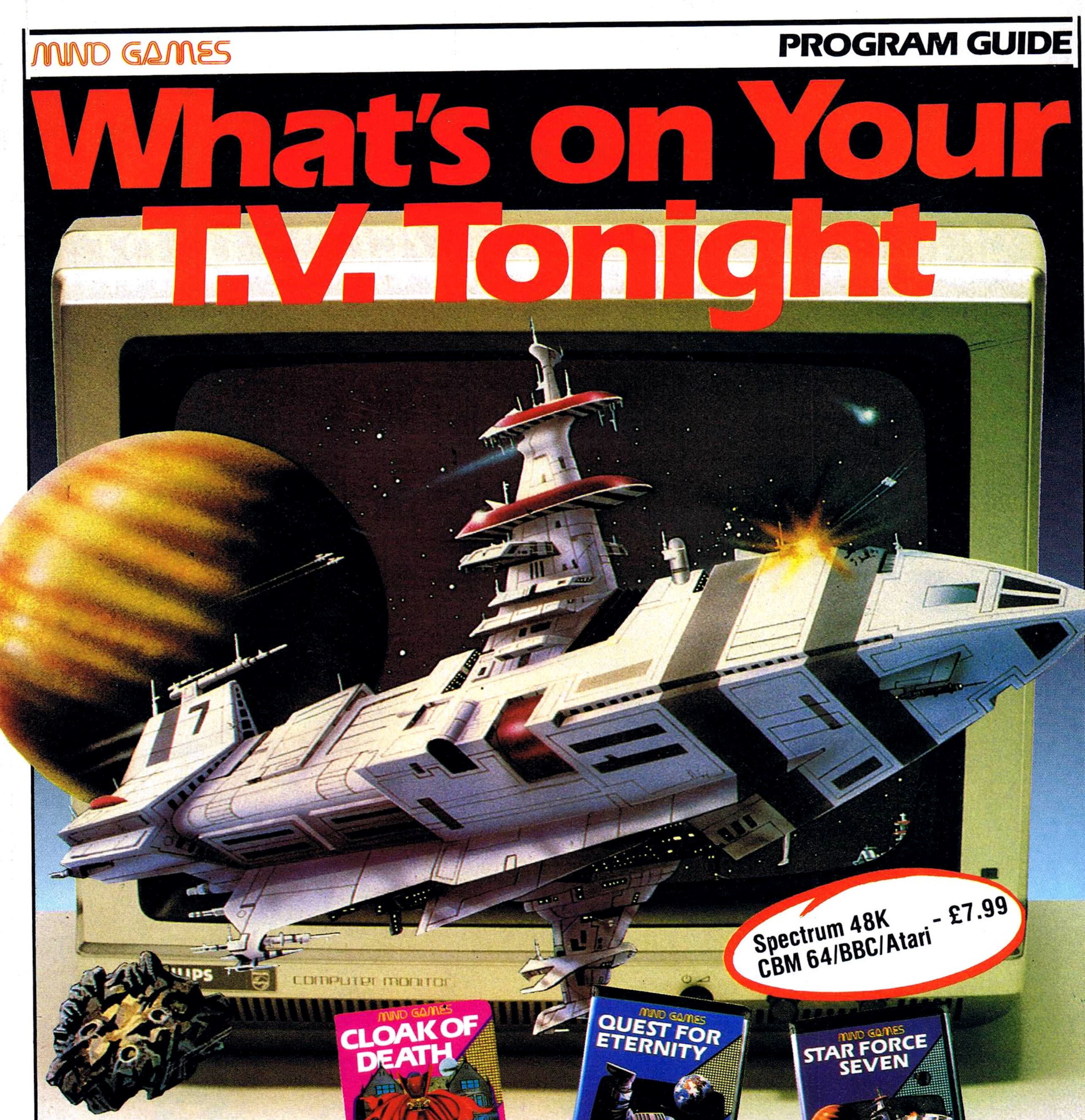

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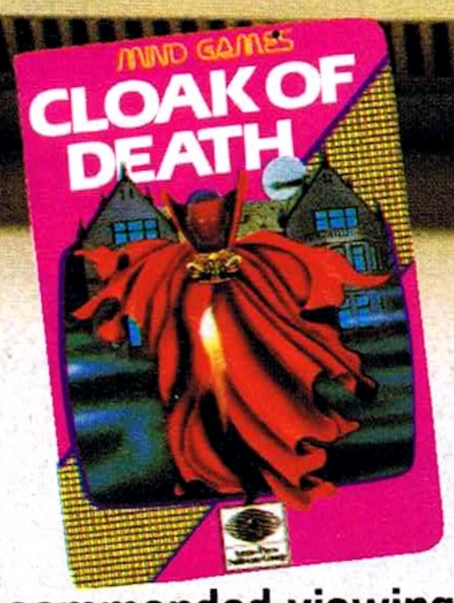



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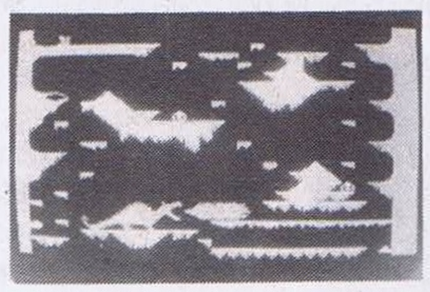

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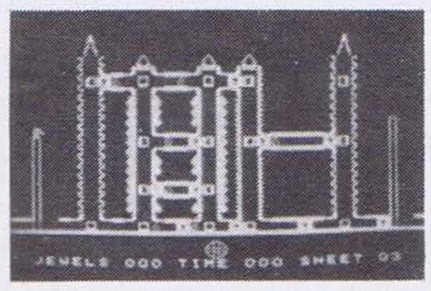

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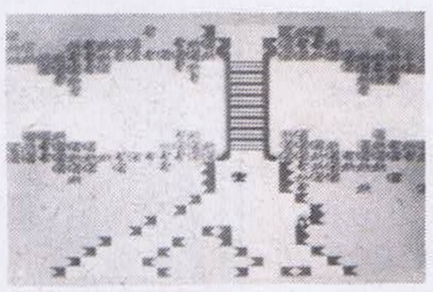

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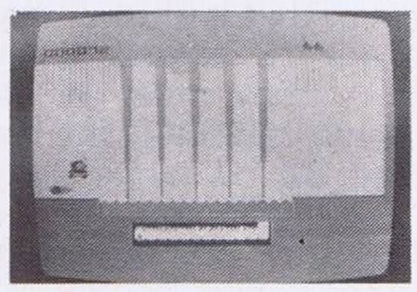

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GC 11/84

By Sue Bartlett and Mike Roberts

VIDEO VYING

BEAMRIDER

Runs on: Intellivision
Made by: Activision
Price: £29.95

In this game you are part warrior, part astronaut and part daredevil — a Beamrider. You are in control of a ship that can fire laser lariats and launch torpedoes. The mission of your ship is to clear the Restrictor Shield, 99 sectors deep, that is surrounding the earth. There are 15 enemy saucers in each sector — they must all be destroyed before you can enter the next sector.

When all 15 white enemy saucers have been destroyed in a sector their Sentinel ship will be defenceless and will cruise across the top of the beams. Only a torpedo can destroy it. Laser lariats are only effective against certain invaders. Torpedoes will destroy the first object they meet on a beam, but, the bad new is that you are only given three torpedoes per sector.

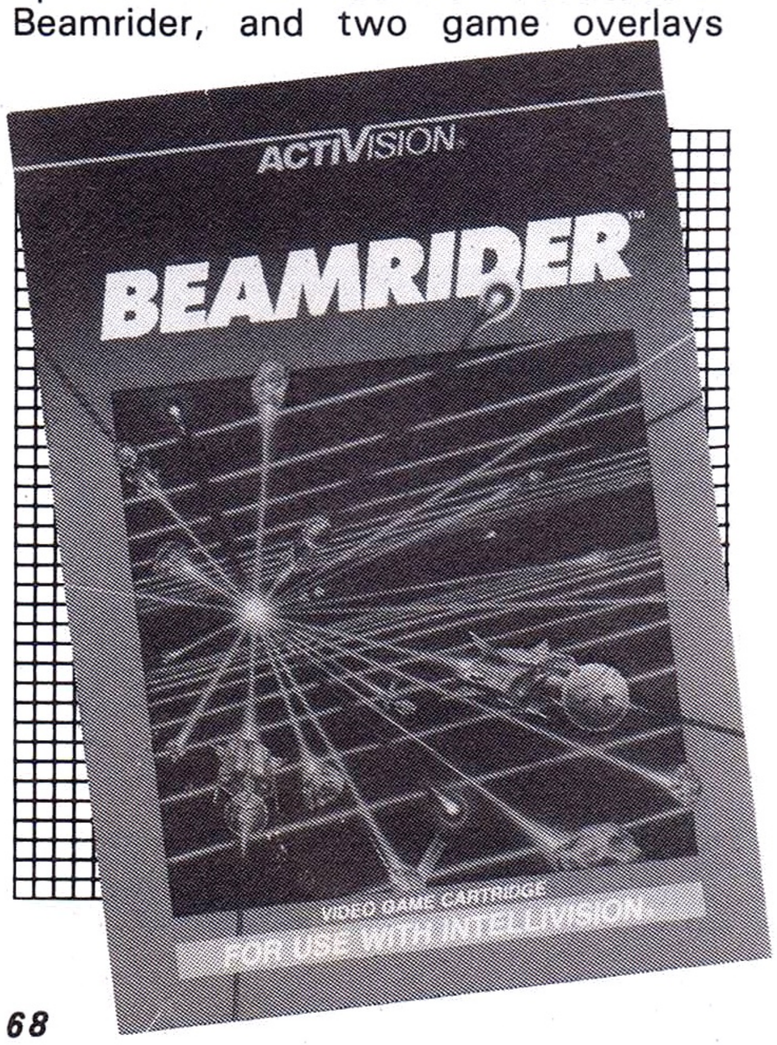
Your ship has to contend with a collection of aliens, including Brown Space Debris, Green Bounce Craft and Red Zig Bombs.

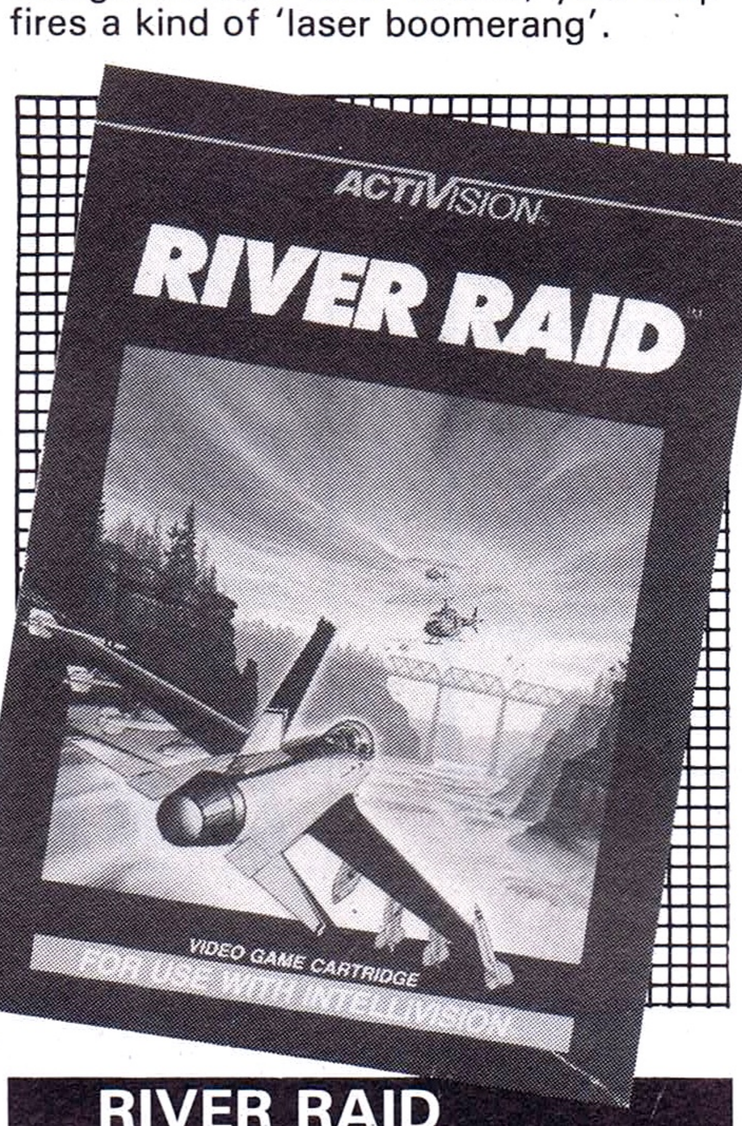
Occasionally yellow rejuvenators will float through the beam matrix. If you allow one of these to land on your deck it will add a bonus ship to your fleet. If you shoot one by mistake it will turn red from the heated blast and if your ship is in its way the wreckage will destroy you.

Whenever your ship is destroyed or when you complete a sector you will return via hyperspace to the Space Station. When you are ready to continue press any button on the controller disc and the hatch doors will open. Points are scored, of course, by destroying the saucers, ships, and Sector Sentinel. You start with three ships in your fleet.

With the cartridge you also receive an instruction booklet, which includes tips on how to become a successful Beamrider, and two game overlays which can be slipped into the hand controllers.

I'm afraid this is one of those games where the instruction manual makes it sound more exciting than it actually is. Only about two thirds of the TV screen is filled, which, in my mind is a waste of space. The only unusual aspect of this game is that instead of the conventional straightforward laser beams, your ship fires a kind of 'laser boomerang'.





RIVER RAID

Runs on: Intellivision
Made by: Activision
Price: £29.95

Your mission in this game is to score as many points as possible by destroying enemy craft, fuel depots and bridges before your jet runs out of fuel or crashes.

The River of No Return is divided into sections. Along the river your jet will encounter islands, narrow channels, bays and enemy air and water craft moving in to block your path. Along with the picture of the river and your craft, also on the screen you will see your reserve jets and the fuel gauge.

Your jet fighter can bank to the left or right, and it can slow down or accelerate. It can also fire missiles continuously or intermittently.

Advanced pilots may start the game at later bridges, which means the difficulty level is higher. Later in the game your plane will fly over barren stretches of river that are too narrow for enemy camps. This means the pilot gets a break because he will encounter only a few enemy craft, but fuel depots are scarce and the river is narrow.

In the instruction booklet it states that flying through the forest, on either side of the river, is good practice and adds to the game. With the cartridge and booklet you also receive two overlays — although these never seem to fit in the hand controllers.

In the last issue of Games Computing I had a look at the Colecovision version of River Raid. This version I found much more exciting than the Intellivision game. The Intellivision River Raid is easier to play although it tends to drag on because of its repetitiveness.

BEAMRIDER

Runs on: Colecovision
Made by: Activision
Price: £29.95

This game is very similar to the Intellivision version. Again the Restrictor Shield surrounds the earth. Your mission is to clear the shield of aliens as you dodge from beam to beam.

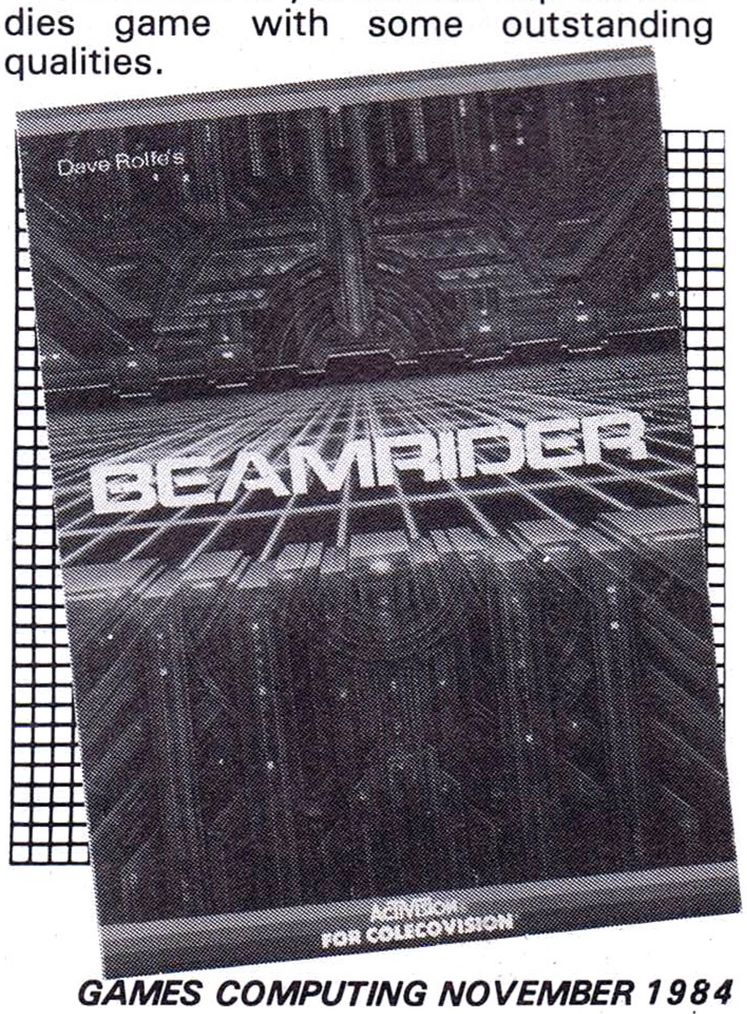
As with the Intellivision game you will see on your journey enemy saucers, the sector sentinel, yellow rejuvenators, aliens and your weapons, torpedoes and laser lariats.

Like the Intellivision Beamrider you have the choice of starting at more advanced sectors, also this game fills up more of the screen. This means that the objects on the screen are larger and clearer.

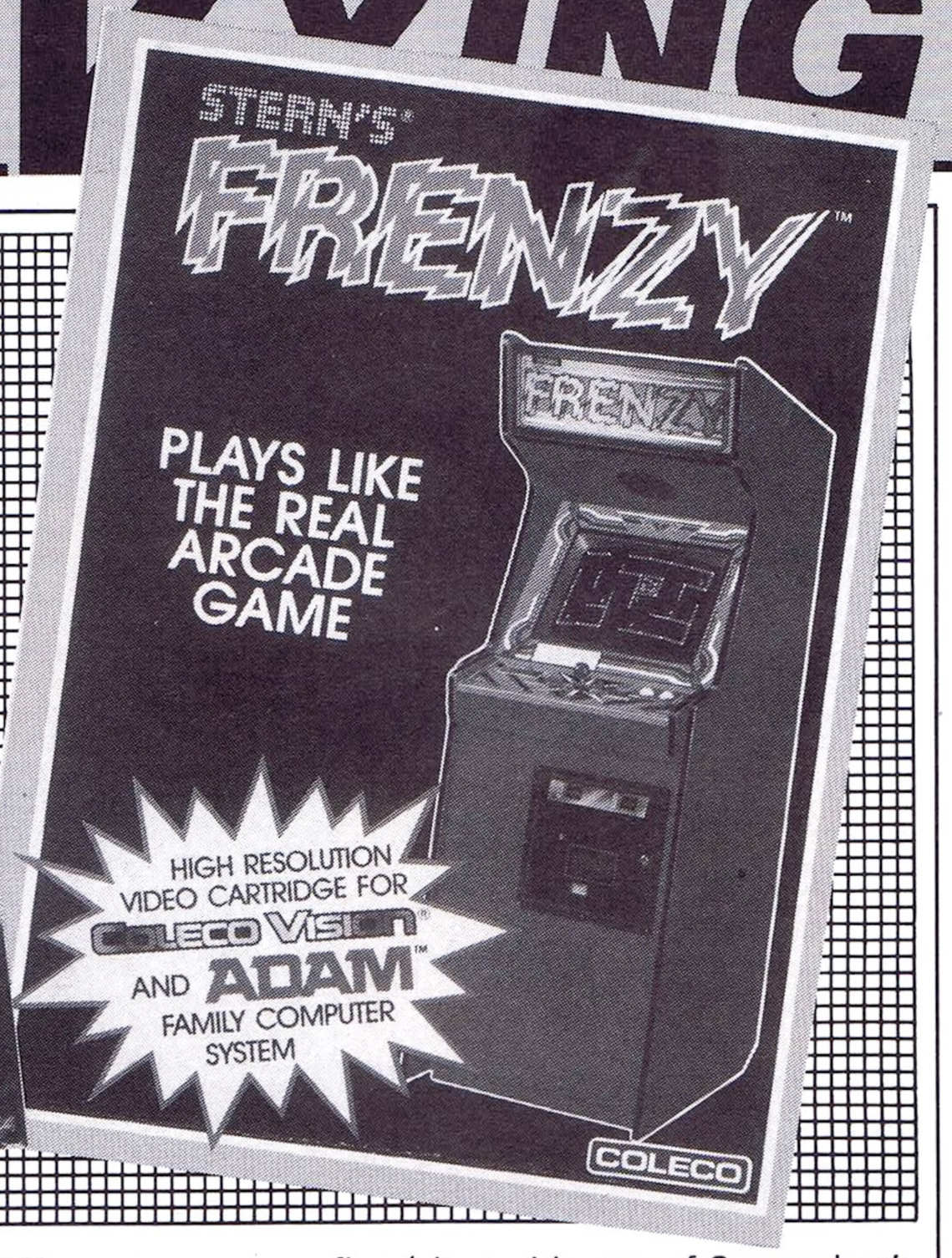
The sound is better in this game and the response from the joystick is quicker. This makes the game seem faster and more difficult. But, these advantages over the Intellivision Beamrider are because the Colecovision is a better machine, not because the game is not as good.

With the cartridge you receive an Orientation Guide. Along with instructions you can read how to obtain a Beamrider emblem if you score over 40,000 points — a score which is fairly difficult to reach. The guide also opens up into an attractive mini poster.

Beamrider is yet another zap the baddies game with some outstanding qualities.







Video News

CBS: CBS Electronics, makers of the Coleco Adam and Colecovision video games, have announced their Christmas releases.

Frontline puts you as a soldier trying to fight your way through hordes of enemies. This game makes use of the highly popular Super Action Controllers. The Super Action Controllers are a bit more than ordinary joysticks (as you would expect at £25 each) they have four fire buttons, a 12 key numeric key pad, and a pot controller on top. The sticks can be used with any 9 pin 'D' type connector equipped machine like an Atari as well as the Colecovision.

Cabbage Patch Kids Adventure in the Park is a game based on the highly successful Cabbage Patch Kid dolls also made by — yes you guessed it — CBS. The game takes the form of a graphical adventure with the forementioned Cabbage Patchers running around in a park.

Wargames is a game that is closely based on the popular film out last Christmas. In the film a boy hacks into the main NORAD computer in America, the computer then tries to start world war three.

Other games are **Frenzy**, **Destructor**, and **Burger Time**. All these games are conversions of existing arcade games. They are all the 'official' version and have been licenced by CBS from the companies concerned.

Some bad news is that **Dragon's Lair** will probably not be available before Christmas due to problems in getting it over from the States. The good news is that **Donkey Kong** and **Donkey Kong Jr** are now out for CBS' super games machine the Adam. These games are 100% accurate to the real thing. If you thought that the Colecovision versions were good wait until you see these.

Activision: The sequel to Pitfall — Pitfall II has been around for some time and a very good game it is too. Activision currently have a treasure hunt on with Pitfall II — and it's for real. Ten Pitfall II cartridges are special ones, when you plug them in a telephone number flashes up. Ring this number and you have won £100. When 10 people have won there will be a draw for a further £900 meaning that the winner will get a £1000 prize. All winners will of course get another copy of Pitfall II.

The VCS version of the game has one interesting feature that puts it above most ordinary games. A VCS can only hold about 6K of program. Pitfall has around 16K of program — how is it done? Activision call it a DPC or Design Proprietary Chip. The DPC is basically a 16K ROM which only has 6K inside the processor's address space at any one time. Spare lines on the RIOT inside the VCS are used to control the extra memory. All very clever stuff.

I would be interested to know if any of our readers has got one of the coveted 'Cliffhanger' emblems, for getting over 99,000 points. I never get anything near that score.

Atari: The hottest news in the video games industry at the moment is the shake up between Atari and Commodore.

Jack Tramiel, a founder of Commodore, has recently left his old firm (along with some of Commodore's employees) and bought Atari. The third party in the story is a small design company called Amiga.

In March Amiga signed a contract with Atari to produce three new custom graphics chips for Atari to be used in their new generation of video games/computers/what-have-you. Atari handed over £500,000 for this.

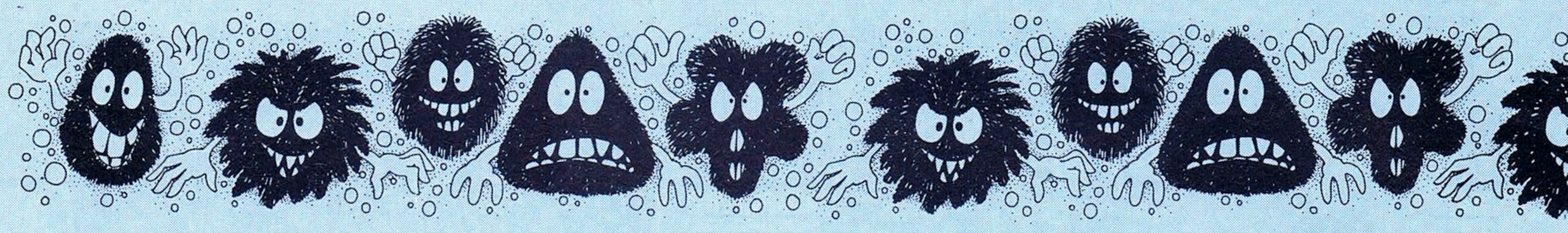
On June 29 Amiga handed back the money saying that they couldn't do it. Leonard Schreiber, currently a director of Atari but formerly Commodore's legal advisor, said: "Atari believed it, but Amiga just wanted to sell to the highest bidder".

The highest bidder was Commodore who, in true Commodore tradition, bought up the whole company.

The upshot of it all, is a computer called the Lorraine which has features like 4096 colours, 640 pixel resolution, 128 sprites, disk drives, and so on. All for around £850.

Atari were a bit peeved because they thought their new chips had been used in another firm's computer. Mr Tramiel then proceeded to file a lawsuit against Amiga for a cool £50,000,000.

Will J.T. make a lot of money out of his old employers? Will Commodore and Amiga be able to market the baby Lorraine in the middle of next year? Tune in next month for the further exciting episode of Commodore vs Atari.



ADVENTURE into PROGRAMMING

Our adventurous Steve Lucas has been at it again. Here in his latest is our instruction course for adventure programmers.

Last month we looked at the main control loop of the program and saw that we would need to split the input string F$ into two separate words G$ and H$. In the listing given, I called the procedure PROCword. Listing 1 shows a suitable routine for spliting the string.

```
LISTING 1


1200 DEFPROCword
1210 LET G$=""
1220 LET C=INSTR(F$," ")
1230 LET H$=RIGHT$(F$,(LEN(F$)-C))
1240 LET G$=LEFT$(F$,4)
1250 ENDPROC
```

This procedure will need some explanation, as it makes use of many of the specialised features of BBC BASIC. The first change needed to allow it to work in other machines is to change line 1250 to RETURN and call the subroutine by changing line 350 of last months listing to GOSUB 1210.

Few machines have the INSTR function available, which searches the input string F$ for the space between the two words of your input. If, for example, you had typed in EAT FOOD when prompted 'What shall I do ?', then INSTR will set the value of C to 4 because the space is the fourth character in F$. The following routine can then be used to replace INSTR on most other machines:

```
1220 FOR T=1 TO LEN(F$)
1225 IF MID$(F$,T,1)=" " THEN H$=RIGHT$(F$,(LEN(Z$)-T): T=LEN(F$)
1230 NEXT T
```

This method does work, but relies upon jumping out of a FOR NEXT loop when the condition that MID$(F$,T,1) = "2 is met. You may remember that I advised you against using such techniques last month but I have attempted to terminate the loop correctly by also setting T equal to the length of the loop (in line 1225) when the loop is to be left. Using this technique will work on the vast majority of microcomputers with one major exception . . . . the Spectrum!

String handling on the Spectrum is very different from other machines and is the easiest to use that I have come across.

```
LISTING 1...Spectrum version

1200 REM ** split input string...Spectrum version
1210 LET G$=""
1220 FOR t=1 TO LEN (f$)
1225 IF f$(t)=" " THEN LET g$=f$(t+1 TO LEN(f$)): LET t= LEN (f$)
1230 NEXT h
1240 IF LEN (f$)>4 THEN LET g$=f$(1 TO 4)
1250 RETURN
```

This routine will put the first four letters of your response into the variable G$ and the full second word into H$.

This procedure or subroutine will then return you to line 360 in the main control loop. Line 370 then calls PROCnorth if your input string is ''N''. For users of other machines, line 370 could be replaced with :
IF f$ =''GO NORTH'' OR f$ =''N'' THEN GOSUB 1260

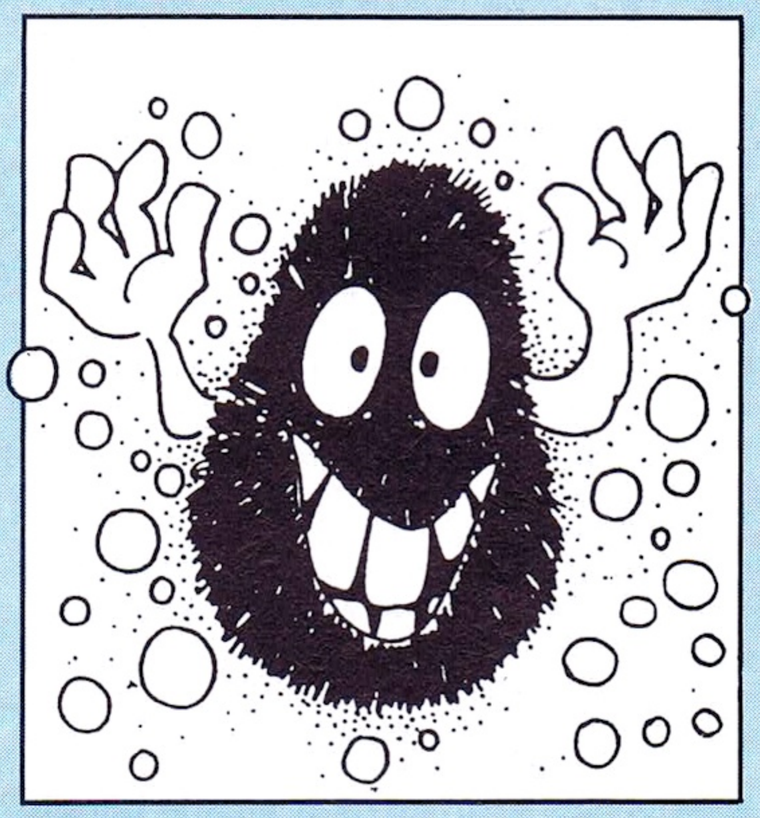
Listing 2 shows a procedure which checks if you can go in that direction, and changes the value of the pointer P% to its new value if you can. You will then need to add similar procedures or subroutines for going South,East,West, Up,Down,In and Out.

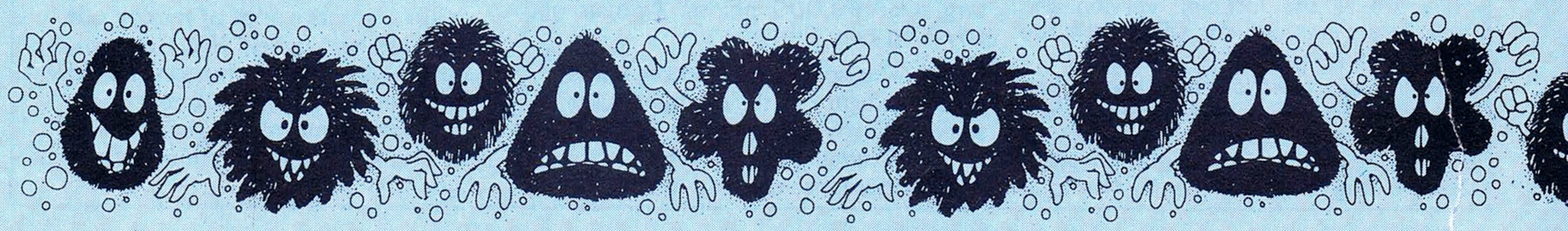


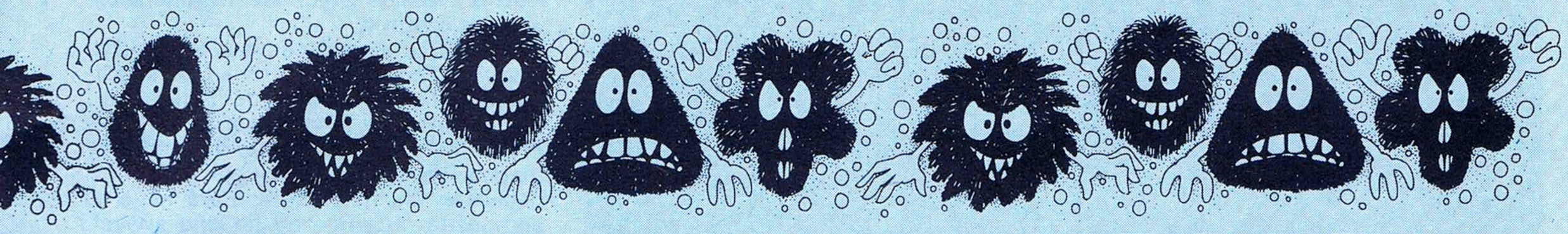
```
LISTING 2 a routine to move pointer P% if you move north


1260 DEFPROCnorth
1270 IF A%(P%,1) >0 THEN LET P%=A%(P%,1) :PRINT "O.K.": ENDPROC
1280 PRINT "I can't go that way"
1290 ENDPROC
1300 DEFPROCsouth
1310 IF A%(P%,2)>0 THEN LET P%=A%(P%,2): PRINT "O.K.": ENDPROC
```

Line 1270 checks the array element A%(P%,1) to see the location you should move in. If this is greater that zero, it resets the pointer to the value held in the array and end the procedure, otherwise the program goes on to line 1280 which tells us that we can't go that way. The only change you will need to make to this routine is to replace ENDPROCs with RETURN.

Similarly PROCsouth will check element (P%,2) of A%. In this way you will be able to create routines to move North,South,East and West. Movement in other directions such as Up,Down,In and Out will require a different approach because we have not incorporated these movements in our Array A%.







ADVENTURE into PROGRAMMING

As an example, suppose that location 21 is at the bottom of a staircase and location 22 is at the top of a staircase, with no other locations where up or down are needed. It would have been wasteful of memory useage to have DIMensioned array A%(30,6) to set pointers for just two locations. Listing 3 shows one way of solving this problem.

```
LISTING 3


1330 DEFPROCup
1340 IF P%<>21 THEN PRINT "I can't do that here.": ENDPROC
1350 PRINT "O.K."
1360 P%=22
1370 ENDPROC
1380 DEFPROCdown
1390 IF P% <> 22 then PRINT "I can't": ENDPROC
```

The procedure could be called from line 380, which might read :
380 IF G$ =''UP'' OR F$ =''GO UP'' the PROCup

You will notice that the test in line 1340 is to check if the current location is not location 21 then you can't go up. Once again the only change needed on most machines for this routine would be to replace PROC's with GOSUB's and ENDPROC's with RETURN's.
Listing 3 in last monh's article used a PROCedure (PROCobjects) to describe any objects seen in a particular location. Until this has been added, your program will not even partially work. This routine must search through the array B% to check whether the pointer is the same as the current location number and if it is, it will then print a description of the object located there. Listing 4 shows a suitable routine to do this for the BBC micro and again the only changed needed for most machines is to change ENDPROC to RETURN.

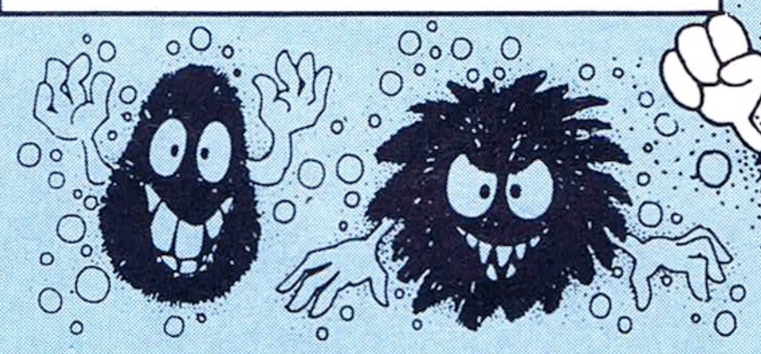
Spectrum owners, will of course, need to change upper case variables to lower case and remove the % sign from variables as well.

Next Month

If all is well with your adventure, you should now be able to move around the different locations when the program is run, but will be unable to GET objects or DROP them etc. In next months article, I shall be looking at how to handle objects which are found in the game.

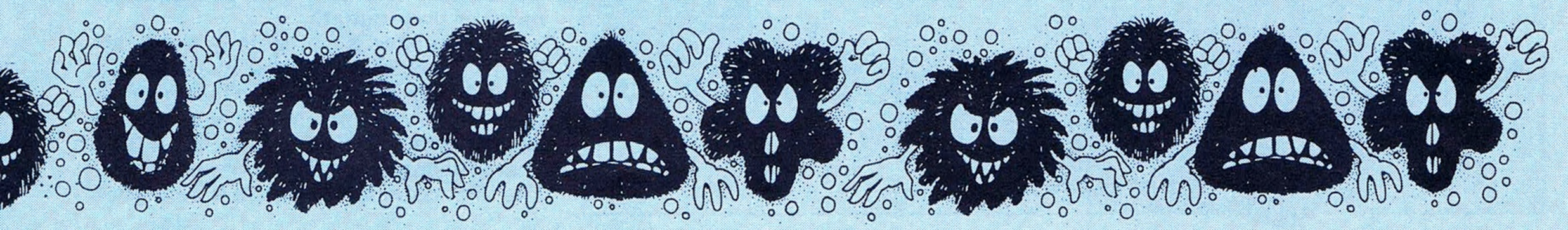
In the mean time, why not try adding routines which allow you to SWIM,-JUMP,CRAWL or CLIMB from one location to another. You could do this by inserting extra test statements in your main control loop such as :

```
400 IF G$="SWIM" THEN GOSUB 2000
or
410 IF G$="DRIN" THEN PRINT
     "I see nothing to drink."
```



```
LISTING 4
1500 DEFPROCobjects
1510 LET E=0
1520 FOR X=1 TO 24 : REM *** 24 objects to be found ***
1525 LET J%=0
1530 IF B%(X)=P% THEN J%=1
1540 IF J%=1 THEN GOTO 1560
1550 NEXT X: GOTO 1570
1560 PRINT G$(X): LET E=E+1: GOTO1550
1570 IF E=0 THEN PRINT "nothing"
1580 ENDPROC
```





MONITOR REPORT

Are you going to have squabbles over whether you play Space Invaders or your sister watches The Sound Of Music this Christmas? Why don't you get a monitor and save all the bother, and have a better picture into the bargain. Mike Roberts looks at the best and worst.

GM1211

Input: Green screen
Composite
Made by: McNally vision
Price: £99

The oddly named GM1211 is the first entry into the monitor marked by McNally, a company that are currently working on another video player format. The monitor is very well made with a lot of interesting design features. A 'tilt and swivel' stand is supplied which enables the monitor to be positioned at any comfortable viewing angle.

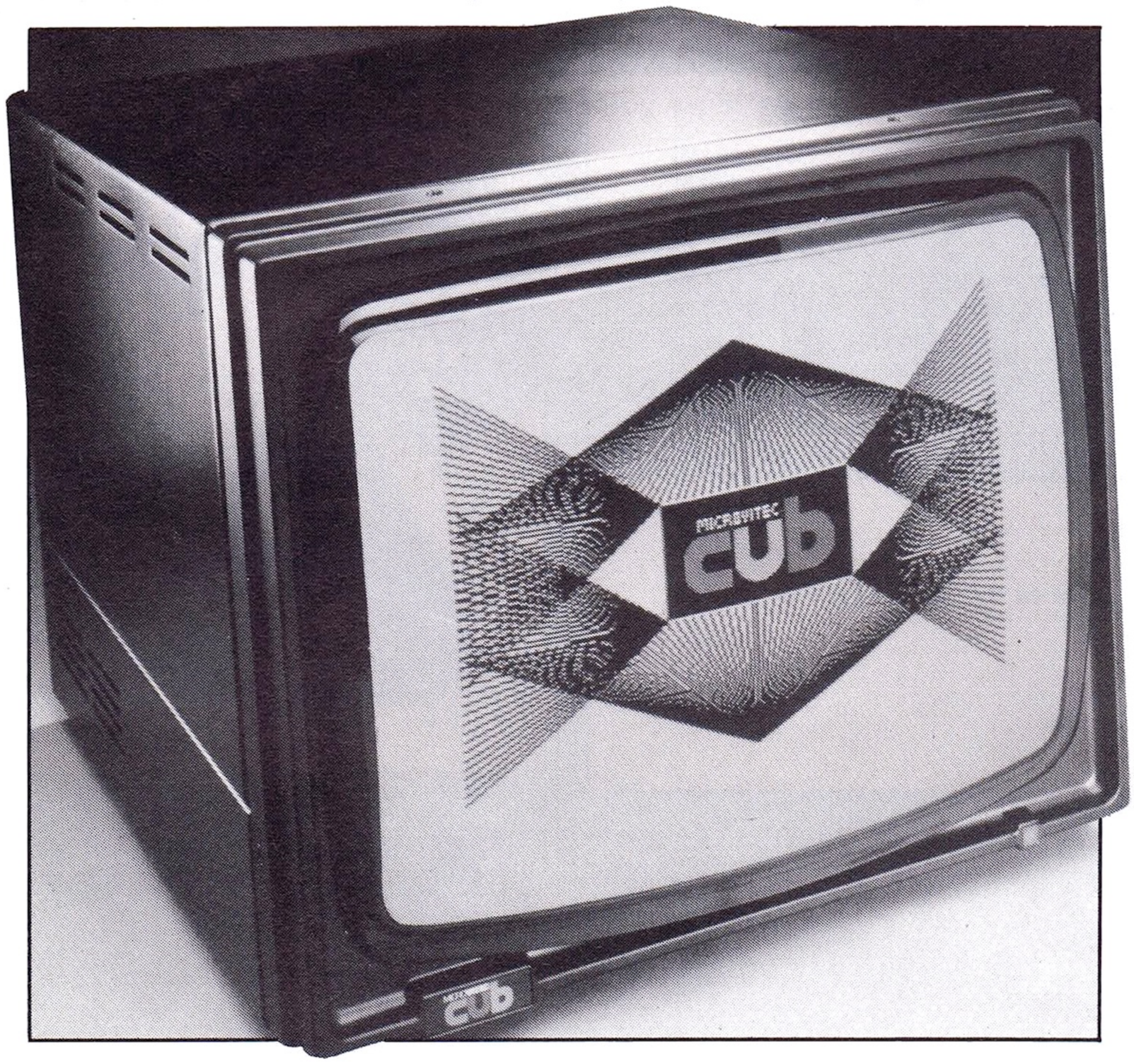
The brightness and contrast controls are on the front and are recessed so that you need to push back a panel surrounding them to make adjustments. This is no extra inconvenience and it means that you cannot knock the controls by accident.

A switch on the back can change the impedence of the unit making it suitable for any composite equipped computer. Other controls are situated on the back but they have to be tweaked with a screwdriver — this encourages you not to touch them, but even so it is a bit rough to have to go to all that trouble to adjust the picture.

Connection is made to a phono socket and there is also a phono out for if you ever need to daisy chain more than one monitor together (in a classroom perhaps?). A phono to phono lead is supplied which will fit machines like the Electron.

The picture produced is stable and it is very precise, I used it on a BBC and it had an excellent picture definition.

This monitor is competing with the Philips in terms of price and performance. Having an RGB input isn't that necessary as most computers have a composite output. The tilt and swivel stand is a real plus because you can put the monitor anywhere.



CUB

Input: RGB, Spectrum, QL
Made by: Microvitec
Price: £230, £258, £275

The Microvitec CUB is the standard monitor for use in schools, and with good reason. The picture is crisp and clear. Colour accuracy is excellent, and it works with a BBC micro like it was made for it. 80 column text is very readable. The external appearance of the display is very utilitarian. No front panel at all — the front of the case is about the same size as the tube. The case is sheet steel and is coloured appropriately — cream for BBC/RGB and Black for QL/Spectrum.

The Spectrum version of the monitor is quite good. It plugs into the expansion port (as always) and generates a picture the likes of which I have never seen on a Spectrum before. Spectrum TV output is notorious in its quality, and a lot of TVs will not operate with it at all. Definition is usually very bad and 'dot crawl' is always present. With the Microvitec it is a whole new story — crisp clear displays with excellent colour balance — well done Microvitec.

The QL version is necessary due to a rather strange quirk that the QL has. It was originally designed to be sold with its own monitor so it generates a non-standard video signal. This means the loss of around 32 pixel columns on each side of the screen, or 16 for a normal monitor. The QL CUB gets around that with an internal modification that adjusts the signal coming in from the computer.

Microvitec monitors are also available for machines like the Apple and IBM.

This is probably one of the best RGB monitors around.

JVC Electrohome

Input: RGBs
Made by: Opus
Price: £264.50

This monitor is designed and built by JVC, well known for their range of video recorders — you may remember that they invented the VHS format. Opus the BBC disk manufacturers are distributing it and it can be found at most of their outlets.

The monitor is available in three different resolutions (low,medium,and high). I only had a look at the medium resolution version, but even so the display was quite adequate. On a BBC micro modes 0 and 2 worked perfectly. The high definition of mode 0 came out

with good graphics although the eighty column text was a bit tiring on the eyes and I would not like to do any extended word processing in this mode with this display.

In mode 2 the colour display was crisp and there was no drifting of colours.



As with a lot of monitors the plug at the back was a strange one and you may need to get your dealer to supply the correct cable for you. The external styling is a bit bleak and reminds me more of a small television than a monitor. The large front panel has a solitary brightness control next to the on/off switch.

Overall this monitor represents a good compromise between quality of display and pressure on the pocket.

Redifusion R/M

Input: Colour Composite
Made by: Rediffusion
Price: £285

This display unit is one of a growing breed of televisions that are also monitors — or conversly monitors that are also televisions.

R/M stands for receiver/monitor and at first glance the unit looks just like any other 22 inch television, but its other abilities are hinted at by a small hatch next to the bottom of the screen. When opened it reveals an audio out socket and a small but sturdy toggle switch. This causes the television to go into monitor mode and a small LED lights up on the front to tell you what is happening.

The inputs for video are two phono sockets — one for sound, and one for the video display. This is a standard configuration and a cable to fit your particular micro should not be hard to find.

Using it with a Commodore 64 proved no difficulty and the display had increased sharpness over the normal modulated PAL signal fed into the aerial socket. One problem I found was the colour 'bleed' on certain colours when there is a very fine vertical line, the colour can change from what you intended it to be. This is due to the electron guns not being lined up to the accuracy that a dedicated RGB monitor uses. With a Grundy Newbrain connected in 80 column mode the display was perfectly readable and nearly as good as some dedicated monitors.

As a television it is excellent and has a special channel for using the more rudimentary computers, such as the Spectrum, which don't support monitors. The top of the range TVRM has teletext and 16 programmable channels, with of course the monitor option built in.

This is excellent value for a display. The quality is not as good as dedicated monitors but there is the added advantage of being able to watch Star Trek as well!

Rediffusion are very big and have a good track record for quality, and service should be easy with all their high street shops — and of course you can rent one of these if you can't afford to buy a monitor outright.

V7001

Input: Green screen Composite, Green screen RGB, sound
Made by: Philips
Price: £69.95

This low cost green screen monitor has been designed to work with as many home computers as possible. It has the two most common monitor connections — composite and RGB, and a built in sound amplifier. The RGB input is rather unique as it does not produce colour but converts each colour into a level of brightness on the screen.

This method produces an excellent display and enables the cheaper green monitors to be used with computers such as the Atmos which do not have a composite output. Green screen monitors are also the best type of display for writing games on and for word processing. For the purposes of the test I had it hooked up to a Taitung Einstein via its RGB connector.

Display quality is excellent and there are a lot of controls in easily accessable places. I would like to have seen more of them on the front panel other than contrast, brightness, and volume. It may look worse but it enables you to adjust the screen and see the picture as the same time.

External styling is good with a stand that folds out and can tilt the display.

One gripe is the non-standard video connector, it was designed for Philips' computer, but that was never released in Britain.

Nice and cheap and you will never have any worries about compatibility with any future computer that you get.

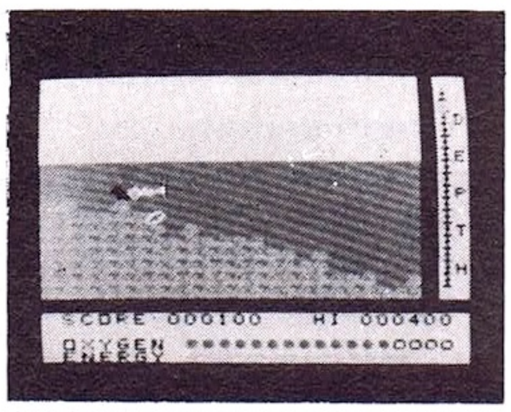
Monitors have many advantages: they free the family television for such strange things as Dallas,Crossroads, and Blankety Blank. A monitor picture is streets ahead of what a television can produce — remember television was never designed to accept computer images, a monitor is. A monitor is a lot less tiring on your eyes than a television. One optician I know said that your eyes can get tired just like any other part of your body, programming or playing on a television is like running a mile — it will exhaust your eyes.

There are three types of connection to a monitor, this is by far the most standard, standard of them all, RGB, Composite, and YUV. RGB is used to drive colour monitors. Each colour (red,green,and blue) has its own separate wire. This means that only eight colours can be displayed.

Composite has the whole video signal mixed into two wires. This type of signal is usally used for driving a green screen monitor that has no colour options. Some colour monitors take colour composite input, these can display a full range of colours. YUV is the signal that the Taitung Einstein generates, I know of no other computer that does this.

Some computers like the Spectrum do not have the ability to drive a monitor directly and must have a special interface or monitor.

FANTASTIC TI-99/4A GAMES



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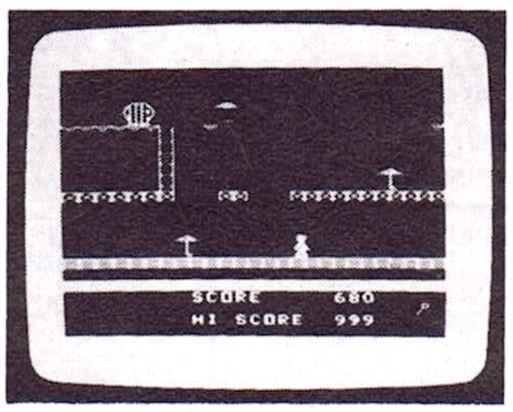
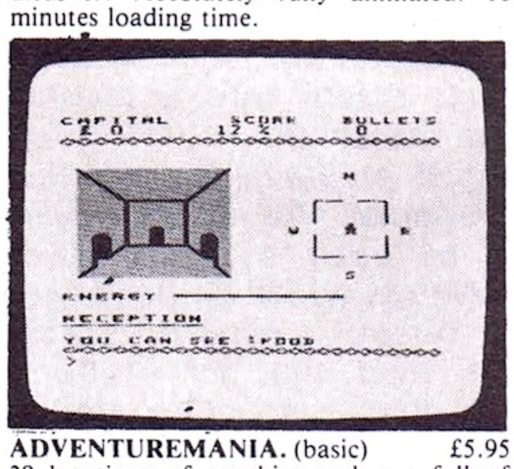


LIONEL & THE LADDERS (ext basic) £7.95
Rung after rung of fun. Screen after scream of pure sprite animation. Can you rescue the princess.
4 Star Review HCW
5 Stars for addiction PCT



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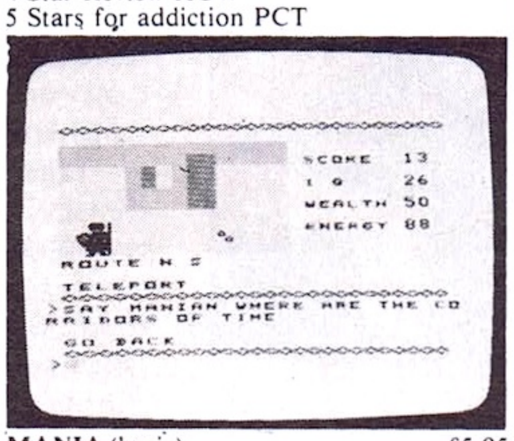

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KEYBOARDS

Fancy a 'real' keyboard for your computer. Baffled by the huge numbers on the market. Mike Roberts looks at the best of the bunch.

A number of the lower priced and older computers on the market such as the ZX Spectrum, ZX81, and Atari 400, had their manufacturing costs reduced by cutting out the keyboard. On a Commodore machine the keyboard represents about 35% of the component cost, so early manufacturers saw this as a way of making a cheap and cheerful computer for general sale.

Now that the cost of computers has dropped and now computers generally have a decent keyboard built in. But what of the older machines? Here we look at three solutions to the keyboard problem.



STONECHIP KEYBOARD

Works on: Spectrum
Made by: Stonechip Electronics
Price: £59.95

The Stonechip keyboard differs from most of its rivals in one important respect — the Spectrum needn't be taken out of its case, this means that the user does not invalidate his guarantee. Remember, the Spectrum has an awful track record when it comes to reliability. Most keyboards mean you have to take it out of its case. If it goes wrong there is no come back, and Spectrums are very difficult to repair.

The Spectrum plugs into a small PCB inside the unit via the edge connector and all the external sockets. This is then screwed to the base and your Spectrum nestles safely inside. The top half of the keyboard is connected to the bottom half by a short ribbon cable. The top half contains the main circuit board and all the extra added features.

When bolted together it makes a strong compact unit. Facing towards you at the top of the keys are two speaker grills. This is the outlet for the integral sound amplifier, also on the top is the volume and tone controls with a three position slide switch that controls whether the amplifier or a tape recorder is to be used.

The keyboard is slightly sloped but is not stepped. There is also a full sized space bar. Two other keys are marked 'reset' they are both on opposite sides of the keyboard and both need to be pressed at the same time to do a complete hardware reset. This will erase any memory contents that are present. The effect is similar to pulling the plug out, but of course it doesn't wear out the plug or socket.

The keys have a good feel and are sculptured to fit your fingers. They have a very square looking appearance with non-rounded off edges which make them look rather chunky.

The 'feel' of the keys is quite good and you can get up to some really fast typing speeds — sometimes even faster that the Spectrum can cope with. All the connectors come out of the back in their normal positions with the exception of the power input. The power input has been moved to the middle of the back of the unit instead of the far right as in the normal Spectrum. This is because the keyboard ribbon cable inside the box attaches itself to the small PCB at that point. At first glance this seems to be a very minor point, but the truth comes out whenever you try to plug in any peripherals. The power socket is so close to the expansion connector that most plug-in expansions will obscure this socket, this prevents the use of joystick interfaces, sound amplifiers etc.

The one big disadvantage with putting your whole Spectrum inside the box is overheating. Spectrums are very prone to overheating, and putting a Spectrum inside the Stonechip keyboard creates overheating problems the camels were designed to solve. There is one tiny grille to allow ventilation, it's on the bottom (heat rises) and is very small. Temperatures inside get very very high.

I liked using the Stonechip keyboard, it has the advantage of a sound amp, a real space bar, double sized enter, delete, and extended mode keys. The reset keys are a very good idea and should extend the life of your Spectrum. The Keyboard feel is adequate and streets ahead of using the rubber mat of the standard machine. The problems are heat dissipation and the power input. If you put a thin add-on, an extender board, or the printer as the first peripheral in the line then all is well, otherwise you will have some difficulty.



DK'TRONICS KEYBOARD

Works on: Spectrum/ZX81
Made by: dk'tronics
Price: £45.00

The dk'tronics keyboard is very impressive at first sight. The box is larger than the Stonechip one and has a sloping front panel containing the keyboar and is about ths size of a Lynx computer. The spec says 'microdrive compatible'. And sure enough it is, looking at the back panel reveals two rows of holes, the top row has all the normal Spectrum legends written on and the lower row has all the Interface 1 lettering.

Now comes the hard part. The Spectrum needs to be removed from its case and screwed inside the box, this is not

as hard as it sounds and full photographs and instructions are supplied. If you want to use Microdrives then the Interface 1 must be removed from its case and screwed in. This can be a little trickier, but is is well within the capabilities of most Games Computing readers with a little common sense and dexterity with the Philips screwdriver.

All this will of course totally invalidate your guarantee from Sinclair and the shop that you bought it from. When the machine goes wrong you will have to find somebody that can fix it or pay out about £20 to Sinclair — *if* they can do it.

When you have done all this you are left with a plastic case complete with a rubber keyboard. This you can give to a friend whose keyboard has just melted — which they do regularly — waste not, want not.

Removing the Spectrum from its box does solve the big problem that faces all Spectrum owners. Spectrums get so hot that you could probably fry an egg on them. The dk'tronics keyboard is very spacious inside and keeps the temperature down to a managable level.

The keyboard itself is of very high quality with a numeric key pad, delete key, proper space bar, and an extra caps shift key next to the symbol shift key. One thing that I didn't like was the legends on the keys were on stick-on bits of plastic instead of being moulded into the keys the colour scheme is difficult to read on the keys as well.

The feel of the keyboard is really quite good — it's as good as any other Spectrum keyboard that I've seen and even some other computers like the Dragon. All keys are sculptured with rounded off corners. The slope of the stepping is very near the optimum for comfortable typing (12 degrees). All this makes for a very easy to use keyboard.

The numeric pad is in addition to the normal keys and reproduces the numbers 0-9, a decimal point, and a delete key. The colour of these keys is red instead of the grey that the rest are, the enter key also shares this difference. There is probably some in depth reason for changing to colour, but as it's the dk'tronics colours it fits in well.

Since the demise of Fuller and their infamous keyboard this one looks like being the best on the market that is actually available. There are some others in the pipeline that look quite interesting but they are not on the market yet and this one is.

If I used a Spectrum for anything other than playing games on then this is the keyboard that I would choose. It makes text entry extremely easy and is definitey a must for a first extra peripheral.

PUSH BUTTON KEYBOARD

Works on: Atari 400,ZX81
Made by: File 60
Price: £19.95, £9.95

This keyboard is not like any other that I have seen. It is meant to improve the use of a 'touch sensitive' type such as the Atari 400 or the Sinclair ZX81.

It works by sitting on top of the existing keyboard and leaving its raised, Spectrum-like, keys open to your battering fingers. Peeling off the backing paper reveals the backs of the keys and lines of glue. Most of the glue seems to remain on the backing paper and this results in the keyboard falling off. A bit of extra glue cures this.

In operation the keyboard is very much like an improved Spectrum one. The keys are slightly harder than the Spectrum's limp ones and have a better feel. Using them on a ZX81 is a vast improvment over the alpha numeric data entry pad (how anybody can call that abomination a keyboard is beyond me) and will probably make the machine last a lot longer as the rubber keyboard is likely to last a lot longer that the Sinclair one.

Use of the Atari is slightly different. You still have to stick it down, and the glue still falls off. The big difference is that the Atari touch sensitive keyboard is very good. It has a built in keyclicker and raised edges around the keys. The File 60 keyboard doesn't improve it a lot. The writer of our recent strategy games series is an avid Atari fan and uses an Atari 400 all the time, he pulled the File 60 keyboard off his machine 10 minutes after putting it on! One plus point is that the keyboard graphics symbols are printed above the keys. On the standard Atari you just have to guess where they are.

In the end I would say that the ZX81 version is a good buy but the Atari just isn't worth the expence as the improvment is so slight.

JOYSTICKS

Some months ago we brought you 'Joystick Jamboree 2', now with Christmas looming on the horizon more sticks are being flooded onto the market. Another development is add-on add-ons. Simon Rockman and Mike Roberts have been trying to get some joy out of sticks and things.



TRACKBALL

Made by: Atari
Compatible with: 9 pin D, track ball connector
Price: £19.95

Atari were the first company to realise the potential of the trackball as a games controller with their now legendary 'Missile Command' game. The principal behind a trackball is having a billiard ball sized spere in a mounting with two fire buttons on either side.

You spin the ball in the direction that you wish to go. There is a special switch that will enable you to use this on a normal joystick game. Flick the switch the other way and the Track Ball mode comes into operation. This mode will enable the computer to detect (I don't know how, there isn't any documentation) the speed at which the track ball is travelling.

Atari have not yet released any games that use this feature so I was not able to test it.

Response is very good and whole set up was very sensitive to every movement. There may be an application here for the handicapped who cannot wield a normal stick.

With the current price reductions at Atari, this ball is the cheapest around, it is also one of the best. Atari have done very well with this product and the reduction in price from £40 is very welcome.

T1-99/4A ADAPTOR

Made by: Suncom
Compatible with: 9 pin D-T1-99/4A
Price: £9.95

This little gizmo allows the poor downtrodden TI owners to use normal Atari style joysticks like the TAC 2, Starfighter, and Quickshot 2.

Using the Quickshot 2 on Parsec was like using buckshot — you could fire like a machine gun without blowing up, very useful.

This is quite a high price to pay for an adaptor of this kind, but it is the only available one on the market. So you pay your money and takes your choice. I liked it.

RAPID FIRE ADAPTOR

Made by: Stack
Compatible with: Nine pin D
Price: £5.

This little unit plugs into your computer, the joystick plugs into it and then strange things start to happen.

Remember the Quickshot 2 with its auto fire option? well this little unit will give that same facility to any computer joystick combination.

The unit's rate of fire is slightly slower than the Quickshot, but this can be an advantage with games like Eagle Empire from Aligata where it will give your shots a wider spread.

A very good (but perhaps a bit unethical!) little unit — would make a good stocking filler for Christmas.

WICO THREE WAY

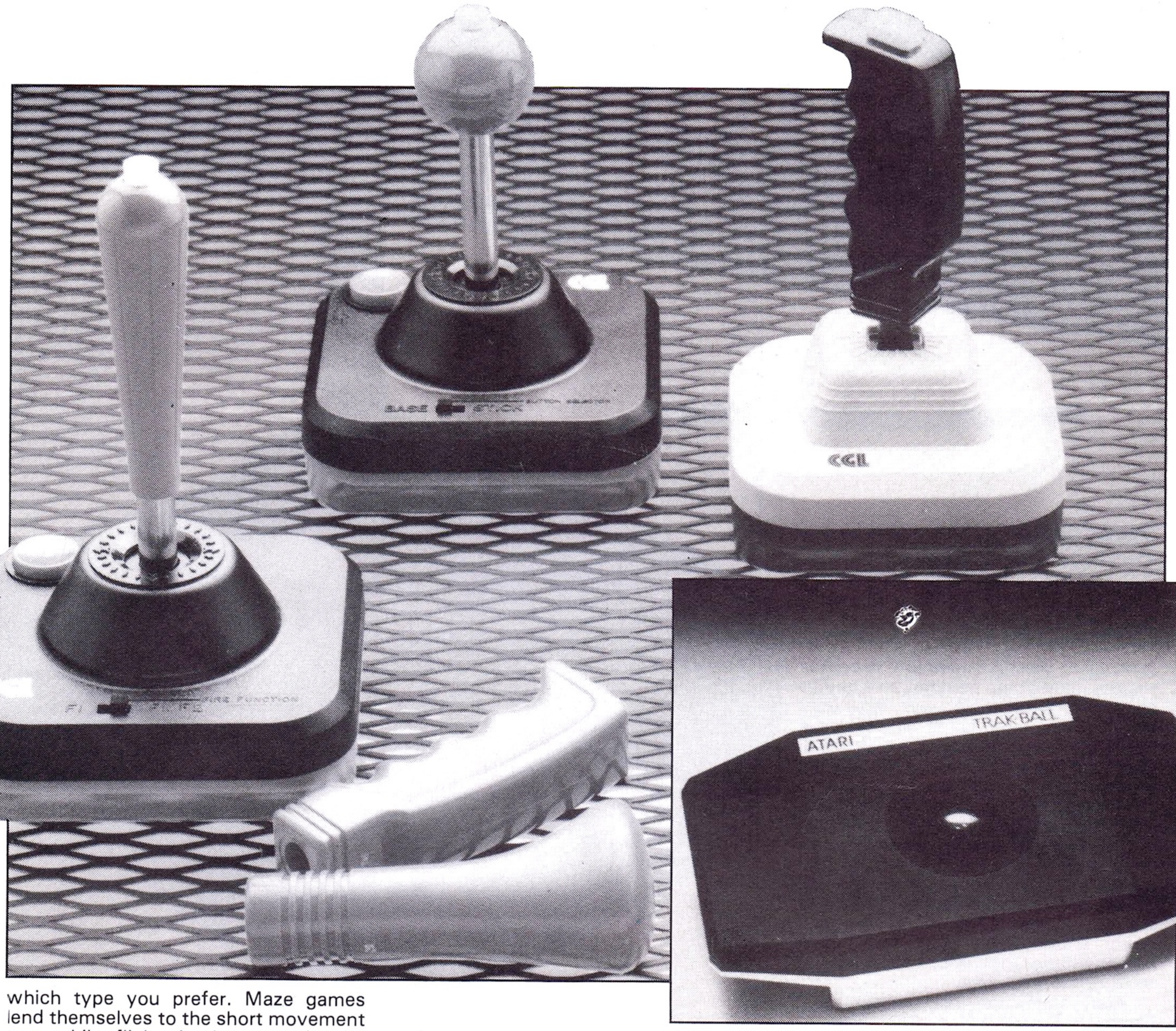
Made by: Wico/CGL
Compatible with: D9
Price: £25

This is really three joysticks in one. The main unit is a standard, high quality Wico base and shaft as used by the Red Ball. The base has a switch on it to select the firing buttons which are active. Either both the base and stick buttons or just the top of the stick can be used as triggers.

There are three types of handle. A heavy grip shape, similar to The BOSS, slender baseball bat shape and an odd handle with a claw-hammer type convex top. After many hours of play testing and a high score of 14600 on Falcon Patrol 2 we decided that the baseball bat type handle was probably the best for games where eight directional movement was essential, whilst the grip type was more suited to the Pole position left/right type game.

The hammer head feels similar to the grip with the advantage that it is easier to fire quickly. All the handles rotate around the shaft making it easy to get your spare hand in position for bursts of rapid fire. In moments of panic the handles can slide up and down. Of all the Wico sticks this is probably the best, however joysticks are very much a matter of taste. The Wico sticks all have a lot of slack and a very slick action, some people prefer the type of joystick which requires minimal movement.

It is probably best to have a few games with a friend's joystick to see



which type you prefer. Maze games lend themselves to the short movement type whilst flight simulators tend to be easier with the longer throw type of joystick. The Wico sticks are all a little pricey but if you are serious about your high scores this is a small economy which dosen't pay.

RED BALL

Made by: Wico/CGL
Compatible with: D9
Price: £23

In many ways the Wico 'Famous' RED BALL is similar to the 3-way. The basic mechanism is the same. This is a tried and tested shape so there is no reason to change it. One thing which many manufacturers fail to appreciate is that the overall shape of a joystick is important.

If the stick has a long shaft it needs a large base to balance that. Here Wico have got it right, their joysticks are amongst the few long handled joysticks to have an adequate base. This means that the RED BALL does not fall out of your hand or slide on the table as you go to zap the mother ship.

The feel of the RED BALL is very much like the Williams' Robotron Arcade games built in joysticks. The action is very smooth, all you need is two of these, a copy of Anirog's Cyberton for the '64, and you need never go into an arcade again to battle the Hulks, Speriods and save the family. The only minus factor with the RED BALL is the arrangement of the fire button selector. Either the button on the base or the button on the stick can be used but not both. What is needed is a three way switch.

In value for money terms the RED BALL is on a par with the 3 Way, it lacks the flexibility of the hoice of handles but benefits from not having a handle which slides about. Our personal preferences were for the 3 way, you may decide differently.

THE BOSS

Made by: Wico/CGL
Compatible with: D9
Price: £13

One way to describe the black and grey Boss joystick is distinctive, it's certainly not pretty, well not in the way that it's Wico companions are attractively packaged in an Oricseque black and red. It is however exceptional value for money.

A four quick flicks of a Philips screwdriver show it to be very well constructed internally. The connections are made using leaf switches, these act as springs and help to return the stick to its original position. The result is a smooth, fast acting device which comes very close to the 3 Way + grip handle on performance.

The fire button is particularly well designed, there is a good amount of give and a rapid return to the home position. If you are heavily into arcade games and would rather spend your money on software then this is the one for you.

SUPER STICK

Made by: Stonechip
Compatible with: D9
Price: £11.95

This is a budget priced joystick and so one cannot be too fussy about its appearance. The Super Stick became know in the office as ''the pink thing'' and is used as just a useful joystick to have around to test the odd game on. When settling down for a long battle against maurading camels it may be worthwhile looking for a more expensive joystick but for the quick test of the latest games this stick is adequate.

JOYSTICKS



ZIPSTICK

Made by: Cookeridge Computer Supplies
Compatible with: D9, BBC
Price: £12.95

An inspection of the internal anatomy reveals it to be very well designed. The circuit is made by copper vanes pressing against ball bearing type contacts in the base. This makes for a good rapid response. Unfortunately the constructions of the joint between the shaft and the base does now allow free enough movement for a really smooth action. The fire button at the top of the stick is well positioned but does not return fast enough for rapid firing. This is one of the many joysticks we have seen with a shaft which is too long for the size and weight of the base. Using the Super Stick on a table is very difficult, it slides everywhere and needs you to hold it still.

If the handle was shorter this would not happen because the player would be unable to apply so much force to the base. The amount of slack in the throw of the stick is a little too great for our liking but again that is a matter of personal taste. This is not a de-luxe joystick and is not priced as such. The glossy box goes over the top describing it as the one that is built to last and portraying it as the greatest thing that ever happened to a computer but then it is the job of packaging to make the product look attractive. As with all these joysticks try it before buying. A cheapie but not at all bad.



This joystick has been sold as the ''Pro-Ace'' and was black, it has undergone cosmetic surgery but has not improved. I prefered the old colour, the Apple beige is a little sickly. Of all the joysticks which suffer from too small a base for the length of the handle this is the worst offender. The whole thing will topple before the stick will move. It would have been better to have designed the base with hand grips rather than to have compromised like this. The type of plastic used makes your hand get very sweaty, something which was quickly cured with some of that sticky towelling used on tennis rackets.

Once modified it became very much better, the response to stick movement is pretty rapid and the fire button works particularly well. Of the cheaper joysticks this is one of the most solid, there are a large number of metal components inside, this causes it to make a clanking sound as the contact plates connect. There are two fire buttons, one surmountng the joystick and another at the front of the stick.

This second button goes the whole way across the joystick making it suitable for the sinistral contingent. The Zipstick is incredibly strong, it would put up with any amount of excessive use, so if you have a particularly agresive little brother who is likely to feed your joystick to the dog this is the one which stands the best chance of survival. A strong little stick.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RUNS ON CBM 64

$HARES

Shares is a program designed to give you the thrills and spills of life on the financial tightrope. In it you must try to make your fortune by buying and selling shares, using your skill and judgement to avoid the bankruptcy court.

You deal in 18 companies, which are spread over 6 areas of trading. Prices rise and fall, and as in real life they have a momentum of their own. It's up to you to pick the successes from the failures, aided only by your skill and the ten items of news you recieve each week on your teleprinter. These news bulletins may or may not affect individual companies or groups of companies, it's up to you to judge.

Once you've moved into profit you might be offered a loan, but beware! If you accept the bank will watch your progress and should your profits fall too low it will be recalled. The game time (in weeks) is set by you at the start of the game and the game will end once this time is up, although you can extend it if the lure of the stockmarket is too great!

That's all you need to know to play. But note, different companies are successful in each game. Good luck, and remember, never stake everything on one deal!

Shares is basically a very simple program, and the listing is fairly easy to follow. However, to aid those of you who like to gain from the programs you type in I have done a line-by-line explanation of the program's structure and a variable list. I hope this will help you!





RICHARD ALLEN 1984

SHARES

VARIABLES USED

NC	Number of companies.
TN	Number of teleprinter news items per week.
MN	Amount of money player has.
OM	Amount of money player had pervious week.
TA	Level of tax on cash.
S	Variable used in sound routine.
GL	Game length in weeks.
WE	Number of week game is in.
LN	Value of player's loan.
SV	Value of player's shares in present week.
OV	Value of player's shares last week.
TP	Tax paid last week.
TD	Tax due next week.
IP	Interest on loan paid last week.
IN	Interest on loan due next week.
TY	Type of teleprinter message.
GR	Group/company number teleprinter number applies to.
EF	Effect of teleprinter message in Group/company.
GR(NC)	Company's group number.
MD(NC)	Company's share price moderator. Used as amount share price is altered by at the end of the week.
RA(NC)	Reaction of company to world events. Effects from teleprinter are multiplied by this to give effect on moderator.
SP(NC)	Share price of company.
BP(NC)	Average of price(s) paid by player for company's shares.
NS(NC)	Number of shares held by player in company.
OP(NC)	Price of company's shares last week.
BA(NC)	Number of weeks company has left in bankruptcy.
TN(TN)	Array holding numbers of teleprinter news items.
CN$(NC)	Company name.
GR$(NC)	Name of company's group.
A,B,Z,T,T-T,I,A$,B-$,X$	Variables used throughout program.

RUNdown

Line	Action
2-7	Set variable values, DIM arrays and GOSUB to read in company data.
10-20	Start new week.
30-60	Enter limit of game.
100-340	Main menu routine.
1000-1070	Display company details in list form.
1020-1040	Loop which actually prints data.
2000-2050	Display share prices in list form.
2015-2030	Loop which actually prints data, including +/− for price rise/fall.
3000-3270	Allow player to buy shares in companies.
3000-3040	Loop which displays data.
3180	Finds bought price by taking average of old bought price and price paid per share this time.
4000-4270	Allow player to sell shares in company.
4010-4040	Loop which prints data.
5000-5100	Teleprinter routine.
5020	Set up loop to print teleprinter news items one by one.
5040	Dummy read routine to by-pass company data.
5050	Dummy read routine to get to item of data (number TN(T) in list) required.
5072-5078	Loop to simulate teleprinter by printing message letter by letter with appropriate sounds.
7000-7060	Print list of companies, with players holding and bought price.
8000-8090	Print players account.
8005	Work out value of players shares at that time.
8007	GOSUB to see if player has made enough profit to get loan.
8008	Work out if player's loan will be recalled at end of week.
8500-8510	GOSUB to end old week routine, GOSUB to start new week routine then return to menu.
9000-9200	Start of new week routine.
9005	If game has reached its limit GOTO end routine. This decision is placed here to allow calculations of price changes etc. to be made first.
9023-9025	Loop to ensure that two teleprinter news items









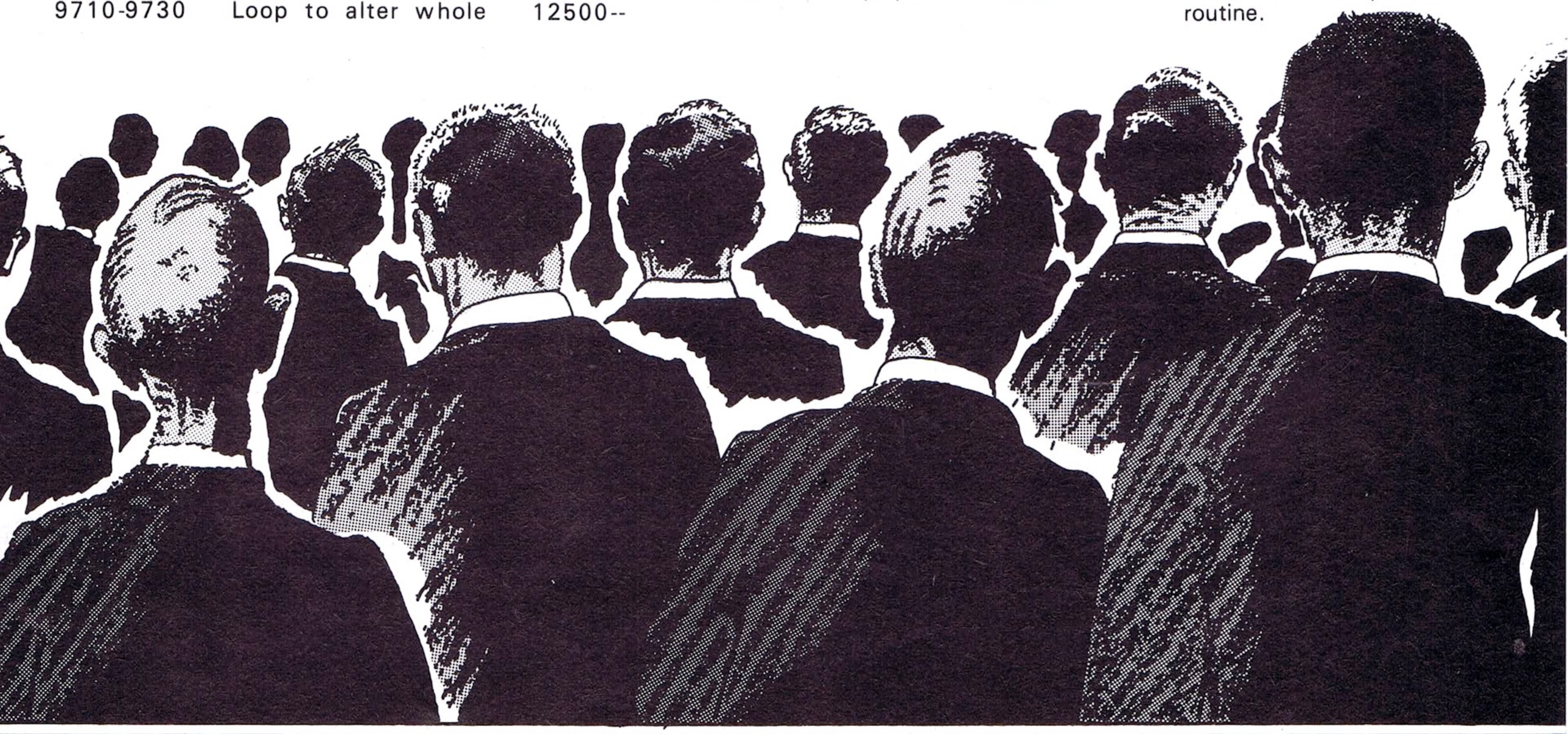






RUNS ON CBM 64

	are not the same in any one week.
9045	If company is about to come out of bankruptcy sets share price to 20 and moderator to +3 to stop it going bankrupt again straight away.
9100	Randomly increase or decrease tax level.
9400-9990	Routine to end old week.
9440	Work out value of all players shares.
9450	Work out interest to be paid on loan.
9500	GOSUB to check if player has enough money to pay debts.
9501	Work out if loan is going to be recalled.
9506-9508	Set each company's old share price to its present share price.
9520	Dummy read loop to discard company data.
9530	Dummy read loop to get to item of news required.
9540	Read in teleprinter news data in form MESSAGE, TYPE (1 = whole group altered, 2 = individual company), EFFECT.
9560	Alter company's moderator by reactivity * effect.
9710-9730	Loop to alter whole groups moderators by company reactivity * effect.
9810-9830	Alter each company's share price by its moderator.
9837-9840	Work out amount of tax and deduct from money.
10000--10090	Read in company's data and randomly decide moderators.
10100--10250	Company data, held in from COMPANY NAME, GROUP NAME, SHARE PRICE, REACTIVITY.
11000--11110	Routine if company has gone bankrupt.
11500--11590	Teleprinter routine identical to one used in 5000 – called from all over program. X$ is the message.
12000--12050	Routine to see if player qualifies for loan and if so ask if it is wanted.
12000	Checks if player is eligible for loan. If not, return.
12050	If player wants loan set LN to loan amount and increase money by loan.
12630	Routine called if loan is to be recalled.
13000--13200	Routine called from main menu if player wants to pay back any of loan.
13500--13530	Routine called if player does not have enough money to pay interest on loan.
13600--13680	Routine called to check if player has enough money/share value to pay creditors. If not print appropriate message then GOTO ending routine.
16000--16100	Ending/extension routine.
19000--19030	Routine called many times from within program to get keypress, which is held as A$.
20000--20425	Teleprinter data held in form MESSAGE, TYPE, COMPANY/GROUP EFFECTED, EFFECT.
21000--21190	Letter print sound for teleprinter routine.
22000--22200	End of line for teleprinter routine.



SHARES

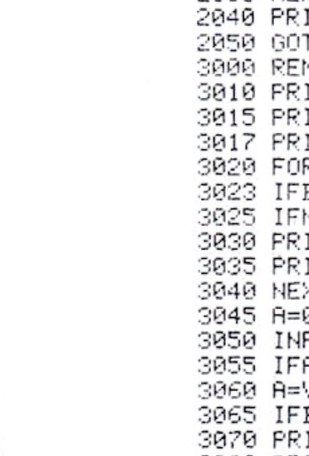
```
2 CLR
3 NC=18:TN=10:MN=5000:WE=0:TA=5:S=54272:OM=5000
5 DIMCN$(NC),GR$(NC),SP(NC),MD(NC),BA(NC),SP(NC),TN(TN),BP(NC),NS(NC),OP(NC)
6 DIMBA(NC)
7 GOSUB10000
10 GOSUB9000
20 FORT=1TONC:OP(T)=SP(T):NEXT
30 PRINT"■                SHAREHOLDER■■■■■■■■"
40 PRINT"■   ENTER NO. OF WEEKS GAME SHOULD LAST"
50 INPUTA$:A=VAL(A$):IFA<3THENPRINT"■■ SORRY, TO SHORT.■■■":GOTO40
53 PRINT"■YOU HAVE ENTERED";A;"WEEKS"
54 PRINT"■IS THIS O.K. (Y/N)":GOSUB19000
55 IFA$="N"THEN30
57 IFA$<>"Y"THEN54
60 GL=A
100 REM MENU
105 A=0:B=0:A$=""
110 PRINT"■■                SHAREHOLDER"
115 PRINT"■WEEK";WE;
117 IFWE+1=GLTHENPRINTTAB(15);"■LAST WEEK":GOTO119
118 PRINTTAB(9)"GAME LIMIT (WEEKS)■";GL
119 PRINTTAB(32)"■TAX";INT(TA);"%■"
120 PRINT"■    1: VIEW COMPANY LIST"
130 PRINT"■    2: VIEW SHARE PRICES"
140 PRINT"■    3: BUY SHARE(S)"
150 PRINT"■    4: SELL SHARE(S)"
160 PRINT"■    5: VIEW TELEPRINTER NEWS"
165 IFLN=0THENGOTO180
170 PRINT"■    6: PAY BACK ALL OR PART OF LOAN"
180 PRINT"■    7: VIEW PORTFOLIO"
190 PRINT"■    8: VIEW ACCOUNT"
200 PRINT"■    9: MOVE TO NEXT WEEKS TRADING"
210 PRINT"■■■■PLEASE SELECT ONE:■"
220 GOSUB19000
230 A=VAL(A$)
240 IFA<1ORA>9THEN220
250 IFA=1THEN1000
260 IFA=2THEN2000
270 IFA=3THEN3000
280 IFA=4THEN4000
290 IFA=5THEN5000
300 IFA=6THEN13000
310 IFA=7THEN7000
320 IFA=8THEN8000
330 IFA=9THEN8500
340 GOTO100
1000 REM VIEW COMPANY LIST
1010 PRINT"■■NO.       COMPANY         GROUP    S/P■■"
1020 FORT=1TONC
1025 IFBA(T)>0THENPRINT"           ■■BANKRUPT■■■":GOTO1040
1030 PRINTT;TAB(4)CN$(T);TAB(26)GR$(T);TAB(32)SP(T)
1040 NEXTT
1050 PRINT"■■HIT ANY KEY TO RETURN"
1060 GOSUB19000
1070 GOTO100
2000 REM SHARE PRICES
2010 PRINT"■■NO.       COMPANY         OLD PR  PRICE■■"
2015 FORT=1TONC
2017 IFBA(T)>0THENPRINT"           ■■BANKRUPT■■■":GOTO2030
2020 PRINTT;TAB(4)CN$(T);TAB(25)OP(T);
2022 PRINTTAB(33)SP(T);
2023 IFSP(T)<OP(T)THENPRINTTAB(38)"■-■":GOTO2030
2025 PRINTTAB(38)"■+■"
2030 NEXTT
2040 PRINT"■■HIT ANY KEY TO CONTINUE■":GOSUB19000
2050 GOTO100
3000 REM BUY SHARES
3010 PRINT"■■                SHAREHOLDER"
3015 PRINT"■ENTER ■■■ TO NOT BUY"
3017 PRINT"■ NO              COMPANY    PRICE HLDN■"
3020 FORT=1TONC
3023 IFBA(T)>0THENPRINT"           ■■BANKRUPT■■■":GOTO3040
3025 IFNS(T)>0THENPRINT"■";
3030 PRINT"■"T;TAB(5)CN$(T);TAB(27);SP(T);TAB(33);NS(T);
3035 PRINT"■"
3040 NEXTT
3045 A=0
3050 INPUT"■■ENTER COMPANIES NUMBER■";A$
3055 IFA$="*"THEN100
3060 A=VAL(A$):IFA<1ORA>NCTHEN3000
3065 IFBA(A)>1THEN3000
3070 PRINT"■                SHAREHOLDER"
3080 PRINT"■■■■COMPANY IS ■";CN$(A);"■"
3090 INPUT"■BUY SHARES (Y/N)";B$
3100 IFB$="N"THEN3000
3110 IFB$<>"Y"THENPRINT"■■■":GOTO3090
3120 PRINT"■YOU HAVE £";MN
3130 PRINT"■";CN$(A);" SHARE PRICE IS■";SP(A);"■"
3140 INPUT"■■ HOW MANY SHARES";B
3150 IF(B*SP(A))>MNTHENPRINT"■■NOT ENOUGH MONEY":FORT=1TO3000:NEXT:GOTO3000
3160 IFB<1THENPRINT"■■■■":GOTO3140
3170 MN=MN-(B*SP(A))
3175 Z=BP(A):IFZ=0THENZ=SP(A)
3180 BP(A)=(Z+((B*SP(A))/B))/2
3190 NS(A)=NS(A)+B
3200 PRINT"■                SHAREHOLDER"
3210 PRINT"■■■■■          TRANSACTION COMPLETE■■"
3220 PRINT"■■■■YOU NOW HAVE■";NS(A);"■SHARES IN■";PRINT"■   ";CN$(A)
3230 PRINT"■■■   THEY ARE WORTH ■";NS(A)*SP(A);"■"
3240 INPUT"■■■ RETURN TO BUYING MENU (Y/N)";B$
3250 IFB$="N"THEN100
3260 IFB$="Y"THEN3000
3270 PRINT"■■■■":GOTO3240
4000 REM SELL SHARES
4010 PRINT"■■                SHAREHOLDER"
4015 PRINT"■ENTER ■■■ TO NOT SELL"
4017 PRINT"■ NO              COMPANY    PRICE HLDN■"
4020 FORT=1TONC
4023 IFBA(T)>0THENPRINT"           ■■BANKRUPT■■■":GOTO4040
4025 IFNS(T)>0THENPRINT"■";
4030 PRINT"■"T;TAB(5)CN$(T);TAB(26);SP(T);TAB(32)NS(T);
4035 PRINT"■"
4040 NEXTT
4045 A=0
4050 INPUT"■ENTER COMPANIES NUMBER■";A$
4055 IFA$="*"THEN100
4060 A=VAL(A$):IFA<1ORA>NCTHEN4000
4065 IFBA(A)>1THEN4000
4070 PRINT"■                SHAREHOLDER"
4075 IFNS(A)=0THENPRINT"■■NOT ENOUGH SHARES":FORT=1TO3000:NEXT:GOTO4000
4080 PRINT"■■■■COMPANY IS ■";CN$(A);"■"
4085 PRINT"■YOU HAVE ■";NS(A);"■SHARES"
4090 INPUT"■SELL SHARES (Y/N)";B$
4100 IFB$="N"THEN4000
4110 IFB$<>"Y"THENPRINT"■■■":GOTO4090
4120 PRINT"■YOU HAVE £";MN
4130 PRINT"■";CN$(A);" SHARE PRICE IS■";SP(A);"■"
4140 INPUT"■■ HOW MANY SHARES";B
4150 IF(NS(A)<BTHENPRINT"■■NOT ENOUGH SHARES":FORT=1TO3000:NEXT:GOTO4000
4160 IFB<1THENPRINT"■■■■":GOTO4140
4170 MN=MN+(B*SP(A))
4175 NS(A)=NS(A)-B:IFNS(A)<0THENNS(A)=0
4180 IFNS(A)=<0THENBP(A)=0
4200 PRINT"■                SHAREHOLDER"
4210 PRINT"■■■■■TRANSACTION COMPLETE■"
4215 IFNS(A)=0THENPRINT"■YOU HAVE NO SHARES IN■■";PRINTCN$(A);"■":GOTO4240
4220 PRINT"■■■■YOU NOW HAVE ■";NS(A);"■ SHARES IN■■"
4230 PRINTCN$(A);"■ WORTH ■";NS(A)*SP(A);"■"
4240 INPUT"■■■ RETURN TO SELLING MENU (Y/N)";B$
4250 IFB$="N"THEN100
4260 IFB$="Y"THEN4000
4270 PRINT"■■■":GOTO4240
5000 PRINT"■■                SHAREHOLDER"
5010 PRINT"■TELEPRINTER"
5020 FORT=1TOTN
5030 RESTORE
5040 FORI=1TONC:READA$,B$,A2,A,A1:NEXT
5050 FORI=0TOTN(T)-1:READA$,A,A1,A2:NEXT
5060 READA$,TY,GR,EF
5070 PRINT"■"
5072 FORI=1TOLEN(A$)
5074 PRINTMID$(A$,I,1);
5075 FORTT=1TO40:NEXT
5076 IFMID$(A$,I,1)=" "THENGOTO5078
5077 GOSUB21000
5078 NEXT:GOSUB22000
5080 PRINT"■"
5090 FORI=1TO1500:NEXT:NEXT
5100 PRINT"■■■HIT ANY KEY TO CONTINUE":GOSUB19000:GOTO100
7000 REM PORTFOLIO
7020 PRINT"■■MONEY IS ";MN;TAB(25)"TAX IS";INT(TA);"%■"
7025 PRINT"NO          COMPANY       HLDN   PR PD PR"
7030 FORT=1TONC
7035 IFNS(T)>0THENPRINT"■";
7040 PRINTT;TAB(4)CN$(T);TAB(25)NS(T);TAB(29)SP(T);TAB(34)INT(BP(T));
7045 PRINT"■"
7050 NEXTT
7060 PRINT"■HIT ANY KEY TO CONTINUE■":GOSUB19000:GOTO100
8000 PRINT"■■                SHAREHOLDER"
8005 SV=0:FORT=1TONC:SV=SV+(NS(T)*SP(T)):NEXT
8007 IFLN>0THENPRINT"■LOAN OF £";LN" TAKEN OUT ALREADY■"
8010 PRINT" ┌──────────────┬──────────┬──────────┐"
8015 PRINT" │              │ OLD WEEK │ NEW WEEK │"
8020 PRINT" ├──────────────┼──────────┼──────────┤"
8022 PRINT" │    CASH      │";OM;TAB(28)"│";MN;TAB(38)"│"
8024 PRINT" ├──────────────┼──────────┼──────────┤"
8031 PRINT" │ SHARE VALUE  │";OV;TAB(28)"│";SV;TAB(38)"│"
8032 PRINT" ├──────────────┼──────────┼──────────┤":TD=INT(MN/100*TA)
8033 IFLN<1THEN8038
8034 IN=INT((LN/100*2.5))
8035 PRINT" │ LOAN INTEREST │";INT(IP);"PAID";TAB(28)"│";IN;"DUE";TAB(38)"│"
8037 PRINT" ├──────────────┼──────────┼──────────┤":TD=INT(MN/100*TA)
8038 PRINT" │     TAX      │";TP;"PAID";TAB(28)"│";TD;"DUE";TAB(38)"│"
8040 PRINT" └──────────────┴──────────┴──────────┘"
8050 PRINTTAB(17)"   TOTAL";TAB(28)"│";SV+MN;TAB(38);"│"
8053 PRINTTAB(28)"└──────────┘"
8055 PRINTTAB(8)"WEEKS P/L ACCOUNT";TAB(28)"│";(SV+MN)-(OV+OM);TAB(38);"│"
8060 PRINTTAB(28)"├──────────┤"
8070 PRINTTAB(10)"ORIGINAL CAPITAL";TAB(28)"│■ 5000■    │"
8075 PRINTTAB(28)"├──────────┤"
8080 PRINTTAB(8)"OVERALL P/L ACCOUNT";TAB(28)"│";SV+MN-5000;TAB(38)"│"
8085 PRINTTAB(28)"└──────────┘"
8087 GOSUB12000
8088 IFINT(((SV+MN-LN)-5000)<(((SV+MN)/100)*10))THENMB=1
8089 IFMB=1ANDLN>0THENPRINT"LOAN MIGHT BE RECALLED AT END OF WEEK":MB=0
8090 PRINT"■■HIT ANY KEY TO CONTINUE":GOSUB19000:GOTO100
8500 REM END OLD WEEK THEN START NEW
8510 GOSUB9400:GOSUB9000:GOTO100
9000 REM NEW WEEK
9005 IFWE+1=GLTHEN16000
9010 FORT=1TOTN
9020 A=INT(RND(0)*90)
9023 FORTT=1TOTN:IFA=TN(TT)THENGOTO9020
9025 NEXTTT
9027 TN(T)=A
9030 NEXTT
9040 WE=WE+1
9045 FORT=1TONC:IFBA(T)=1THENSP(T)=20:MD(T)=3
9050 IFBA(T)>0THENBA(T)=BA(T)-1
9053 NEXTT
9100 TA=TA+RND(0)-.5
9105 IFTA<1THENTA=1
9200 RETURN
```

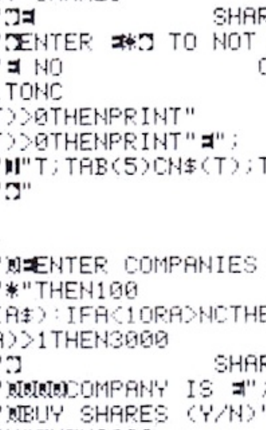


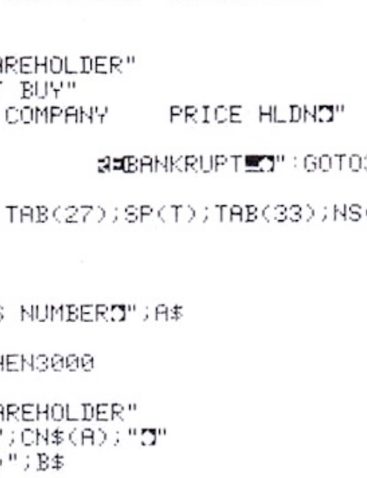


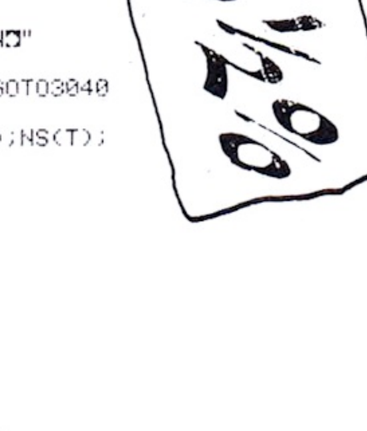


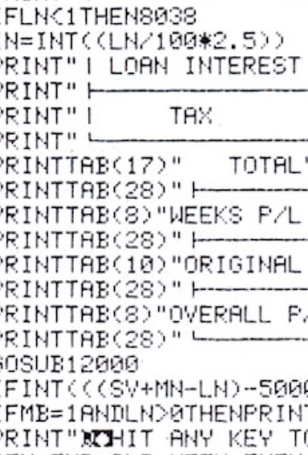


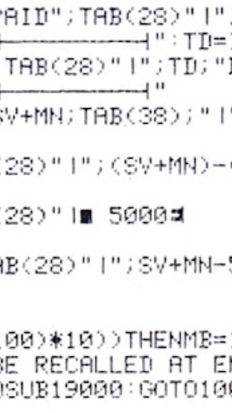


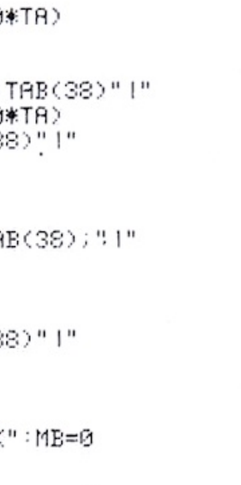












```
9400 REM END OLD WEEK
9420 OM=MN
9430 OV=SV:SV=0
9440 FORT=1TONC:SV=SV+(NS(T)*SP(T)):NEXT
9450 IP=(LN/100*2.5)
9500 GOSUB13600
9501 IFINT(((SV+MN-LN)-5000)<((SV+MN)/100)*10))THENMB=1
9502 IFMB=1ANDLN>0THENGOSUB12500:MB=0
9503 MN=MN-(LN/100*2.5):IFMN<0THENMN=OM:GOTO13500
9504 PRINT"■■■
```

Poor old Bill is very forgetful. He has hidden six pairs of objects in 12 wardrobes and has forgotten where they are. You must help him to find the matching pairs by moving him around the screen using the keys:
A up
Z down
. right
, left
Until he is next to the wardrobe you want to open. You should then press the space bar. You will only be allowed to open two wardrobes at a time, one at the top (a red one) and one at the bottom (a blue one). You will need to try to remember where the objects are hidden in order to win this game.

1. When run, this program redefines many of the ASCII characters which are accessible from the keyboard such as +,*,>,< etc. This makes the listing look very strange and can cause problems when you are typing the program in. I would advise you to press the reset button whenever you try to list this program.

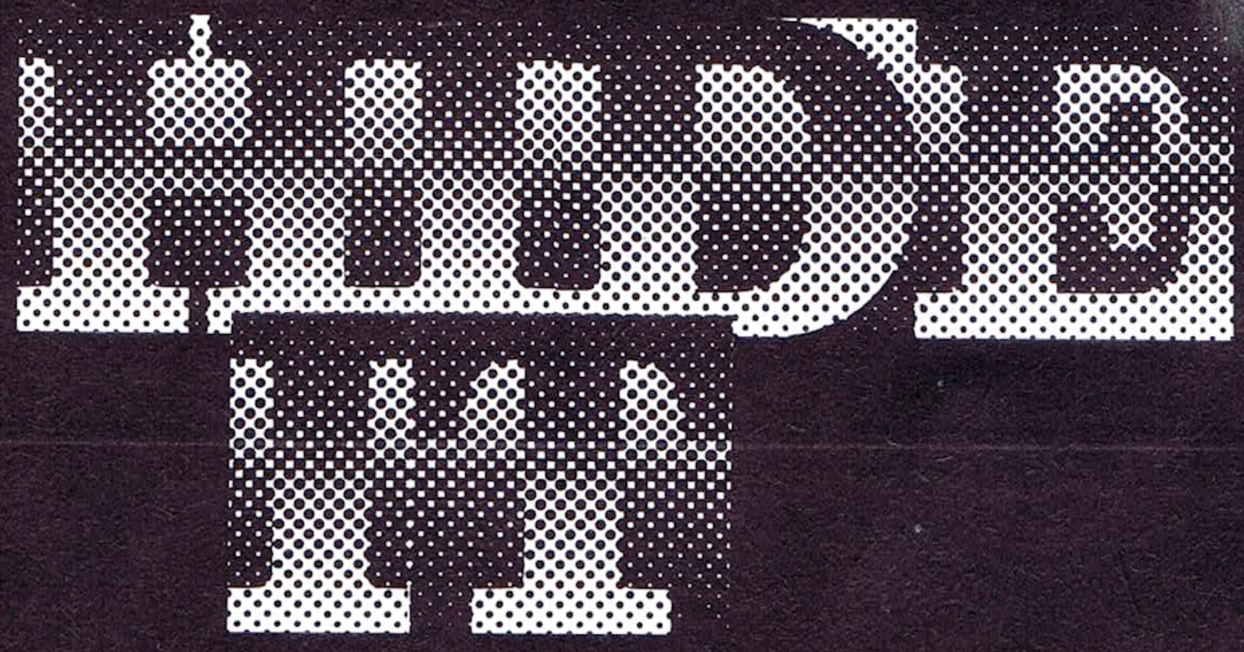
2. The program was written for the ORIC ATMOS 48K. The only change needed for ORIC 1 users is to subtract 1 from the first number in all PLOT statements. 16K users will also need to change the POKE addresses (see manual for details).

RUNS ON ORIC

Variables used

A%(X)	holds contents of top wardrobes
B%(X)	holds contents of bottom wardrobes
X%Y%	coordinates for graphics
LL%,LM%, KL%,- KM%	check for contents of boxes
C$	input from keyboard
AS$	draw BILL
AA$-AH$	graphics
S%	score
D%	number of box

Other variables are used as flags or counters



RUNdown

Lines	Action
10-35	instructions/titles
40	select colour
45	turn off cursor
50	redefine character set
55-65	initialise/dimension arrays
80	hide objects
90	draw wardrobes
95-350	main control loop
360-999	end of game
1000-1120	change character set
1130-1250	fill arrays
1260-1310	draw boxes
1320-1380	check contents
2000-2030	change graphics
7000-7010	data for sound at end of game
8000-8150	check characters
9000-	instructions

Conversion Clues

The program uses many of the facilities which are unique to the ORIC and therefore conversion would be quite complex. The following hints should help (if you are keen enough).

1. PLOT x,y, number — sets the foreground/background attribute for the rest of the line specified by the y number.

2. PLOT x,y, string — prints string variable at x,y coordinates. . . this can be replaced by PRINT TAB (x,y) on BBC, LOCATE x,y on AMSTRAD, PRINT AT on Spectrum etc.

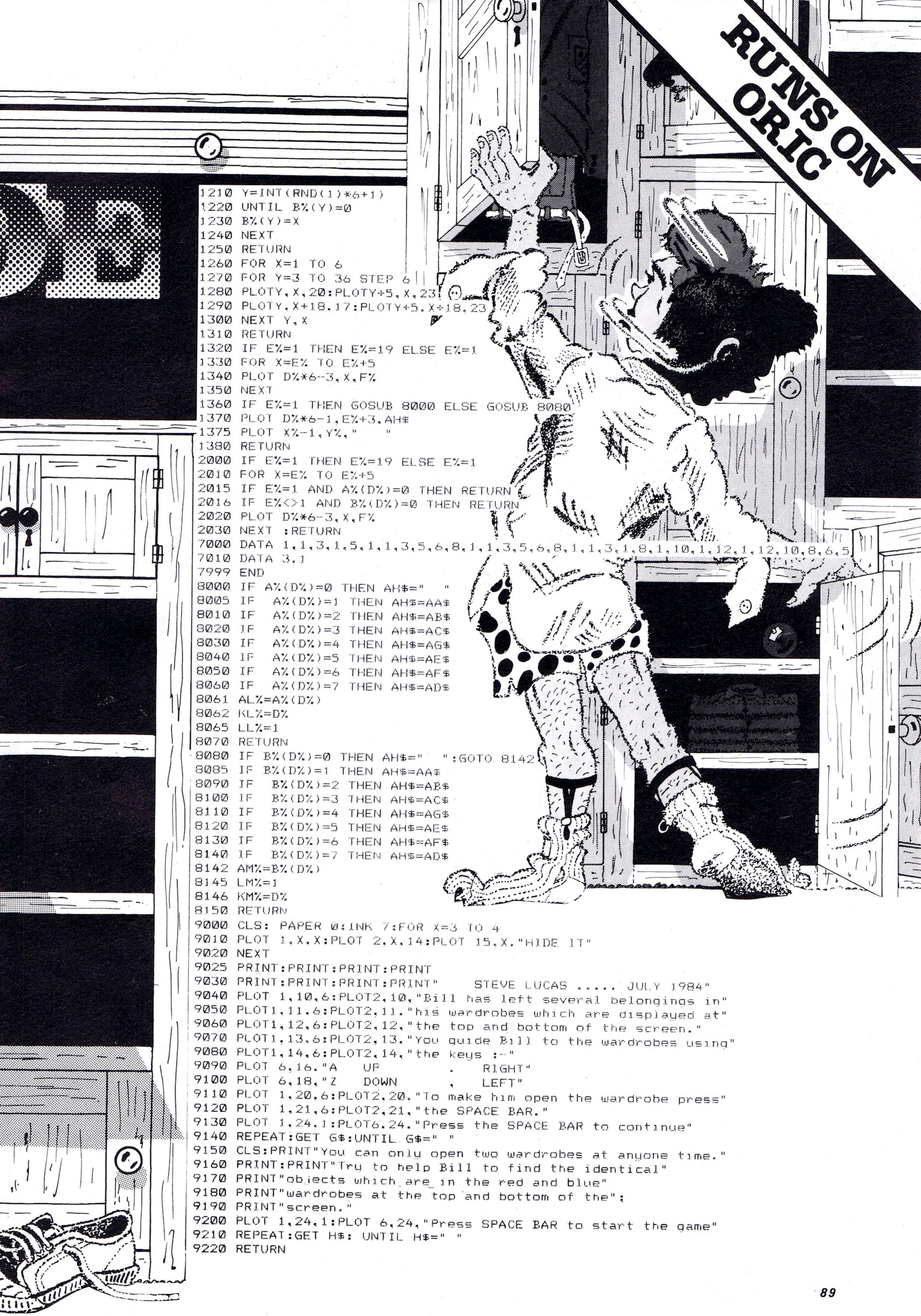
4. The character set AA$-AH$ should be chosen for your machine.

5. You will need to change the sound effects to suit.

6. The most difficult change needed will be that for drawing the graphics blocks for the wardrobes and moving BILL.

```
10 REM ** HIDE IT **
20 REM ** A game for the 48K ORIC ATMOS **
30 REM ** also works in ORIC 1 if you alter PLOT statements **
35 GOSUB 9000:REM TITLES
40 TEXT:GRAB:PAPER7:INK0
45 CLS:PRINTCHR$(17)
50 GOSUB 1000:REM define character set
55 S%=0
60 DIM A%(6),B%(6)
65 CLS
80 GOSUB 1130:REM ** HIDE OBJECTS
90 GOSUB 1260:REM DRAW BOXES
94 LL%=0: LM%=0:KL%=0:LM%=0
95 REPEAT
96 REPEAT
100 X%=19:Y%=15
110 REPEAT
115 Z%=0
120 C$=KEY$
130 IFC$="A"THEN Y%=Y%-1:Z%=1:IFY%<8 THEN Y%=8
140 IFC$="Z"THEN Y%=Y%+1:Z%=2:IFY%>17THENY%=17
150 IFC$="."THEN X%=X%+1:Z%=3:IFX%>37 THEN X%=37
160 IFC$="."THEN X%=X%-1:Z%=4:IFX%<3 THEN X%=3
165 IF Z%=1 THEN PLOT X%,Y%+1," "
166 IF Z%=2 THEN PLOT X%,Y%-1," "
167 IF Z%=3 THEN PLOT X%-1,Y%," "
168 IF Z%=4 THEN PLOT X%+1,Y%," "
170 PLOTX%,Y%,AD$
180 UNTIL C$=" "
190 IF Y%>8 AND Y%<17 THEN ZAP:GOTO110
200 D%=6:IFX%<33 THEND%=5
202 IFX%<27 THEN D%=4
204 IF X%<21 THEN D%=3
210 IFX%<15 THEND%=2
212 IF X%<9 THEN D%=1
220 IF Y%>16 THEN E%=1 ELSE E%=19
221 IF Y%>15 AND LM%=1 THEN EXPLODE:E%=0:GOTO 110
222 IF Y%<10 AND LL%=1 THEN EXPLODE:GOTO 110
230 F%=23:GOSUB1320 :REM ** ERASE BOX & DISPLAY OBJECT
240 UNTIL LL%=1 AND LM%=1
250 IF AL%=AM% THEN S%=S%+1
270 PLOT 5,15,4:PLOT6,15,"Press Space Bar to continue"
280 REPEAT :GETT$: UNTIL T$=" "
290 PLOT 5,15,"                                    "
300 LL%=0:LM%=0
305 IF AM%=AL% THEN A%(KL%)=0: B%(KM%)=0:GOTO 330
310 E%=19:F%=20:D%=KL%:GOSUB 2000 :REM ** DRAW BOX AGAIN
320 E%=1:F%=17:D%=KM%: GOSUB 2000
330 PLOT KL%*6-1,4,"  "
340 PLOTKM%*6-1,22,"  "
350 UNTIL S%=6
360 CLS
365 PAPER 0:INK 7
370 FOR X=3 TO 4:PLOT 1,X,X:PLOT 2,X,14:PLOT15,X,"Well Done"
380 NEXT
390 FOR T=1 TO 34: READ X
400 MUSIC 1,3,X,0: PLAY 1,0,4,500
410 WAIT 10:NEXT
420 PLAY 0,0,0,0
430 PLOT 1,24,1:PLOT 6,24,"Press <Space Bar> for another game"
440 REPEAT
450 GETH$
460 UNTIL H$=" "
470 PRINTCHR$(17):RUN
999 END
1000 FORX=46400TO46431:READA:POKEX,A:NEXT
1010 FORX=46360TO46391:READA:POKEX,A:NEXT
1020 FORX=46560TO46575:READA:POKEX,A:NEXT
1030 FORX=46344TO46351:READA:POKEX,A:NEXT
1040 FORX=46456TO46463:READA:POKEX,A:NEXT
1050 FORX=46576TO46591:READA:POKEX,A:NEXT
1060 AA$="%&":AB$="£$":AC$="()":AD$="*+":AE$="!/":AF$="><":AG$="<="
1070 RETURN
1080 DATA 1,2,4,9,16,21,17,0,32,16,8,36,2,42,34,0,1,1,15,11,3,2,6,0,
     32,32
1090 DATA 60,52,48,16,24,0,1,3,7,15,31,1,3,0,0,32,48,56,60,0,32,0,0,0,4
1100 DATA 3,15,10,11,0,0,0,4,56,62,42,26,0,0,0,15,15,15,8,8,0,0,8,60,44
1110 DATA 36,32,32,0,40,56,56,63,44,60,47,0,0,0,0,62,50,50,62,0,63,34,
1120 DATA 63,34,63,34,62,0,63,17,63,17,63,17,31,0
1130 FOR X=1 TO6
1140 REPEAT
1150 Y=INT(RND(1)*6+1)
1160 UNTIL A%(Y)=0
1170 A%(Y)=X
1180 NEXT X
1190 FOR X=1 TO 6
1200 REPEAT
```

RUNS ON ORIC



```
1210 Y=INT(RND(1)*6+1)
1220 UNTIL B%(Y)=0
1230 B%(Y)=X
1240 NEXT
1250 RETURN
1260 FOR X=1 TO 6
1270 FOR Y=3 TO 36 STEP 6
1280 PLOTY,X,20:PLOTY+5,X,23
1290 PLOTY,X+18,17:PLOTY+5,X+18,23
1300 NEXT Y,X
1310 RETURN
1320 IF E%=1 THEN E%=19 ELSE E%=1
1330 FOR X=E% TO E%+5
1340 PLOT D%*6-3,X,F%
1350 NEXT
1360 IF E%=1 THEN GOSUB 8000 ELSE GOSUB 8080
1370 PLOT D%*6-1,E%+3,AH$
1375 PLOT X%-1,Y%,"    "
1380 RETURN
2000 IF E%=1 THEN E%=19 ELSE E%=1
2010 FOR X=E% TO E%+5
2015 IF E%=1 AND A%(D%)=0 THEN RETURN
2016 IF E%<>1 AND B%(D%)=0 THEN RETURN
2020 PLOT D%*6-3,X,F%
2030 NEXT :RETURN
7000 DATA 1,1,3,1,5,1,1,3,5,6,8,1,1,3,5,6,8,1,1,3,1,8,1,10,1,12,1,12,10,8,6,5
7010 DATA 3,1
7999 END
8000 IF A%(D%)=0 THEN AH$="   "
8005 IF  A%(D%)=1 THEN AH$=AA$
8010 IF  A%(D%)=2 THEN AH$=AB$
8020 IF  A%(D%)=3 THEN AH$=AC$
8030 IF  A%(D%)=4 THEN AH$=AG$
8040 IF  A%(D%)=5 THEN AH$=AE$
8050 IF  A%(D%)=6 THEN AH$=AF$
8060 IF  A%(D%)=7 THEN AH$=AD$
8061 AL%=A%(D%)
8062 KL%=D%
8065 LL%=1
8070 RETURN
8080 IF B%(D%)=0 THEN AH$="   ":GOTO 8142
8085 IF B%(D%)=1 THEN AH$=AA$
8090 IF  B%(D%)=2 THEN AH$=AB$
8100 IF  B%(D%)=3 THEN AH$=AC$
8110 IF  B%(D%)=4 THEN AH$=AG$
8120 IF  B%(D%)=5 THEN AH$=AE$
8130 IF  B%(D%)=6 THEN AH$=AF$
8140 IF  B%(D%)=7 THEN AH$=AD$
8142 AM%=B%(D%)
8145 LM%=1
8146 KM%=D%
8150 RETURN
9000 CLS: PAPER 0:INK 7:FOR X=3 TO 4
9010 PLOT 1,X,X:PLOT 2,X,14:PLOT 15,X,"HIDE IT"
9020 NEXT
9025 PRINT:PRINT:PRINT:PRINT
9030 PRINT:PRINT:PRINT:PRINT"    STEVE LUCAS ..... JULY 1984"
9040 PLOT 1,10,6:PLOT2,10,"Bill has left several belongings in"
9050 PLOT1,11,6:PLOT2,11,"his wardrobes which are displayed at"
9060 PLOT1,12,6:PLOT2,12,"the top and bottom of the screen."
9070 PLOT1,13,6:PLOT2,13,"You guide Bill to the wardrobes using"
9080 PLOT1,14,6:PLOT2,14,"the keys :-"
9090 PLOT 6,16,"A   UP          .   RIGHT"
9100 PLOT 6,18,"Z   DOWN        ,   LEFT"
9110 PLOT 1,20,6:PLOT2,20,"To make him open the wardrobe press"
9120 PLOT 1,21,6:PLOT2,21,"the SPACE BAR."
9130 PLOT 1,24,1:PLOT6,24,"Press the SPACE BAR to continue"
9140 REPEAT:GET G$:UNTIL G$=" "
9150 CLS:PRINT"You can only open two wardrobes at anyone time."
9160 PRINT:PRINT"Try to help Bill to find the identical"
9170 PRINT"objects which are in the red and blue"
9180 PRINT"wardrobes at the top and bottom of the";
9190 PRINT"screen."
9200 PLOT 1,24,1:PLOT 6,24,"Press SPACE BAR to start the game"
9210 REPEAT:GET H$: UNTIL H$=" "
9220 RETURN
```


SELS

RUNS ON TI-99/4A

NUCLEAR RACE

Nuclear Race is set in the control room of a computerised reactor that is out of control and about to go critical. Your job is to damp down the reactor by picking up all ten damping rods, one at a time, and placing them in the reactor core on the right of the screen. The main computer will signal where to place each rod at the start of each run.

The rods will leave an invisible patch of radiation on the floor, which must be avoided. Touch one of these patches and your personal radiation level will increase; if it reaches the limit shown at the bottom of the screen the game will end.

You start with five lives and will lose one each time you place a rod in the wrong core, try to pick up two rods at once or crash into the walls of the control room.

While moving around keep an eye on the time display at the top of the screen. If time is running short it can be reset by the button on the left of the screen, otherwise if time runs out you and the reactor are finished.

Once you have placed all ten rods correctly the reactor will be safe until you wish to play again.

If you find the standard cursor keys uncomfortable change the values of K in lines 270 and 280 to those of keys you prefer.

D.HINE

RUNdown

Lines	Action
160-190	GOSUBS to initialise game.
210-340	Check key-presses, increment timer and check new position of man.
360-460	Reset timer.
480-600	Hit radiation patch.
690-860	Place rod in reactor core.
880-1020	Lose life.
1040-1160	End of game.
1180-1230	Timer count-down.
1250-1320	Select and flash core.
1400-1610	Define characters and colours.
1640-1710	Initialise variables.
1730-1830	Screen set-up.
1850-2120	Print strings to screen.
2140-2240	Randomly place rods on floor.
2260-2330	'Print at' routines.

Conversion Clues

TI BASIC is fairly standard but has some unique sound and graphics routines. Multi-statement lines are not supported. The screen is made up of 24 rows and 32 columns, starting at top left.

CALL CLEAR — Clears the screen.

CALL CHAR(ASCII, ''HEX-STRING'') — Defines or re-defines a character with a 16-digit hex string derived from an 8X8 grid.

CALL HCHAR(ROW, COL, ASCII, REPEAT) — Places a character on the screen at the give co-ordinates and optionally repeats it horizontally.

CALL VCHAR — Similar to HCHAR but repeats character vertically.

CALL GCHAR(ROW, COL, VARIABLE) — Places the code of the character on the screen position given into a variable.

CALL COLOR(CHAR SET, FOREGROUND, BACKGROUND) — Assigns colours to a character set.

CALL SOUND(DUR, FREQ, VOL) — Produces up to three sounds and one noise.

CALL KEY(SCAN, VARIABLE, STATUS) — Scans the keyboard and places the code of the key pressed into the variable. The status is zero if no key is pressed.

Variables Used

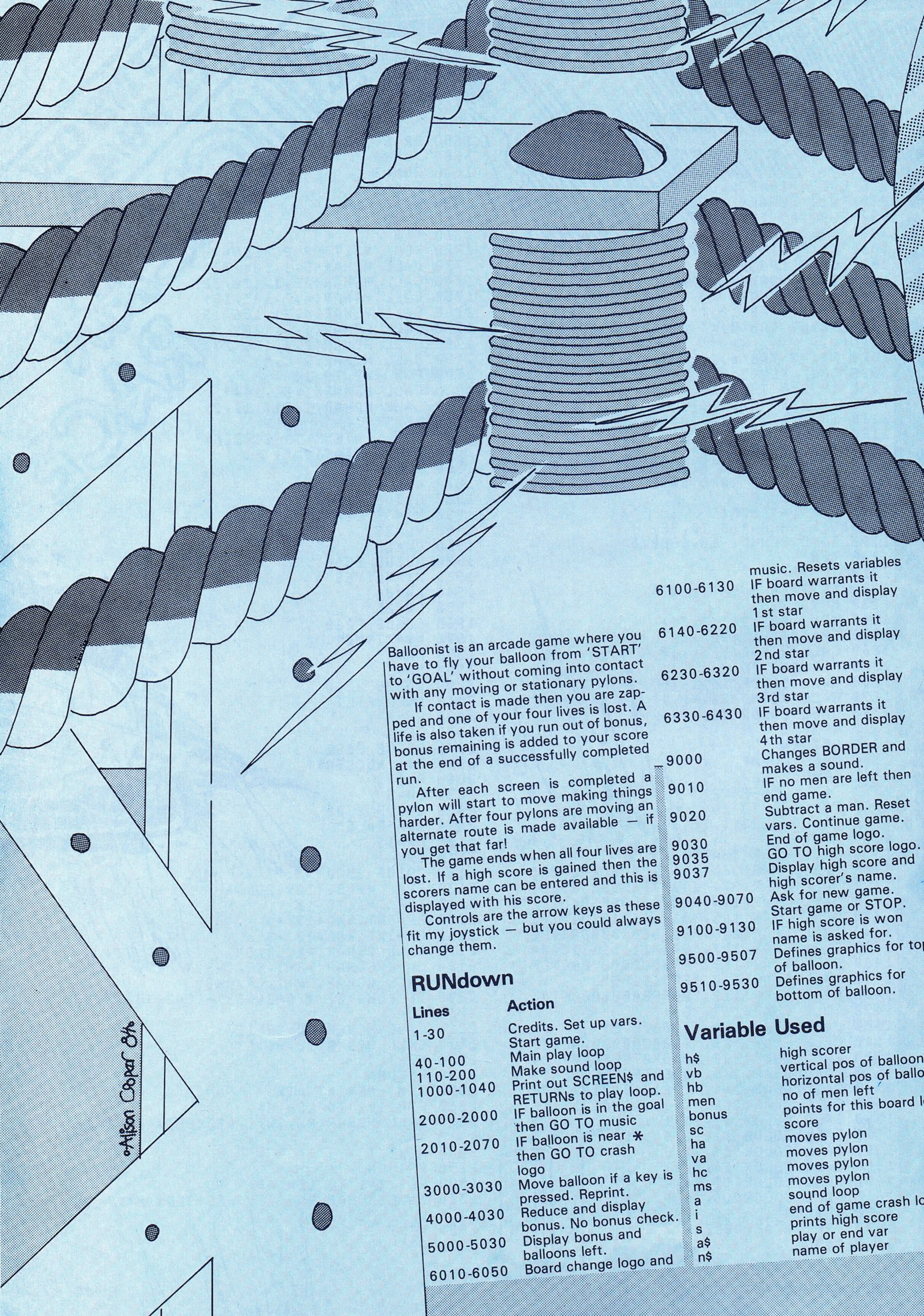
R	Row of man.
C	Column of man.
RE,CE	Erase man.
L	Lives remaining.
DR	Damping rods placed.
TD	Time display.
PP	Time display.
PP	Identify 'target' reactor core.
M$	String to be printed.

```
100 REM    NUCLEAR RACE
110 REM
120 REM   GRAHAM BALDWIN
130 REM
140 REM         1984
150 REM
160 GOSUB 1330
170 CALL CLEAR
180 GOSUB 1640
190 GOSUB 1250
200 REM   *KEY PRESSES*
210 CALL KEY(3,K,S)
220 T=T+1
230 IF T>30 THEN 1180
240 IF S=0 THEN 210
250 RE=R
260 CE=C
270 R=R+(K=69)-(K=88)
280 C=C+(K=83)-(K=68)
290 CALL GCHAR(R,C,H)
300 CALL HCHAR(RE,CE,32)
310 CALL HCHAR(R,C,M)
320 IF H=32 THEN 210
330 IF (H=120)*(M=96)THEN 620
340 IF (H=120)*(M=97)THEN 880
350 REM   *RESET TIME*
360 IF H<>128 THEN 480
370 CALL HCHAR(6,8,128)
380 R=6
390 C=9
400 CALL HCHAR(R,C,M)
410 FOR I=TD TO 26
420 CALL HCHAR(2,I,136)
430 CALL SOUND(-100,110+(I*25),1)
440 NEXT I
450 TD=26
460 GOTO 210
470 REM   *RADIATION*
480 IF H<>113 THEN 690
490 CALL COLOR(9,14,1)
500 RDN=RDN+1
510 FOR I=8 TO 0 STEP -1
520 CALL SOUND(-100,110,5,-7,0)
530 NEXT I
540 CALL COLOR(9,16,1)
550 CALL HCHAR(23,RDN,136)
560 IF RDN>11 THEN 1040
570 CALL HCHAR(R,C,113)
580 R=R-1
590 CALL HCHAR(R,C,M)
600 GOTO 210
610 REM   *TAKE ROD*
620 M=97
630 CALL SOUND(50,-6,0)
640 CALL HCHAR(R,C,113)
650 R=R-1
660 CALL HCHAR(R,C,M)
670 GOTO 210
680 REM   *PLACE ROD*
690 IF (H<>152)+(M=96)THEN 880
700 FOR J=1 TO 3
710 FOR I=330 TO 500 STEP 25
720 CALL SOUND(-100,I,1)
730 NEXT I
740 NEXT J
750 FOR I=7 TO 16
760 CALL HCHAR(I,30,144)
770 NEXT I
780 DR=DR+1
790 IF DR>9 THEN 1130
800 R=20
810 C=9
820 M=96
830 CALL HCHAR(R,C,M)
840 FOR I=1 TO 300
850 NEXT I
860 GOTO 190
870 REM   *LOSE LIFE*
880 FOR I=10 TO 16
890 CALL COLOR(9,I,1)
900 CALL SOUND(-200,110,I,113,I,-7,I-9)
910 NEXT I
920 L=L-1
930 IF L<1 THEN 1040
```

RUNS ON TI-99/4A

NUCLEAR RACE

```
940 CALL HCHAR(R,C,H)
950 R=20
960 C=9
970 CALL HCHAR(R,C,M)
980 CALL HCHAR(24,32,48+L)
990 FOR I=7 TO 16
1000 CALL HCHAR(I,30,144)
1010 NEXT I
1020 GOTO 190
1030 REM  *GAME OVER*
1040 CALL CLEAR
1050 PRINT TAB(10);"GAME OVER":::::
1060 PRINT TAB(5);"YOU PLACED ";DR;" ROD
S":::::
1070 PRINT TAB(6);"PLAY AGAIN? (Y/N)"
1080 CALL KEY(3,K,S)
1090 IF S=0 THEN 1080
1100 IF K=89 THEN 170
1110 IF K<>78 THEN 1080
1120 END
1130 CALL CLEAR
1140 PRINT "  YOU PLACED ALL TEN RODS":::
1150 PRINT "    AND SAVED THE WORLD":::::
1160 GOTO 1070
1170 REM  *TIMER*
1180 CALL HCHAR(2,TD,32)
1190 CALL SOUND(-10,1000,5)
1200 T=0
1210 TD=TD-1
1220 IF TD<4 THEN 1040
1230 GOTO 210
1240 REM  *SELECT TUBE*
1250 PP=INT(RND*10)+1
1260 CALL HCHAR(PP+6,30,152)
1270 FOR I=1 TO 8
1280 CALL COLOR(16,16,9)
1290 CALL SOUND(80,-3,1)
1300 CALL COLOR(16,16,4)
1310 NEXT I
1320 RETURN
1330 CALL CLEAR
1340 RANDOMIZE
1350 CALL SCREEN(2)
1360 FOR I=2 TO 10
1370 CALL COLOR(I,16,1)
1380 NEXT I
1390 REM  *DEF CHARS*
1400 CALL CHAR(96,"18187EBD3C242424")
1410 CALL CHAR(97,"19197FBD3D252525")
1420 CALL CHAR(104,"00000000FF8181FF")
1430 CALL CHAR(105,"0101010101010101")
1440 CALL CHAR(106,"8080808080808080")
1450 CALL CHAR(107,"040A111111110A04")
1460 CALL CHAR(109,"FF000000000000FF")
1470 CALL CHAR(110,"FF8181FF")
1480 CALL CHAR(112,"00FF00000000FF")
1490 CALL CHAR(113,"0")
1500 CALL CHAR(120,"00007E7E")
1510 CALL CHAR(121,"FF000000000000FF")
1520 CALL CHAR(128,"040707FFFF070704")
1530 CALL CHAR(136,"00FFFFFFFFFFFF")
1540 CALL CHAR(144,"FF8181818181FF")
1550 CALL CHAR(152,"FF8181818181FF")
1560 CALL COLOR(11,11,1)
1570 CALL COLOR(12,11,1)
1580 CALL COLOR(13,7,1)
1590 CALL COLOR(14,9,1)
1600 CALL COLOR(15,16,4)
1610 CALL COLOR(16,16,9)
1620 RETURN
1630 REM  *VARIABLES*
1640 M=96
1650 DR=0
1660 TD=26
1670 RDN=3
1680 P=5
1690 L=5
1700 R=20
1710 C=9
1720 REM  *SET UP SCREEN*
1730 CALL HCHAR(3,1,104,32)
1740 CALL HCHAR(22,1,110,32)
1750 CALL VCHAR(4,7,105,18)
1760 CALL VCHAR(4,31,106,18)
1770 CALL HCHAR(6,8,128)
1780 CALL HCHAR(2,4,136,23)
1790 CALL HCHAR(R,C,M)
1800 FOR I=7 TO 16
1810 CALL HCHAR(I,30,144)
1820 CALL HCHAR(I,31,112,2)
1830 NEXT I
1840 REM  *TEXT TO SCREEN*
1850 M$="RADIATION"
1860 RW=24
1870 CW=3
1880 GOSUB 2260
1890 M$="< LIMIT"
1900 RW=23
1910 CW=12
1920 GOSUB 2260
1930 M$="LIVES"&" "&STR$(L)
1940 RW=24
1950 CW=25
1960 GOSUB 2260
1970 M$="TIME"
1980 RW=1
1990 CW=3
2000 GOSUB 2260
2010 M$="RESET"
2020 RW=5
2030 CW=1
2040 GOSUB 2260
2050 M$="NUCLEAR"
2060 RW=8
2070 CW=3
2080 GOSUB 2300
2090 M$="RACE"
2100 RW=15
2110 CW=4
2120 GOSUB 2300
2130 REM  *POSITION RODS*
2140 FOR I=1 TO 10
2150 RR=INT(RND*13)+6
2160 CR=INT(RND*20)+9
2170 CALL GCHAR(RR,CR,CH)
2180 CALL GCHAR(RR-1,CR,CH2)
2190 CALL GCHAR(RR+1,CR,CH3)
2200 IF (CH<>32)+(CH2<>32)+(CH3<>32)THEN
 2150
2210 CALL HCHAR(RR,CR,120)
2220 CALL SOUND(10,-6,5)
2230 NEXT I
2240 RETURN
2250 REM  *PRINT AT*
2260 FOR I=1 TO LEN(M$)
2270 CALL HCHAR(RW,CW+I,ASC(SEG$(M$,I,1)
))
2280 NEXT I
2290 RETURN
2300 FOR I=1 TO LEN(M$)
2310 CALL HCHAR(RW+I,CW,ASC(SEG$(M$,I,1)
))
2320 NEXT I
2330 RETURN
```



Balloonist is an arcade game where you have to fly your balloon from 'START' to 'GOAL' without coming into contact with any moving or stationary pylons.

If contact is made then you are zapped and one of your four lives is lost. A life is also taken if you run out of bonus, bonus remaining is added to your score at the end of a successfully completed run.

After each screen is completed a pylon will start to move making things harder. After four pylons are moving an alternate route is made available — if you get that far!

The game ends when all four lives are lost. If a high score is gained then the scorers name can be entered and this is displayed with his score.

Controls are the arrow keys as these fit my joystick — but you could always change them.

RUNdown

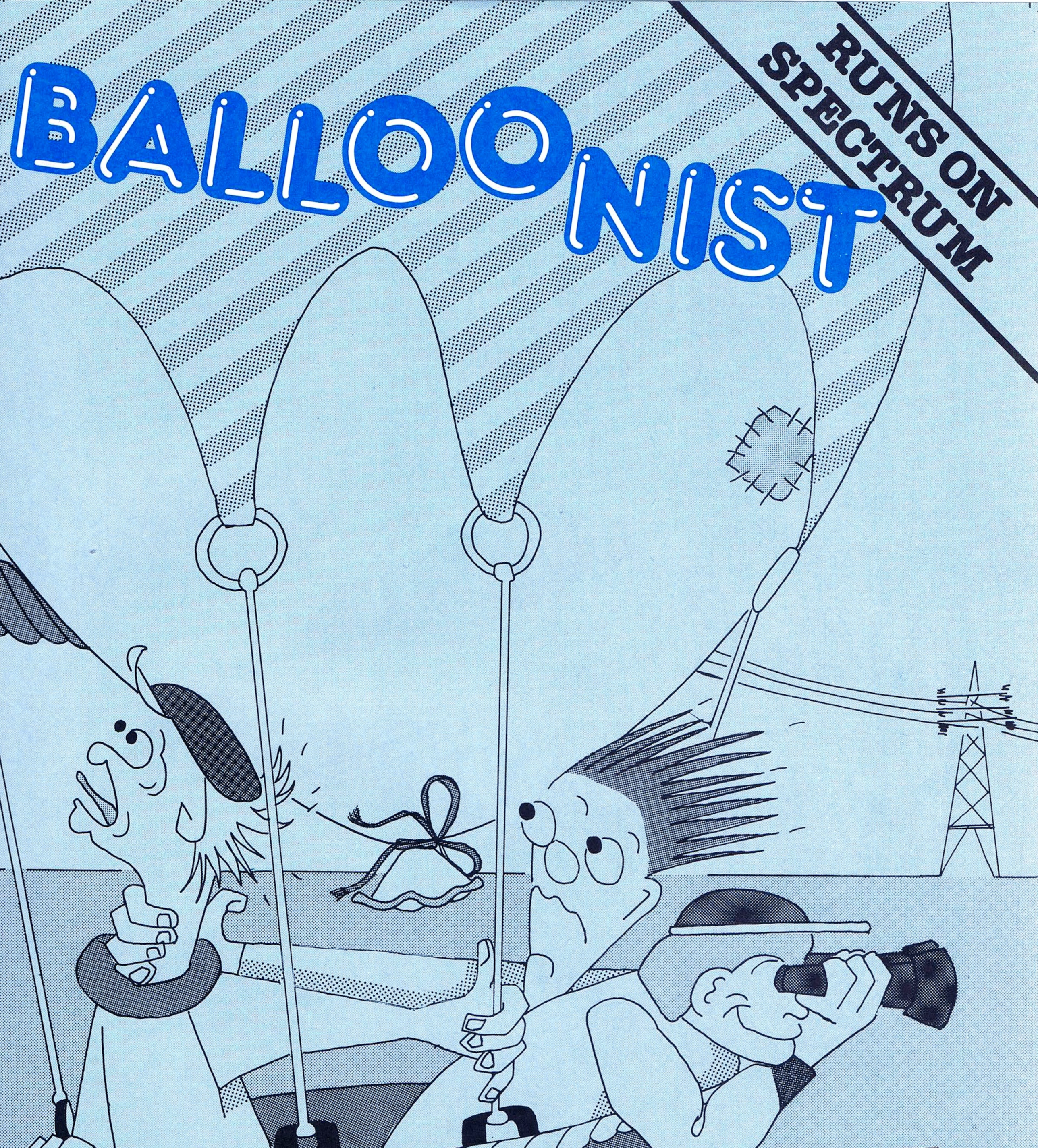
Lines	Action
1-30	Credits. Set up vars. Start game.
40-100	Main play loop
110-200	Make sound loop
1000-1040	Print out SCREEN$ and RETURNs to play loop.
2000-2000	IF balloon is in the goal then GO TO music
2010-2070	IF balloon is near * then GO TO crash logo
3000-3030	Move balloon if a key is pressed. Reprint.
4000-4030	Reduce and display bonus. No bonus check.
5000-5030	Display bonus and balloons left.
6010-6050	Board change logo and music. Resets variables
6100-6130	IF board warrants it then move and display 1st star
6140-6220	IF board warrants it then move and display 2nd star
6230-6320	IF board warrants it then move and display 3rd star
6330-6430	IF board warrants it then move and display 4th star
9000	Changes BORDER and makes a sound.
9010	IF no men are left then end game.
9020	Subtract a man. Reset vars. Continue game.
9030	End of game logo.
9035	GO TO high score logo.
9037	Display high score and high scorer's name.
9040-9070	Ask for new game. Start game or STOP.
9100-9130	IF high score is won name is asked for.
9500-9507	Defines graphics for top of balloon.
9510-9530	Defines graphics for bottom of balloon.

Variable Used

h$	high scorer
vb	vertical pos of balloon
hb	horizontal pos of ballo
men	no of men left
bonus	points for this board l
sc	score
ha	moves pylon
va	moves pylon
hc	moves pylon
ms	moves pylon
a	sound loop
i	end of game crash lo
s	prints high score
a$	play or end var
n$	name of player

BALLOONIST

RUNS ON SPECTRUM



BALLOONIST

```
1 REM Written in May 1984 By
Niall M.
Mc Intyre
  For Games Computing
3 PRINT  INK 0;"Press any key to start playing.."
5 GO SUB 9500
7 BORDER 0: BRIGHT 0: OVER 0: FLASH 0
8 PAUSE 0
10 LET hi=350: LET h$="Spectrum": LET sc=0: LET bonus=500
20 LET vb=18: LET hb=28: LET men=3: LET ms=4
30 LET board=0: LET va=13: LET ha=1: LET hc=25:
40 REM play loop
50 GO SUB 1000
60 GO SUB 2000
70 GO SUB 3000
80 GO SUB 4000
90 GO SUB 5000
100 GO SUB 6100
110 BEEP .008,20-vb
200 GO TO 60
1000 BORDER 6: CLS
1005 INK 0: PAPER 5:
1010 INK 1: PRINT AT 1,0;"
1020 INK 2: PRINT AT 9,0;"
1030 INK 3: PRINT AT 15,0;"
1040 INK 0: RETURN
2000 IF vb<6 AND hb=1 THEN  GO TO 6000
2010 IF SCREEN$ (vb+1,hb)<>" " THEN  GO TO 9000
2020 IF SCREEN$ (vb,hb-1)<>" " THEN  GO TO 9000
2030 IF SCREEN$ (vb,hb+1)<>" " THEN  GO TO 9000
2040 IF SCREEN$ (vb-1,hb+1)<>" " THEN  GO TO 9000
2050 IF SCREEN$ (vb-1,hb-1)<>" " THEN  GO TO 9000
2060 IF SCREEN$ (vb-2,hb)<>" " THEN  GO TO 9000
2070 RETURN
3000 PRINT AT vb,hb;" ";AT vb-1,hb;" "
3010 LET vb=vb-(INKEY$="7")+(INKEY$="6")
3020 LET hb=hb-(INKEY$="5")+(INKEY$="8")
3030 PRINT AT vb,hb;"B";AT vb-1,hb;"A"
3040 RETURN
4000 LET bonus=bonus-1
4010 PRINT AT 21,0;"Bonus=";bonus; INK 3;"*"
4020 IF bonus<1 THEN  GO TO 9000
4030 RETURN
5000 REM score
5020 PRINT AT 0,0;"Score=";sc;" ";TAB 22;"Balloons=";men
5030 RETURN
6010 LET board=board+1
6020 PRINT AT vb,hb;" ";AT vb-1,hb;" "
6030 LET vb=18: LET hb=28
6035 LET sc=sc+bonus
6040 LET bonus=500
6050 FOR a=0 TO 5: BEEP .1,a: BEEP .05,a: BEEP .2,a: BEEP .3,a+10: NEXT a
6100 IF board<1 THEN  RETURN
6110 PRINT AT 15,ha;" "
6120 LET ha=ha+.5: IF ha>6 THEN  LET ha=1
6130 PRINT AT 15,ha;"*"
6140 IF board<2 THEN  RETURN
6200 PRINT AT va,21;" "
6210 LET va=va-.5: IF va<8 THEN  LET va=13
6220 PRINT AT va,21;"*"
6230 IF board<3 THEN  RETURN
6300 PRINT AT 8,hc;" "
6310 LET hc=hc+.5: IF hc>30 THEN  LET hc=25
6320 PRINT AT 8,hc;"*"
6330 IF board<4 THEN  RETURN
6400 PRINT AT 6,ms;" "
6410 LET ms=ms+1: IF ms>7 THEN  LET ms=3
6420 PRINT AT 6,ms;"*"
6430 RETURN
9000 FOR a=1 TO 7: BORDER a: BEEP .05,40: NEXT a
9010 IF men=0 THEN  GO TO 9030
9020 LET men=men-1: LET vb=18: LET hb=28: LET bonus=500: CLS : GO TO 1000
9030 FOR i=1 TO 5: PRINT  INK i;AT vb,hb;"B";AT vb-1,hb;"A": FOR s=1 TO 10: BEEP
 .05,RND*40: NEXT s: BORDER i: NEXT i: BORDER 6
9035 GO SUB 9100
9037 PRINT AT 0,0: FOR s=1 TO 10: PRINT  BRIGHT 1;TAB s;"Hi ";hi;" By ";h$: BEEP
 .01,s: NEXT s
9040 INPUT "Try again (Y/N) ?";a$
9050 IF a$="Y" OR a$="y" THEN  GO TO 20
9060 IF a$="N" OR a$="n" THEN  CLS : PRINT "BYE!!": STOP
9070 GO TO 9040
9100 IF sc<hi THEN  RETURN
9120 LET hi=sc: INPUT "Hi Score - ENTER name ";n$: LET h$=n$
9130 RETURN
9500 POKE USR "a"+0,BIN 00111100
9501 POKE USR "a"+1,BIN 01111110
9502 POKE USR "a"+2,BIN 11111111
9503 POKE USR "a"+3,BIN 11111111
9504 POKE USR "a"+4,BIN 11111111
9505 POKE USR "a"+5,BIN 01111110
9506 POKE USR "a"+6,BIN 00111100
9507 POKE USR "a"+7,BIN 00011000
9508 REM
9509 REM
9510 POKE USR "b"+0,BIN 00011000
9511 POKE USR "b"+1,BIN 00011000
9512 POKE USR "b"+2,BIN 00100100
9513 POKE USR "b"+3,BIN 00100100
9514 POKE USR "b"+4,BIN 00111100
9515 POKE USR "b"+5,BIN 00111100
9516 POKE USR "b"+6,BIN 00111100
9517 POKE USR "b"+7,BIN 00000000
9530 RETURN
```

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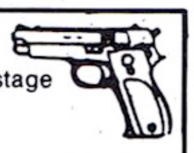

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GAMES COMPUTING AD INDEX

ACORNSOFT	42, 43	INTRIGUE	74
ACTIVISION	35	LANTERN SOFTWARE	67
ANIROG	36, 60	MCNALLYVISION	74
APEX	74	MICRODEAL	OBC
APS	44, 66	MIRROR SOFT	17
CASCADE	67	PARCO ELECTRONICS	6
C. G. L.	41	QUICKSILVA LTD	57
COMMODORE	26, 27	R & R SOFTWARE	30, IBC
DOMARK	25	TASKSET	9
DURRELL	2, 3	WALTERS COMPUTERS	28
FANTASY SOFTWARE	65		

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