October 1984

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GAMES COMPUTING

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85p

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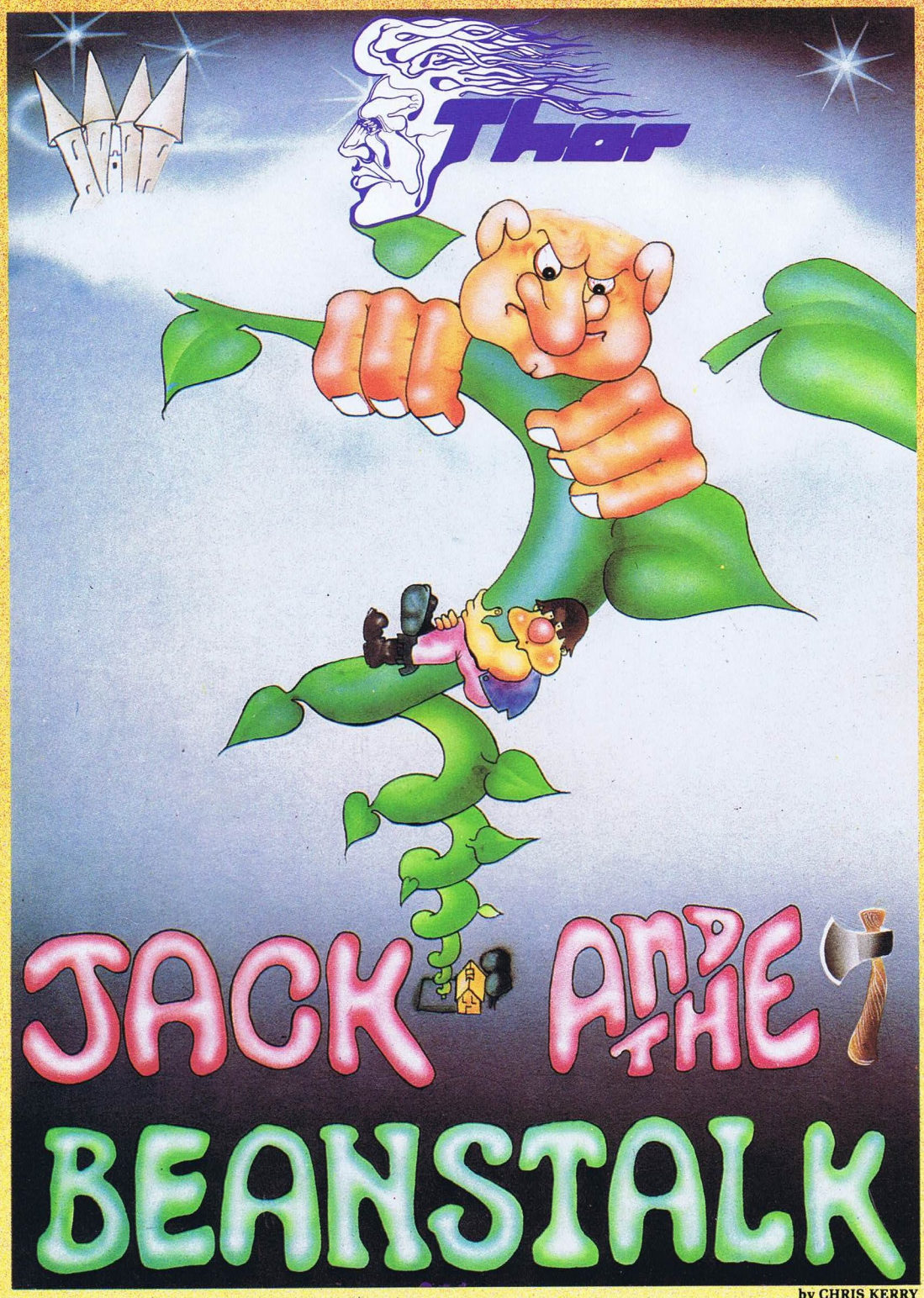
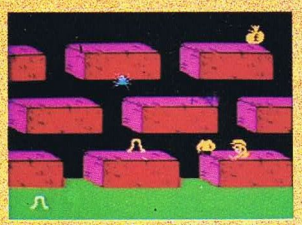
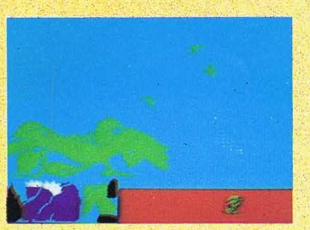


by CHRIS KERRY





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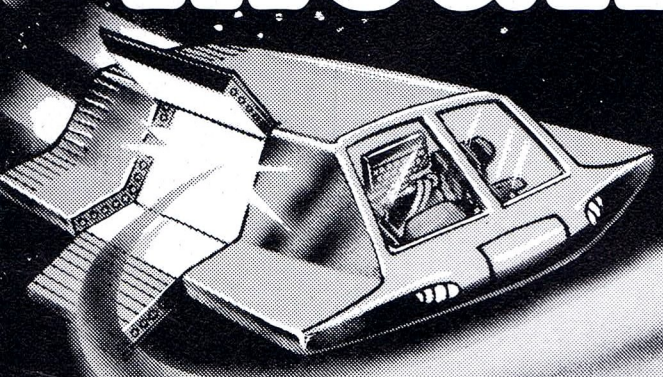

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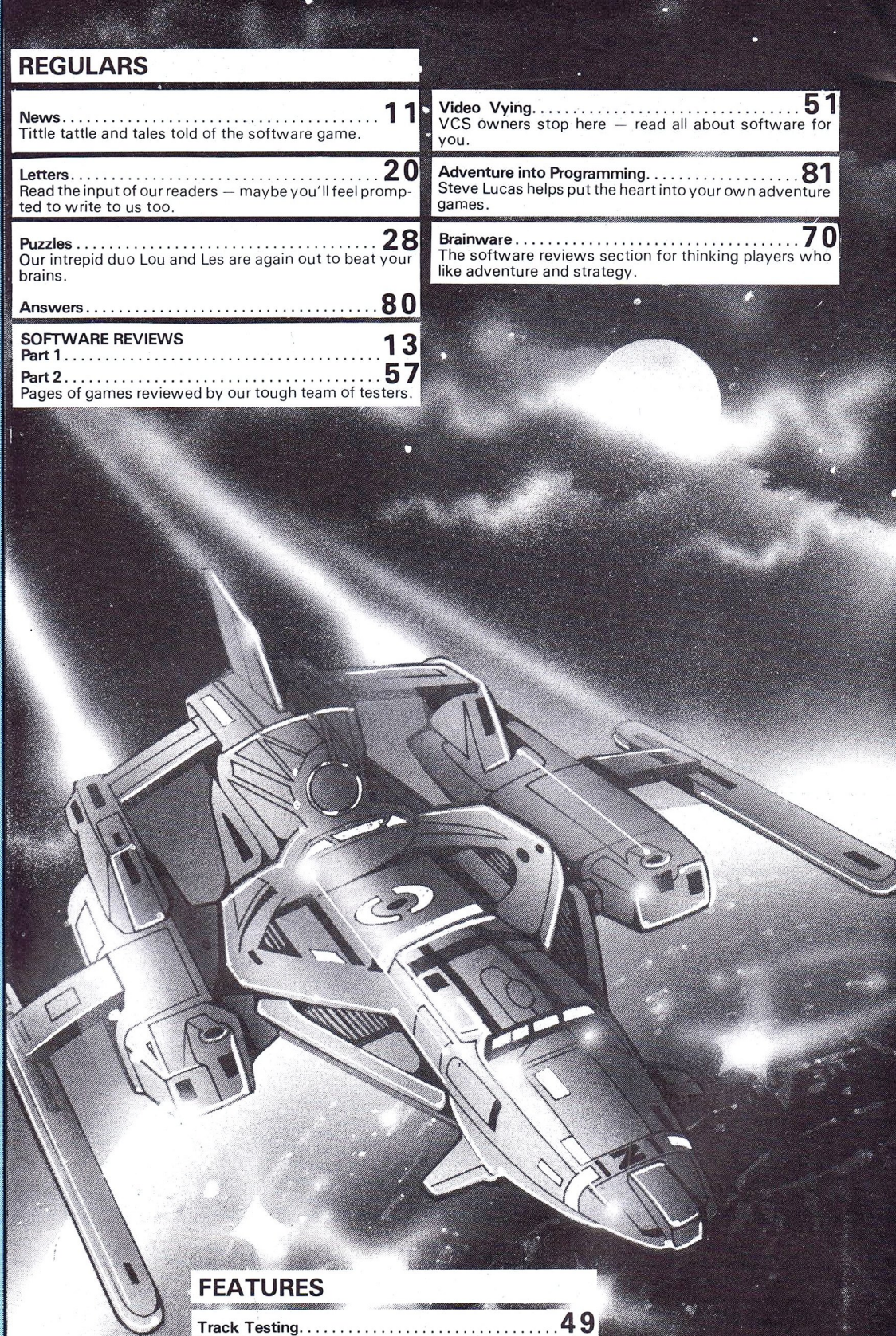

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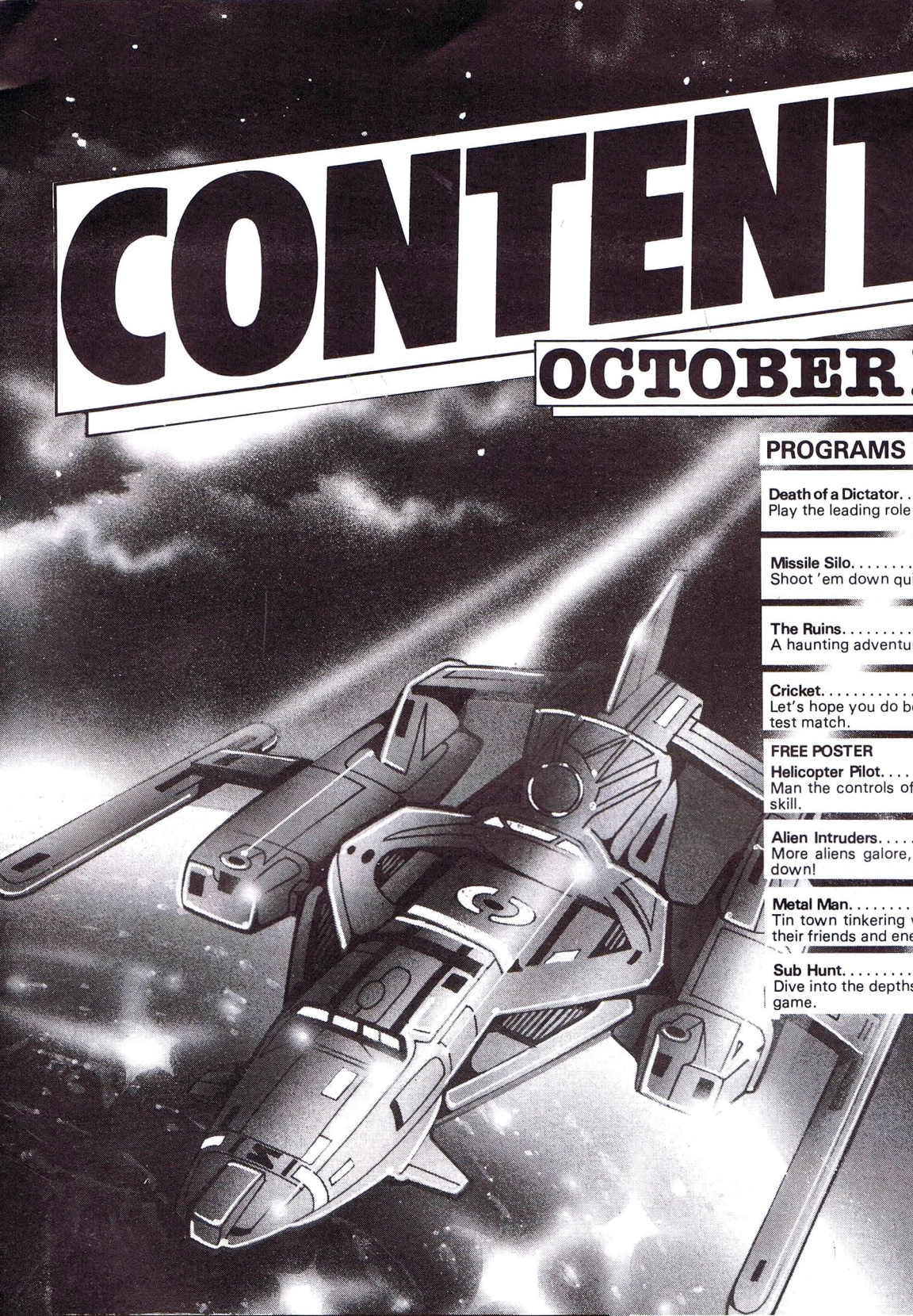

PROGRAMS TO PLAY

Death of a Dictator..... Amstrad 6
Play the leading role in this smart adventure game.

Missile Silo..... CBM64 22
Shoot 'em down quick, before they get you.

The Ruins..... Atari 34
A haunting adventure to type in and play.

Cricket..... CBM 38
Let's hope you do better than the England game in this test match.

FREE POSTER
Helicopter Pilot..... Atari 45
Man the controls of this chopper in a testing game of skill.

Alien Intruders..... BBC 62
More aliens galore, you just can't keep a good alien down!

Metal Man..... Atmos/Oric 74
Tin town tinkering with Nick 'el Alloy, Rusty Bolt and their friends and enemies.

Sub Hunt..... Spectrum 82
Dive into the depths in this great submarine simulation game.

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Editorial Assistant Mike Roberts
Software Assistant Simon Rockman
Advertisement Manager Julie Bates
Assistant Advertisement Manager Jane Edmunds
Copy Control Ann McDermott
Chief Executive Jim Connell
Origination and Design MM Design
Cover Illustration Paul Desmond
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TEXAS PROGRAM
On the front cover of this issue of Games Computing it refers to a program for the Texas. Unfortunately we were unable to run that program after all but could not alter the front cover. Sorry TI owners — we hope you're not too disappointed, and we'll do our best to carry a Texas program next month.

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RUNS ON AMSTRAD

After many years of hard saving, I booked my holiday on the sunny island of Kol, which is situated in the Mediterranean. Since I set off, however, things have gone from bad to worse!

There was a strike by baggage staff at the airport, which delayed my flight and when I arrived in the middle of the night, I was so tired that I slept for about 48 hours. Despite the fact that the island holds the record for sunshine, the rain has been torrential and most areas of the island are flooded.

When I awoke this morning, I found that the island has been invaded by the troops of the Emperor of Holaria, who is reputed to be hiding somewhere on the island. The radio station has been taken over by the troops who are putting out the message that unless the famed Diamond of Kol is delivered to the Emperor himself, he will explode a nuclear bomb and destroy the island in 150 minutes.

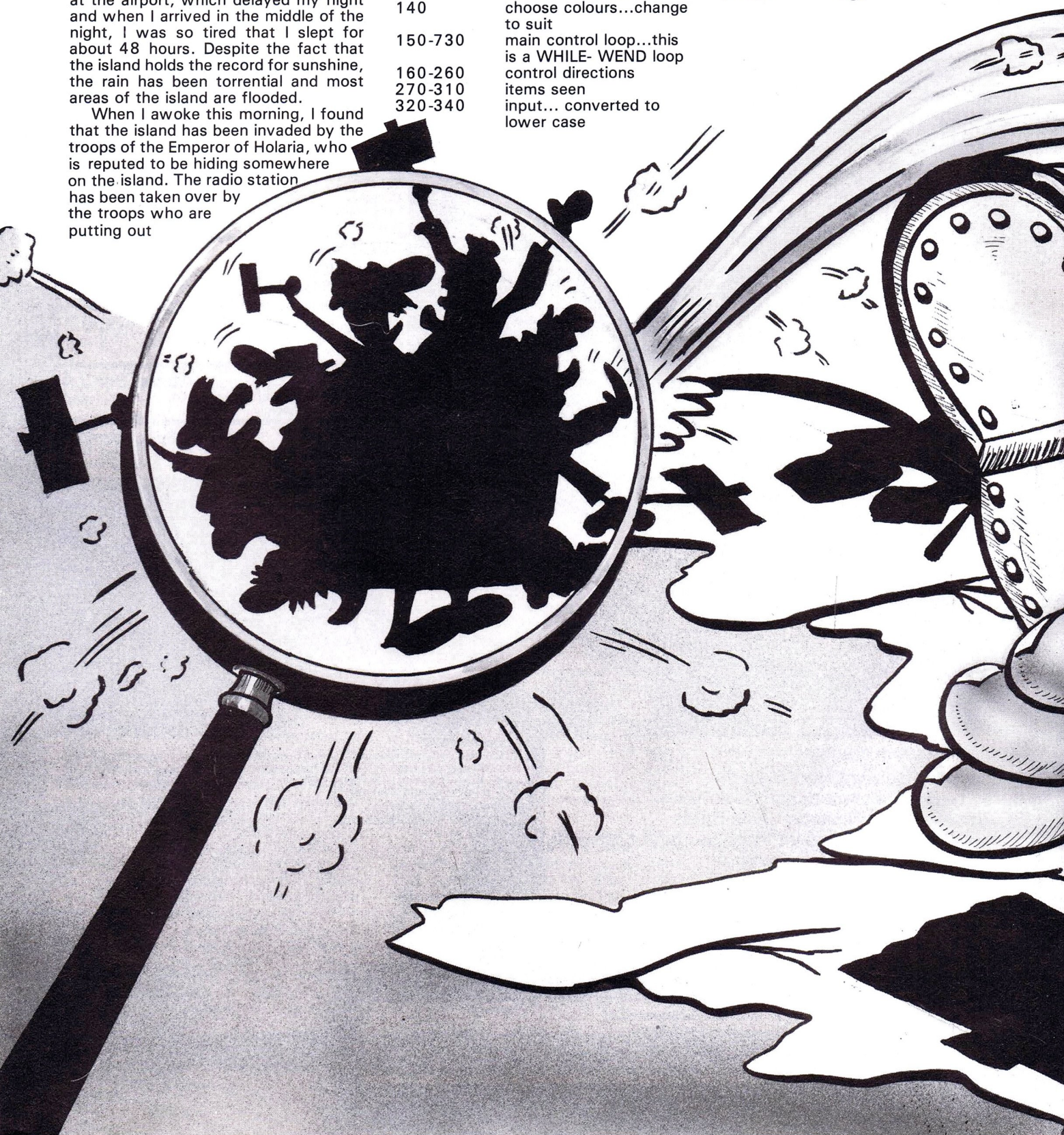
I seem to be one of the only inhabitants left alive and unless I am quick, he is likely to carry out his threat! Each move takes one minute and you can help me by giving me instructions in the form of two word sentences such as EAT FOOD, GET LAMP etc.

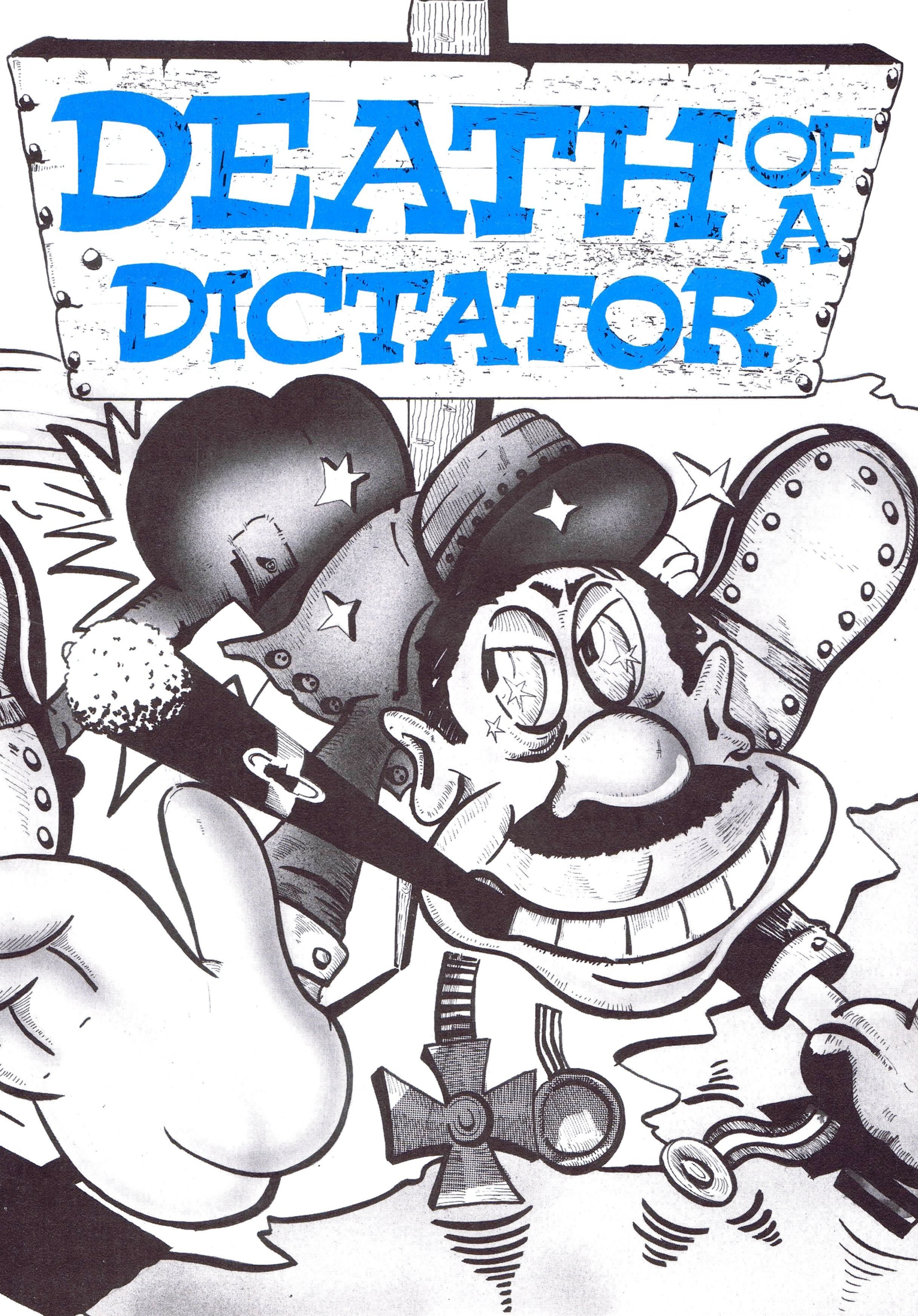
RUNdown

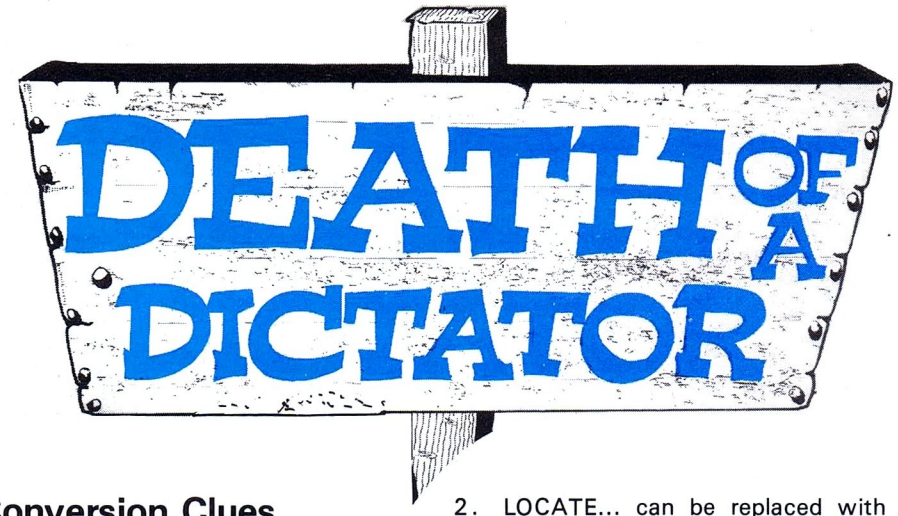
Lines	Action
50-60	initialisation
70	call titles
80-100	read data
110	choose instructions
140	choose colours...change to suit
150-730	main control loop...this is a WHILE- WEND loop
160-260	control directions
270-310	items seen
320-340	input... converted to lower case
350	number of turns
360-720	call routine if input recognised
770-1730	routine for actions
1740-2090	data for game
2100-2140	titles
2150-2270	instructions
2280-2330	lose game

Variables Used

P%	location
S%(x,y)	map
B%(x,y)	pointer
N%(x)	pointer
N$(x)	words understood
Q$)x)	description of location
G$)x)	items
x,y	control variables
SA-SX	flags




DEATH OF A DICTATOR



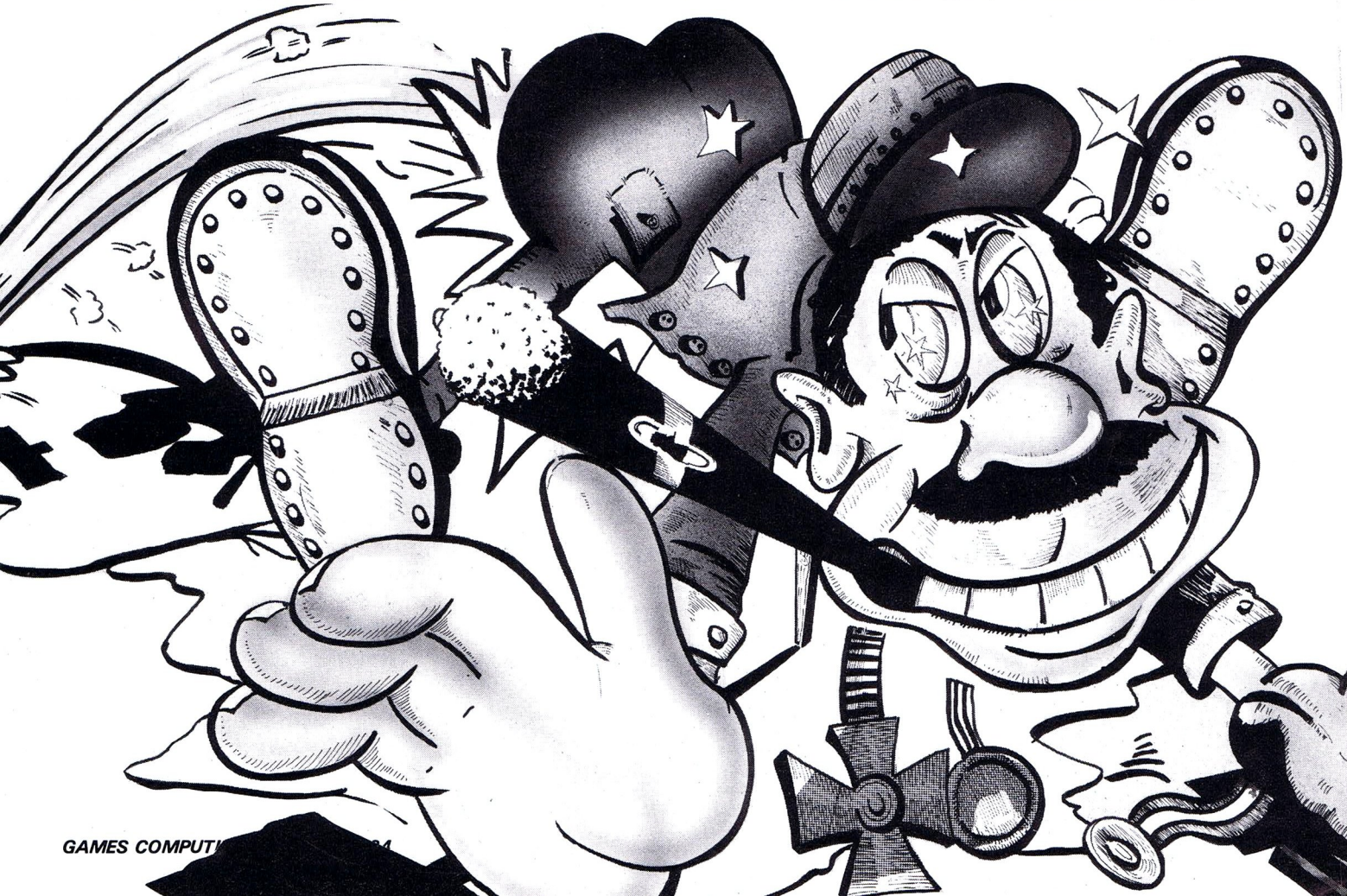
Conversion Clues

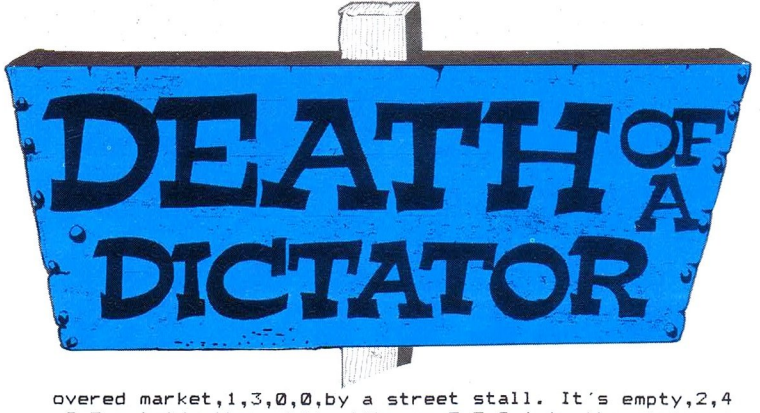
1. The main control loop of this program is the WHILE WEND loop from line 150-730. This could be replaced by a REPEAT UNTIL loop or a conditional GOTO.
2. LOCATE... can be replaced with PRINT @ or PRINT TAB(x,y) as appropriate to your machine
3. PAPER, INK, PEN are used to select colour... you could use PRINT CHR$(x) or whatever method applied to your machine. The program was written in MODE 1, which allows just 4 colours to be displayed in 40 column screen. The colours selected give a good display if you have a colour monitor. You may wish to change these if using the green screen using the INK statements in line 60.
4. LOWER$ ...converts string to lower case.
5. UPPER$ ...converts string to upper case.
6. The Amstrad interprets lower case and upper case as the same thing, so that you can type the program in lower case or upper case! Note that you MUST leave spaces after BASIC key-words, as otherwise they may be interpreted as part of a variable name!

```
10 REM ** Death of a Dictator **
20 REM ** an adventure game for theAmstrad CPC 464**
30 REM **      Steve Lucas  July 1984 **
40 REM to prevent escaping from program change this lin
e to ON BREAK GOSUB 62000 and add RUN in line 62000
50 G%=0:P%=54:DIM S%(103,4),X$(35),N%(70),Q$(103),G$(60
),V$(4),B%(103,1),N$(101)
60 MODE 1: INK 0,1: INK 1,24: INK 2,20: INK 3,6
70 GOSUB 2100
80 RESTORE: FOR X=1 TO 103: READ Q$(X): FOR Y=1 TO 4: R
EAD S%(X,Y): NEXT Y:NEXT X
90 FOR X=1 TO 35: READ X$(X): NEXT X: FOR X=1 TO 20 :RE
AD G$(X),B%(X,1): NEXT
100 FOR X=1 TO 27: READ N$(X),N%(X): NEXT
110 LOCATE 5,20: PRINT"Do you want instructions <Y/N> ?
"
120 aa$=INKEY$: IF aa$="" THEN 120
130 IF aa$="y" OR aa$="Y" THEN GOSUB 2150
140 MODE 1: PAPER 0:  PEN 1:BORDER 3
150 WHILE 1%<147
160 PRINT:PAPER 1: PEN 0: PRINT" I am :-":PRINT:PAPER 0
: PEN 2: PRINT Q$(P%): a$="":gh=FRE("")
170 IF S%(P%,1)>0 THEN a$="North"
180 IF S%(P%,2)>0 AND LEN(a$)=0 THEN a$="South" ELSE IF
 S%(P%,2)>0 THEN a$=a$+",South"
190 IF S%(P%,3)>0 AND LEN(a$)=0 THEN a$="East" ELSE IF
S%(P%,3)>0 THEN a$=a$+",East"
200 IF S%(P%,4)>0 AND LEN(a$)=0 THEN a$="West" ELSE IF
S%(P%,4)>0 THEN a$=a$+",West"
210 IF a$="" THEN a$="nowhere obvious"
220 IF P%=103 AND aa=1 THEN CLS: GOTO 740: REM win game
230 IF g%>149 THEN x$="You ran out of time and He blew
the     island up !": GOTO 2280
240 PRINT:PRINT: PAPER 1: PEN 3: PRINT"I can go :-":PRI
NT:PAPER 0: PEN 1:PRINT a$
250 PRINT:PAPER 2: PEN 0:PRINT"I have ";150-g%;" moves
left": PAPER 0: PEN 2
260 e=0:FOR x=1 TO 20
270 pp%=0: IF B%(x,1)=P% THEN pp%=1
280 IF pp%=1 THEN 300
290 NEXT: GOTO 320
300 IF e=0 THEN PRINT: PAPER 1: PEN 3: PRINT"I can see
:-": PAPER 0 : PEN 1
310 PRINT G$(x): e=e+1: GOTO 290
320 PRINT:PRINT: INPUT"What should I do now ";z$
330 z$=LOWER$(z$)
340 b$=LEFT$(z$,2): c$=LEFT$(z$,3)
350 CLS: g%=g%+1
360 IF c$="loo"THEN 150
370 IF c$="sco" THEN PRINT"This isn't a game you know!"
: GOTO 150
380 IF c$="eat" THEN PRINT x$(9): GOTO 150
390 IF c$="rub" THEN PRINT x$(12): GOTO 150
400 IF c$="hel" THEN PRINT x$(16): GOTO 150
410 IF c$="dri" THEN PRINT" I don't see anything here I
'd like to   drink!":GOTO 150
420 IF c$="say" OR c$="spe" THEN PRINT x$(4): GOTO 150
430 IF c$="pra" THEN PRINT x$(18): PRINT"Nothing happen
s!": GOTO 150
440 IF b$="n" AND S%(P%,1)<>0 THEN P%=S%(P%,1): PRINT x
$(27): GOTO 150
450 IF b$="s" AND S%(P%,2)<>0 THEN P%=S%(P%,2): PRINT x
$(27): GOTO 150
460 IF b$="e" AND S%(P%,3)<>0 THEN P%=S%(P%,3): PRINT x
$(27): GOTO 150
470 IF b$="w" AND S%(P%,4)<>0 THEN P%=S%(P%,4):PRINT x$
(27): GOTO 150
480 IF c$="rea" THEN PRINT"I can't see anything to read
!": Goto120
490 IF b$="n" OR b$="s" OR b$="e" OR b$="w" THEN PRINT"
I can't go that way !": GOTO 150
500 IF c$="pho" THEN PRINT"now then don't be silly!": G
OTO 150
510 IF b$="fu" OR b$="pi" THEN PRINT x$(22): GOTO 150
520 IF c$="bug" THEN PRINT x$(23): GOTO 150
530 IF c$="inv" THEN 1480
540 IF c$="row" OR c$="sai" OR c$="pad" OR z$="go dingh
y" THEN 1620
550 IF c$="up" OR c$="cli" OR z$="go up" THEN 770
560 IF c$="dow" OR z$="go down" THEN 830
570 IF c$="out" OR z$="go out" THEN 880
580 IF b$="in" OR z$="go in" THEN 920
590 IF z$="go bus" OR z$="go ride" OR c$="rid" THEN 950
600 IF c$="wai" THEN PRINT x$(27): FOR x=1 TO 1000: NEX
T x: g%=g%+1: GOTO 150
610 IF c$="jum" THEN 980
620 IF c$="div" THEN 1000
630 IF c$="get" OR c$="tak" OR c$="gra" THEN 1030
640 IF c$="dro" OR c$="lea" OR c$="put" THEN 1350
650 IF c$="ope" AND P%=64 THEN PRINT X$(26): GOTO 150
660 IF c$="unl" THEN 1550
670 IF c$="kis" THEN 1610
680 IF c$="g.v" THEN 1650
690 IF c$="exa" THEN PRINT"I see nothing special or unu
sual !": GOTO 150
700 IF c$="swi" THEN PRINT"Just give me a direction and
 I'll swim  if I have to !": GOTO 150
710 IF c$="kil" OR c$="sho" OR c$="des" THEN 1680
720 IF c$="sea" THEN PRINT"I see nothing here": GOTO 15
0
730 PRINT x$(5):  WEND
740 CLS:PRINT:PAPER 2: PRINT"          W e l l  D o n e
": PAPER 1
752 PRINT:PRINT:PRINT:PRINT"     You have solved this a
dventure."
760 END
770 IF P%=29 THEN PRINT X$(7):P%=30: GOTO 150
780 IF P%=100 THEN PRINT X$(7): P%=101: GOTO 150
790 IF P%=13 THEN PRINT"I keep slipping back !": GOTO 1
50
800 IF P%=60 THEN PRINT X$(7): GOTO 150
810 IF P%=41 THEN PRINT X$(7): GOTO 150
820 PRINT"I can't do that here !": GOTO 150
830 IF P%=30 THEN PRINT X$(8):P%=29: GOTO 150
840 IF P%=40 THEN P%=41: PRINT X$(8): GOTO 150
850 IF P%=101 THEN PRINT X$(8): P%=100: GOTO 150
860 IF P%=61 THEN PRINT X$(8): P%=60: GOTO 150
870 GOTO 820
880 IF P%=74 THEN PRINT X$(27):P%=73: GOTO 150
890 IF P%=28 THEN P%=27: PRINT X$(27): GOTO 150
900 PRINT"How can I do that here ?": GOTO 150
910 PRINT"Now who's a SILLY BILLY then ?": GOTO 150
920  IF P%=27 THEN P%=28: PRINT X$(27): GOTO 150
930 IF P%=73 THEN P%=74: PRINT X$(27): GOTO 150
940 PRINT"I can't do that here!": GOTO 150
950 IF P%=26 THEN PRINT"There's not a bus in sight that
's       running!": GOTO 150
960 IF P%=38 THEN PRINT X$(27): PRINT"I get off at the
next stop": P%=26: GOTO 150
970 PRINT"Don't be absurd !": GOTO 150
980 IF P%=90 THEN PRINT X$(27): P%=89 : GOTO 150
990 IF P%=89 THEN P%=90:PRINT"Phew just made it!": GOTO
 150
1000 IF P%=63 OR P%=59 THEN PRINT"SPLASH!": P%=15: GOTO
150
```

RUNS ON AMSTRAD

```
1010 PRINT"Now who's a SILLY BILLY then ?": GOTO 150
1020 IF se=1 THEN PRINT x$(25): GOTO 150
1030 GOSUB 1260
1040 IF 1%=1 THEN 1060
1050 GOTO 150
1060 e%=0
1070 FOR x=1 TO 20: IF B%(x,1)=P% AND B%(N%(r),1)=P% TH
EN e%=1
1080 NEXT x
1090 IF e%=0 THEN 150
1100 IF P%=103 AND (r=1 OR r=2) THEN PRINT x$(19):GOTO
150
1110 IF r=8 THEN sa=1
1120 IF r=18 THEN sb=1
1130 IF r=26 THEN sc=1
1140 IF r=25 THEN sb=1
1150 IF P%=64 AND r=7 AND se<>1 THEN PRINT x$(3): GOTO
150
1160 IF P%=64 AND r=23 AND se<>1 THEN PRINT"I can't see
 it here!": GOTO 150
1170 IF P%=36 AND r=27 THEN PRINT"What sort of person d
o you take me for ?": GOTO 150
1180 IF P%=98 AND r=24 THEN PRINT"It's stuck!": GOTO 15
0
1190 IF r=23 THEN ss=1
1200 IF r=15 AND P%=23 THEN PRINT x$(11):GOTO 150
1210 e%=0
1220 FOR x=1 TO 3: IF V$(x)="" THEN v$(x)=G$(N%(r)): e%
=1: x=7
1230 NEXT
1240 IF e%=0 THEN PRINT"my hands are full!":GOTO 150
1250 B%(N%(r),1)=0: GOTO 150
1260 l$="": FOR x=1 TO LEN(z$)
1270 IF MID$(z$,x,1)=" " THEN l$=RIGHT$(z$,(LEN(z$)-x))
: x=x+40
1280 NEXT x
1290 r=0: 1%=0: IF LEN(l$)<2 THEN RETURN
1300 FOR x=1 TO 27
1310 N$(x)=LOWER$(N$(x))
1320 IF LEFT$(N$(x),LEN(l$))=l$ THEN 1%=1: r=x
1330 NEXT
1340 RETURN
1350 GOSUB 1260
1360 IF 1%=1 THEN 1380
1370 PRINT"I can't see a ";l$
1380 e%=0
1390 FOR x=1 TO 3: IF V$(x)=G$(N%(r)) THEN V$(x)="": e%
=1
1400 NEXT x
1410 IF e%=1 THEN 1430
1420 PRINT"I don't have it !":GOTO 150
1430 B%(N%(r),1)=P%
1440 CLS
1450 IF r=26 THEN sc=0 ELSE IF r=25 THEN sb=0 ELSE IF r
=8 THEN sa=0 ELSE IF r=7 THEN sd=0
1460 IF r=22 THEN ss=0
1470 GOTO 150
1480 PRINT"I am carrying :-"
1490 f%=0
1500 FOR x=1 TO 3
1510 IF V$(x)<>"" THEN PRINT V$(x): f%=1
1520 NEXT
1530 IF f%=0 THEN PRINT"Not a thing!"
1540 GOTO 150
1550 IF p%=64 OR p%=35 THEN 1570
1560 PRINT"Don't be silly !": GOTO 150
1570 IF P%=64 AND sa<>1 THEN PRINT x$(15): GOTO 150
1580 IF p%=35 THEN PRINT"The padlock is too rusty to un
lock with this key!": GOTO 150
1590 IF se=0 THEN 1600 ELSE PRINT x$(25): GOTO 150
1600 se=1: PRINT x$(29):PRINT x$(30): g$(16)="The DIAMO
ND": GOTO 150
1610 IF p%<>36 THEN PRINT"I can't do that here": GOTO 1
50 ELSE PRINT X$(27): PRINT"She smiles for a second": G
OTO 150
1620 IF p%=53 OR p%=52 THEN 1630 ELSE PRINT"I can't do
that here!": GOTO 150
1630 IF p%=52 THEN PRINT x$(27):PRINT"I sail the boat":
 P%=53: B%(6,1)=53: GOTO 150
1640 PRINT x$(27): PRINT"I paddle the dinghy": P%=52: B
%(6,1)=52: GOTO 150
1650 IF p%<>103 THEN PRINT"I can't give the diamond to
the Emperor HERE !": GOTO 150
1660 IF ss<>1 THEN x$="He notices that I don't have the
 DIAMOND and kills me with his sword!": GOTO 2280
1670 CLS: GOTO 740
1680 IF p%=23 THEN PRINT"Don't be so cruel!": GOTO 150
1690 IF P%=36 THEN PRINT"What do you take me for ...a S
ADIST ?": GOTO 150
1700 IF p%<>103 THEN PRINT"Not here!": GOTO 150
1710 IF sb<>1 THEN PRINT"I have no weapon !": GOTO 150
1720 IF sc<>1 THEN PRINT"I pull out the gun..but there'
s no      bullet !": x$="I don't think He liked that":
GOTO 2280
1730 PRINT"I quickly load the gun and kill the     EMPE
ROR":FOR x= 1 TO 2000: NEXT x: GOTO 740
1740 DATA in the main shopping street,22,2,23,27,in a c
```






```
overed market,1,3,0,0,by a street stall. It's empty,2,4
,8,7,outside the public library,3,5,0,6,in the civic ce
ntre,4,16,12,0,by the checkout desk of the library,0,0,
4,86
1750 DATA in a small chemist's shop. The shelves  are e
mpty,0,0,3,0,on a main road. There's not a car in  si
ght,0,0,9,3
1760 DATA on the main road,0,0,10,8,by some traffic lig
hts which seem to be out of order,26,0,11,9,by a workma
n's hut. There's a deep hole here
1770 DATA 0,0,0,10,at the entrance to a swimming pool,0
,0,0,5,at the bottom of a muddy hole. I keep  slipping
 in the mud!,0,0,0,0
1780 DATA at the shallow end of a swimming pool,12,0,0,
0,swimming in deep water,0,58,0,0,in the village square
. It's full of  cafe's
1790 DATA 5,0,0,17,outside the Hotel Colrosa,0,21,16,18
,walking along a narrow footpath with  woods on eithe
r side,0,0,17,19,deep in the forest. There's a tall tre
e here,0,0,18,0
1800 DATA at the top of a tree,0,0,0,0,in the hotel ent
rance,17,64,0,0
1810 DATA outside an amusement arcade,73,1,24,0,inside
 an amusement arcade. All the  machines have been tur
ned off,24,0,0,1,in a dirty alleyway,0,23,25,22
1820 DATA on the top of a low wall,0,0,0,24,at a bus st
op,0,10,0,0,outside Woolworth's
1830 DATA 0,0,1,0,in the gardening section. The entranc
e  is nearby,0,0,0,29,at the bottom of a staircase,0,34
,28,0,at the top of the stairs,0,0,31,0,in the electric
al department,0,32,33,30
1840 DATA in the staff canteen,31,0,0,0,by a display of
 computers,0,0,0,31,at the checkout,29,0,0,0,in a loadi
ng bay,0,0,36,0,in a narrow tunnel,0,37,0,35,at the end
 of the tunnel,36,0,38,0
1850 DATA at a bus terminus. There are plenty of  buses
 here,39,0,0,37,on the edge of town,0,38,40,0,at some t
raffic lights. There's an open manhole in the ground,42
,0,0,39,in a sewer . It's full of rats and ####,0,0,0,0
1860 DATA on a main road. The river has burst its banks
,45,40,0,43,paddling waist deep in muddy water,44,0,42,
0,outside the National Bank of Holoria. It is flooded,5
0,43,45,46,by deep flood water. I can see only  wate
r to the North,0,42,0,44
1870 DATA in the bank entrance. It's flooded,49,47,44,4
8,at the counter. There's no-one serving!,46,0,0,0,in t
he main hall of the bank,0,0,46,0,in the manager's offi
ce. The water is very deep here.,0,46,0,0,outside a cin
ema,52,44,51,0
1880 DATA inside the cinema entrance. It's closed!,0,0,
0,50,in the middle of the road. I can't go  North beca
use of the floods,0,50,0,0,by the roof of a large flood
ed warehouse,55,0,0,54
1890 DATA on a large plank of wood floating on the wate
r,0,0,53,0,on the roof of a building,0,53,56,0,by a tal
l chimney,0,57,0,55,at the other side of the roof. The
 flood stretches for miles,56,0,0,0,on the steps at the
 side of the pool,15,0,59,0
1900 DATA at the side of the pool,0,60,0,58,at the bott
om of some steps,59,0,0,0,on a balcony looking out over
 the floods,0,0,62,0,on a diving board,63,0,0,61,at the
 end of the board,0,63,0,0
1910 DATA by a reception desk. A sullen looking  lady
 frowns at me,21,65,0,0,in a large hall full of tables,6
4,0,66,0,at the end of the hall. People are dining,0,67
,0,65
1920 DATA at the end of a long bar,66,0,68,0,at the far
 end of the bar. The barman is asleep,0,69,0,67,in a lo
unge,68,71,70,72,in a toilet,0,0,0,69,in a lounge. All
 the tables have been  pushed to one side,69,0,0,0
1930 DATA in an alcove,0,0,69,0,at the entrance to the
'Royal Holdavian Ice Caverns',0,22,0,0,in a vast gloomy
 cavern. Water drips  down the walls,75,0,0,0,at the
 end of the gloomy cavern. A dead body lies on the floor
,85,74,76,80
1940 DATA in a wide passage lit by torches in the wall,
0,77,0,75,in a twisty passage,76,0,78,0,in a winding pa
ssage,79,0,0,77,in a small chamber,88,78,0,0,by a subte
rranian waterfall,84,81,75,82
1950 DATA on a narrow ledge at the side of the  water
fall,80,83,0,0,paddling in the water. It's too deep to
 go further,0,0,80,0,at a dead end,81,0,0,0,in a narrow
 passage which is blocked to the north by a large boulde
r of ice,0,80,0,0
1960 DATA in a cavern of solid ice,0,75,0,0,in the refe
rence section. A book lies  open ON a page showing som
e 'Ice Caves',0,0,6,87,in the reading room. A sign read
s 'SILENCE',0,0,86,0,at the end of a gloomy passage,89,
79,0,0
1970 DATA in a small chamber. There's a narrow  ravin
e to the north.,0,88,0,0,on a narrow ledge. There's a r
avine to  the South and I can just make out a  passa
ge,91,0,0,0,in a passage deep inside the mountain,0,90,
93,92
1980 DATA in a small cavern where passages lead  off i
n all directions,97,96,91,0,in a tunnel lined with stra
nge carvings,94,95,0,91,in a vast underground chamber,0
,93,0,0,in a cavern where the stalagtites are  enormou
s,93,0,0,0
1990 DATA in a small office. It seems strange to  find
 an office here!,92,0,0,0,in a man made corridor. The w
alls are  lined with plastic.,0,92,0,98,in a wide pass
age which bends to the  east,0,99,97,0
2000 DATA in a glass corridor lit with fluorescent tube
s,98,100,0,0,by a sheer wall of ice. A thick rope  ha
ngs down from above,99,0,0,0,in a small room chamber. T
here's a sheer drop here. A rope hangs over the edge. I
t's fastened to a metal ring
2010 DATA 0,0,102,0,in a wide passage,0,103,0,101,in th
e hall of the 'Mad Emperor of  Holuria'. He is here
!!!!,102,0,0,0
2020 DATA " "
2030 DATA that's far too dangerous,It's far to heavy to
 lift,I'm sorry I don't speak the language,I'm sorry I
 don't seem to understand you!,It's stuck,I climb up, I
 climb down,I'm not hungry thank you
2040 DATA Sorry. That word is not in my vocabulary,AAAG
GGGHHHH it got me!,What a stupid suggestion!,I already
 know that dummy!,I'm nearly there,I don't have the key,
Sorry. I don't have a clue,Time is running out
2050 DATA I'll try it if you like,I wouldn't recommend
 it!,How ugly it looks!,Not Bloomin' Likely !,How dare y
ou speak to me like that !,Don't be so rude!,It said yo
u are a stupid ######,It's already open dummy!
2060 DATA It's locked!,O.K., something happened!,I see
 something there,It gleams brightly,What fun,That's far
 too dangerous here!,It's too hard,I've nothing to do th
at with,I'd need a shovel
2070 DATA the Emperor himself !,103,a litre of beer,68,
a bar of soap,70,a large suitcase,64,a small key,65,a s
ailing dinghy,53,a padlock,35,some driftwood,54,a small
 puppy,23,some ice,85,a rusty nail,16
2080 DATA a pair of swimming trunks,58,a nest,20,a cup
 of cold tea,32,a table,66," ",64,a lever,98,a gun,47,a
 bullet,2,a little girl who looks lost,36,EMPEROR,1,HOLU
RIA,1,LITRE,2,BEER,2,BAR,3,SOAP,3
2090 DATA SUITCASE,4,KEY,5,SAILING,6,DINGHY,6,PADLOCK,7
,LOCK,7,DRIFTWOOD,8,WOOD,8,PUPPY,9,ICE,10,NAIL,11,TRUNK
S,12,NEST,13,CUP,14,TEA,14,TABLE,15,DIAMOND,16,LEVER,17
,GUN,18,BULLET,19,GIRL,20
2100 PEN 3: PAPER 2
2110 LOCATE 10,2: PRINT" Death of a Dictator"
2120 PAPER 0:  PEN 6: LOCATE 8,5:  PRINT"  An Adventure
 Game for the Amstrad CPC"
2130 PAPER 5: PEN 3: LOCATE 8,10: PRINT" (C) Steve W. L
ucas 1984"
2140  RETURN
2150 CLS: PEN 3: PAPER 1: LOCATE 10,2: PRINT "Death of
 a Dictator"
2160 LOCATE 2,5: PEN 0: PRINT" After years of saving, I
 booked my  holiday on the sunny island of Kol in
 the Mediterranean."
2170 PRINT" I've had nothing but trouble since  arr
iving! A strike at the airport  delayed my departu
re. It hasn't stopped raining since I arrived and many
 areas  of the island are flooded."
2180 LOCATE 2,20: PEN 3: PAPER 1: PRINT"Press the <Spac
e Bar> to continue"
2190 A$=INKEY$: IF A$<>" " THEN 2190
2200 CLS
2210 PRINT"When I awoke this morning, I found that the
island had been invaded by the mad  Emperor of Holoria,
 who is demanding thefamed 'DIAMOND OF KOL'."
2220 PRINT"He is reputed to be in hiding somewhere on t
he island and is threatening to blowthe island up if hi
s demands are not met"
2230 PRINT:PRINT"Most of the inhabitants seem to have
  been killed and therefore I must take onthe task with
 just your help!"
2240 PRINT:PRINT"You must give me instructions in the
  form of two word sentences such as  EAT FOOD"
2250 PRINT:PRINT:PRINT"Press the <Space Bar> to start t
he game"
2260 a$=INKEY$:IF a$<>" "THEN 2260
2270 RETURN
2280 CLS: PRINT"  That's blown it!"
2290 PRINT:PRINT:PRINT X$
2300 PRINT:PRINT:PRINT:PAPER 1: PEN 3: PRINT"Do you wan
t to play again <Y/N> ?"
2310 a$=INKEY$: IF a$="y" OR a$="Y" THEN RUN
2320 IF a$="n" THEN PRINT:PRINT:PRINT"Goodbye.... thank
 you for playing": END
2330 GOTO 2310
```

Touch Down for Mind Games?

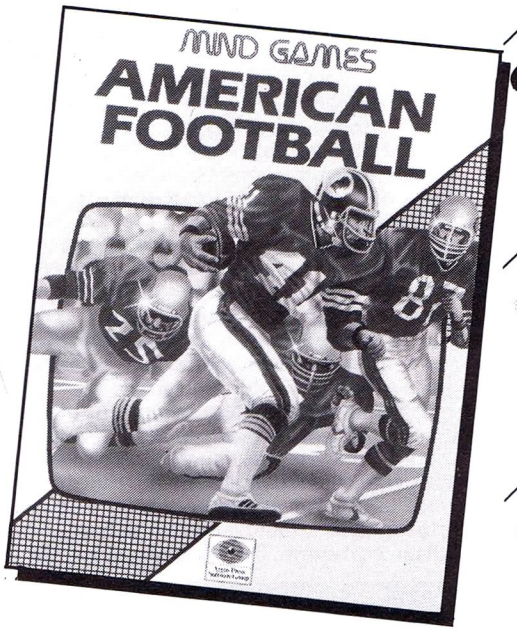
Mind Games, from a software company already well known for their strategy and adventure games, have released a simulation of American Football.

American Football was unknown in this country until a few years ago when Channel Four started coverage of games in the USA. This initial coverage sparked off interest and has resulted in a dedicated band of followers in the UK.

The Mind Games version of American Football is a full feature simulation of a match between two teams — either human against human or human against the machine. The game has full colour hi-res displays of the playfield and keeps a full statistical record of the game — the Americans seem to be very pre-occupied with statistics of games, what's wrong with a 2-1 away win?

The main method of play is regimented formations of players smashing into each other trying to inch the ball over the other team's line. The complicated manoeuvres of the men are more like a game of chess than a violent clash between two teams of modern day gladiators. It is this strategic and tactical bias to the game that lends it to computer implementation.

American Football has a 16 page booklet supplied with it to explain the complex rules and techniques in the game.



American Football is for the 48K Sinclair ZX Spectrum at £7.99 or Commodore 64 at £9.99.

Mind Games, APS Group, 1 Golden Square, London W1R 3AB.

Alice Through The Video Screen

Alice in Videoland is finally on sale by Audiogenic after a long delay.

Alice in Videoland was originally written by an American company, but they were unable to continue with it, so Audiogenic took over the completion of the program.

The game is really a suite of games, each with different stages. The start up graphics are excellent and a very realisitc picture of Alice is drawn. The theme throughout the whole game is good graphics, with some stunning scenes.

Audiogenic are continuing their policy of producing their most lengthy games on disc with *Alice*, which is only available on disc and will not be converted for any other machines.

Pegasis is another new one from Audiogenic and will be available on both tape and disc.

The object of *Pegasis* is to fly your winged horse around the screen, jousting with the baddies who are also mounted on flying horses. The graphics are also very good in this game. Both games are for the Commodore 64.

Audiogenic, 39 Sutton Industrial Park, Reading, Berks.

Express Programs at Menzies

Program Express is a new idea in software distribution where the program gets recorded while-u-wait in the shop.

Program Express is a new Scottish company that is supplying EDOS equipment to computer shops. Menzies are taking five of the machines with a possibility of more to follow.

EDOS stands for Electronic Distribution Of Software and has a main computer in the shop that has a main store of all the games inside it on a hard disk that can contain about 20000K of programs and information on the products. When you want a game the machine will individually program the cassette, disk, or cartridge in your computer or video game's format.

The unit is quite large and has eight slots for cartridges along the left side with other slots for cassettes and different kinds of disks on the right. In the centre of the unit is a TV screen where advertising, presentations, and demonstrations of the games can take place. There is also a keypad for interaction with the unit.

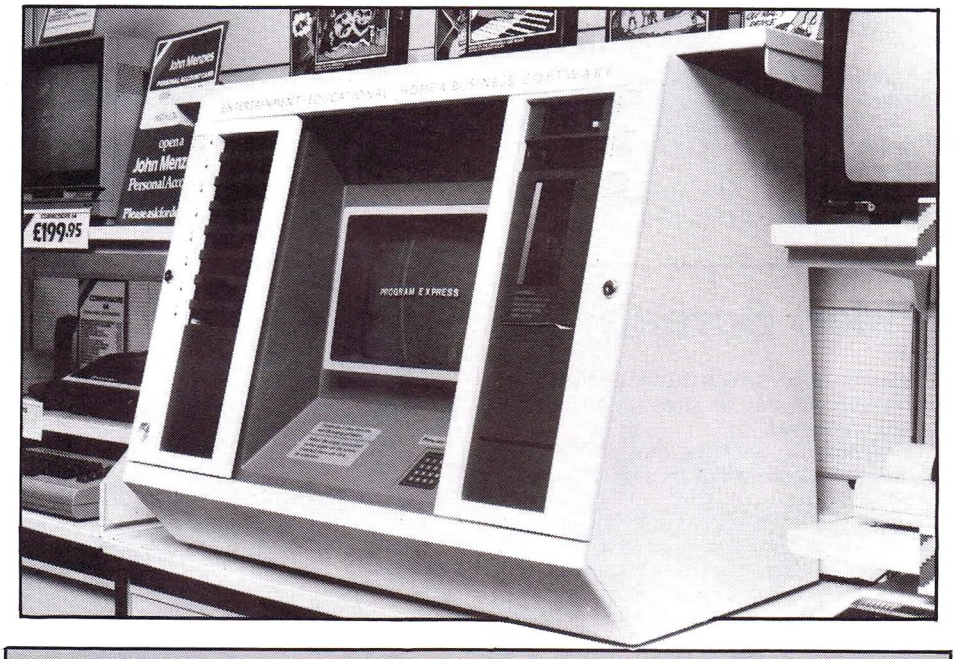
The whole system is very large and has a number of these units called 'in-store computer/programmers' connected to a vast central computer which is in turn connected to the software houses and the head office of the company concerned.

There are numerous advantages to this system. A shop need never be out of stock of a popular game, it can never overstock an unpopular game, and games can be out on sale quicker, the same goes for modifications of existing games that have bugs or errors in.

At present distributors take a lot of the cover price of a cassette or cartridge. With this new system the middle man is almost eliminated as the software house has direct contact with the retailer. This should lead to cheaper and better software. Distribution costs are still not totally eliminated though, blank tapes, disks, cartridges, and inlay cards still have to be shunted around. The blank tapes etc. will have Program Express' logo on.

Last Christmas there was such a shortage of everything that even a terrible program would sell if it was available. If this year is a repeat performance then it will be the shops with this new system that will win.

Program Express, 23 Dalmeny St, Edinburgh EH6 8PG.



New Adventure For Atari/CBM 64

Allrian Data Services are broadening their horizons with Atari software for the Commodore 64.

Allrian Data Services are well known for their range of imported American software, including their controversial 'Strip Poker' game, which raised a few eyebrows!

Ten of Allrian's 30 Atari titles have already been converted and more are on the way. The latest game is called *Gwendolyn*. This game runs on either the Atari or CBM 64, the Atari must have at least 40K of memory. Discs are necessary and the program is so huge that it only just fits onto a Commodore 64 disc and takes up two Atari discs!

The upshot of having such a large program is 150 (phew!) full hi-resolution screens in an adventure to rescue the imprisoned damsel. The adventure us billed as being 'non-violent', nothing gets killed — not even the player. To get from one section to another a puzzle must be solved, if you can't solve the puzzle then you must have done something wrong or forgotten something earlier on in the adventure.

Also released for the Atari and Commodore 64 is *Drawpic*. This is a suite of programs coming on cassette or disc and the application, (no prizes for guessing) is graphic design. Where *Drawpic* is different from most graphics designers is that the documentation and programs allow the user to include the pictures in his own program. So if you have a great game with sprites flying all over the screen, *Drawpic* might be able to help you create a masterpiece of a backdrop.

Gwendolyn costs £14.99 for the CBM 64 and £16.95 for the Atari. *Drawpic* costs £14.99 for the CBM 64 and £18.45 for the Atari. Both programs are on disc, but a cassette version of *Drawpic* is under development costing £14.99.

Allrian Data Services, 1000a Uxbridge, Hayes, Middx, UB4 0RL.

Super Software from Supersoft

Supersoft, the Harrow based Commodore software company, are launching what could be described as the most complex but playable space game yet.

Interdictor Mk III is a game for the Commodore 64 and a measure of its complexity is the instruction manual. The manual is over 50 pages in length and goes into great detail of the Interdictor development prototype programme. Each page has approaching 2000 words on it, diagrams are throughout. An interesting twist to the manual is that at no time does it ever let on that you are operating a computer — it looks and reads like any forces training manual. One suspicious corner of the cover has the words 'second edition 2138' on it. Has Supersoft discovered time-travel?

Interdictor pilot is for the Commodore 64 and is available on tape or disk.

Also from Supersoft is a Z80 cross assembler for the Commodore 64. Mikro is possibly the best machine code development tool ever created for a Commodore machine. It makes writing machine code very easy and it is simple to use. If you want to write games programs seriously you must program in machine code as BASIC doesn't have the speed to do anything good.

Mikro helps in the development of machine code for the Commodore 64, VIC, or Pet. Mikro only works in 6502/6510 machine code (that's the machine code that Commodore machines understand).

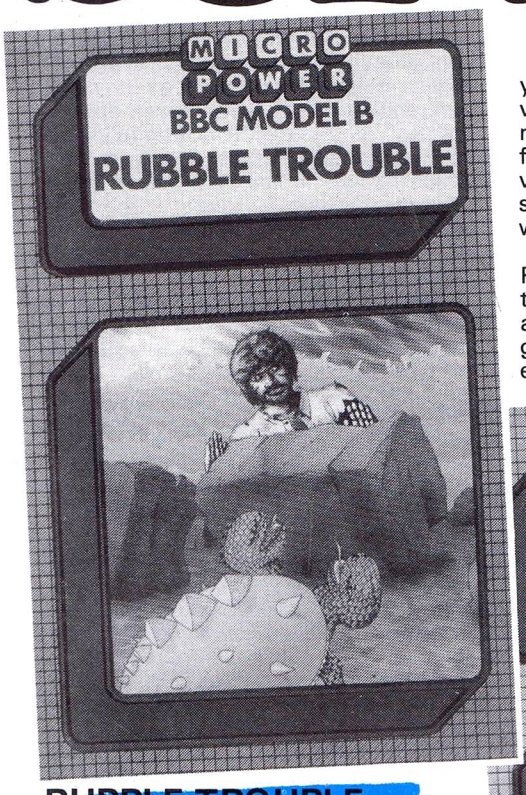
Computers like the Spectrum and the Amstrad use something called Z80 code. Wouldn't it be nice to develop games on the Commodore 64 using Mikro and having them run on a Spectrum? Supersoft have just done that. Their new Z80 Mikro cross-assembler allows you to write a Z80 machine code program on the Commodore 64 and then run it on a Z80 based machine. This kind of thing will be a boon for Spectrum owners who want to develop games commercially, but can't due to the limitations of the Spectrum.

There is a possibility of more cross-assemblers for other processors if this one is a success (perhaps a 68008 for the QL?).

Mikro for the Commodore 64 and VIC 20 costs around £50 and is on cartridge. Mikro 80 will be for the Commodore 64 on cartridge although no price has been announced.

Supersoft, Winchester House, Canning Road, Wealdstone, Harrow, Middx HA3 7SJ.

SOFTWARE



RUBBLE TROUBLE

Runs on: BBC
Made by: Micro Power
Price: £7.95

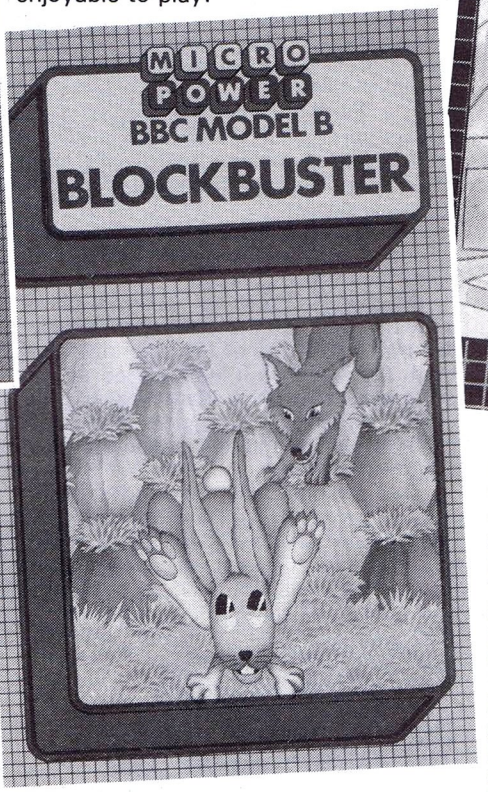
Another world war has destroyed the earth (yet again!) and from the radio active rubble humanity, has emerged as primitive cave men. You would have thought that the holocaust was enough for the survivors to endure, but no — they now have to kill off the ever increasing population of 'Krackats'. These are mutant turtle-like creatures whose diet is that of warm human flesh.

To kill the 'Krackats' you must crush them with the pieces of rock that form the maze walls. A boulder will move unless it is blocked by another rock in which case it will be crushed. If the boulders do not hit the 'Krackat' then they will bounce back towards you — so beware. Also if you do not hit the 'Krackat' straight on it will move back, avoiding the rock and letting it bounce.

Certain rocks contain 'krackat eggs' which if crushed give a bonus, other rocks contain left over atomic bombs and if an attempt to move these is made another holocaust results. The background radiation is also on the increase and if it gets too high then you die.

As well as the normal type of play, you have the option of a hayfield or invisible play. In the hayfield some of the rocks you can walk over and others form the walls of the maze. With an invisible maze it is just what the name suggests and it is very difficult to judge what rock is where.

This is another variation on the PENGO theme (software companies take note — can we have some original arcade software and not variations on games that are already out) and very enjoyable to play.



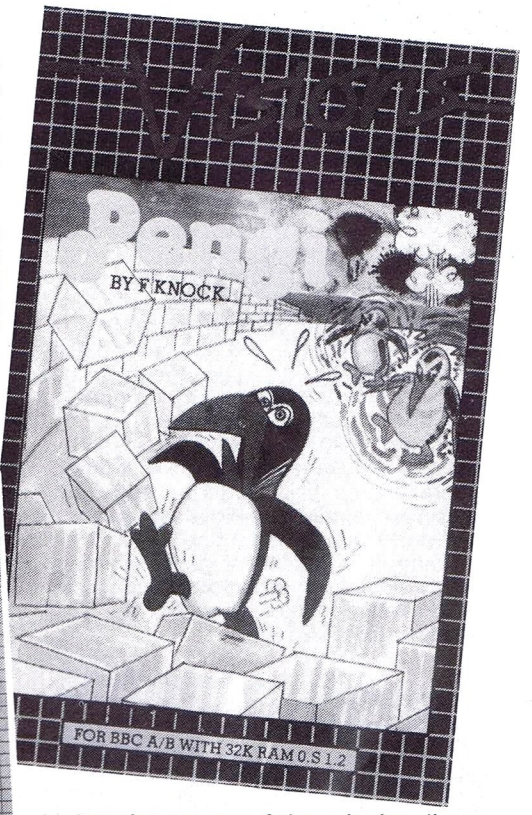
BLOCKBUSTER

Runs on: BBC
Made by: Micro Power
Price: £7.95

The elixir of life has been promised to whomever can accomplish a difficult task set by the leprechauns. You are Harvey, a foolish young rabbit, who has decided to attempt this.

You must bounce on every rock on the giant's causeway and change the colour of it. While doing this you must avoid being hit by the cascading balls and the guano dropped by the albatross flying overhead.

You must also avoid Reynard the fox



by jumping on one of the spinning discs which will take you to the top of the causeway whilst he plummets to his death trying to follow you. You can gain bonus points by bouncing on one of the "mischievous little creatures" who leave a trail of dirty footprints. The footprints also have to be bounced on to change them to the correct colour.

On higher levels the rocks have to bounced on twice. This is made more difficult as a squirrel keeps turning them back to their original colour. The keys are difficult to use at first, but soon become easier.

The response time is a little slow, but this problem can be overcome if you plan ahead. This is an enjoyable variation of the arcade game Q * BERT.

PENGI

Runs on: BBC
Made by: Visions
Price: £7.95

There are a number of 'Pengo' type games around and of the few I have played this is definitely the best. Pengi is a pacman type game but with a few extra features.

You control a chubby penguin who is

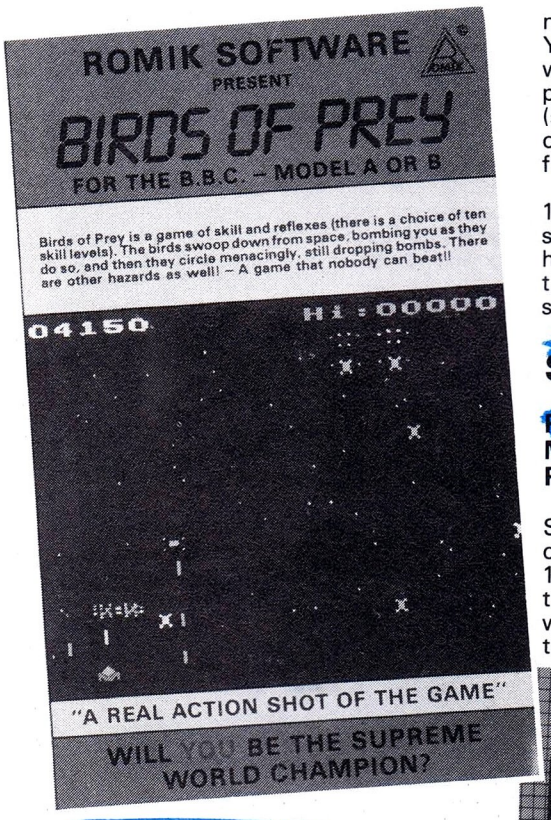
REVIEWS

SOFTWARE

trapped in a maze made of ice cubes, pursuing you are strange beasts called snowbees (no relation to honey bees). The snowbees do their best to catch you and take away one of your three lives. Against the snowbees you have two defences. Firstly you can kick an ice cube into them. This involves running up to the chosen cube and kicking it, the ice cube then travels in the direction in which it was kicked until it hits another ice cube, then it stops. Any snowbee in its path is killed. Your second defence is to stun them. This is achieved by kicking the perimeter fence of the maze, any snowbee touching the fence is stunned and can be trampled.

Control of the penguin is by keyboard only, the keys are a little tricky but fortunately can be redefined. There are no skill levels as such but there are apparently limitless screens and a useful practice mode.

Pengi is an excellent game which is highly addictive, sound and colour are used well. I look forward to new releases from Visions.



BIRDS OF PREY

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

The on screen instruction for Birds of Prey merely repeats what you get on the card insert, which is a bit disappointing. I would have preferred a loading screen with a display of potential enemies and scores. The initial game screen supplies information on the current level of difficulty (1 to 4), a top five scoreboard (plus the level at which it was achieved), and the sound on/off options.

The game itself involves knocking off a considerable number of standard Galaxian like creatures with your laser base. It turns out to be spell-binding stuff with debris and creatures pouring down the screen, some of them harmless, some of them capable of quickly dispensing with your three lives.

The aural warnings of oncoming Death Bombs and the nightmare of picking out the screaming Kamikaze birds from amongst the other debris, bullets and Circlers, are the highlights of what should have been an ordinary game but which has that addictive quality.

It's certainly quick enough. Level four is very rapid indeed and the relaxed pose taken up on level one gives way to tightening around the shoulders, intense concentration and a thumb twitching on the joystick button (the game is one of those compatible with the First Byte joystick interface).

Keyboard controls are three in number only and so easy to handle. Your possible rate of fire also increases with the levels so it isn't all bad as you progress. You soon learn strategy for (say) mopping up stragglers at the end of a screen by moving parallel to their flight before firing.

One strange occurrence: after about 10 games two Circlers blew up at the same time and the whole game froze, had to be terminated and reloaded. Not to worry and no chance of spoiling a splendid all action game for the Elk.

STOCK CAR

Runs on: BBC
Made by: Micro Power
Price: £7.95

Stock Car involves driving a small car, or cars in the two player game, around 1 of 6 tracks. This may sound a bit petty but in fact it's great fun. The game would be no fun if there was no opposition, and fortunately there is. The jam cars (three of them) swerve in front of you every time you go to overtake. What makes the game even more outstanding is the two player option. For this you choose the option followed by the number of laps you want and which circuit. In the two player game there is only two jam cars — the third being made by your opponent, who is also trying to be the first to the chequered flag.

The number of the track you choose does not refer to its difficulty, I found track three the hardest because of its tight hairpin bends. There is one other factor you can determine at the beginning of the game and that is skidding. You decide whether to have oil patches and how much you skid when cornering, I found about 10% was the most realistic but for beginners 0% is more advisable.

Control of your car is by joystick or keyboard, but joysticks give no advantage over keyboard control. There are four controls, left, right, up a gear, and down a gear, you have four gears, 1 and 2 are used mainly for starting moving after a crash, and gear four is for roaring down the straights.

The graphics are not stunning but are colourful and adequate, the sound is also kept to a minimum but is perfect for the job. I think Stock Car is a well thought out game and I'm already addicted.

PSYTRON

Runs on: ZX Spectrum 48k
Made by: Beyond
Price: £9.95

Beyond boasts that the game stands up top class programs such as Jetpac, The Hobbit and Psion's Scrabble. The game certainly equals, and probably beats, them.

The Psytron controls the massive Betula. 5 Installation (consisting of the medical unit, freezetime, oxygen unit, docking bay and teleport centre, a recycling unit, pleasure dome, crew's quarters and many more) packed into ten superbly drawn screens. It will cope with defensive demands which will leave the human brain unhinged and computer circuits scrambled.

The first level is the droid mode. You are a droid and must destroy saboteurs who are teleported down from the alien ship. The aliens take the form of tripedroids because of their three-footed nature. There is a time limit of 300 seconds and then the score and the average are given. Then you play this screen again until you have played it five times and the average is greater than 50%. If this is true you will be permitted on to the second of the 6 levels. This has you controlling some sights to gun the alien craft down. This continues as the first one until permitted on to screen 3. An excellent game. Highly recommended.

SOFTWARE

FIRE ANT

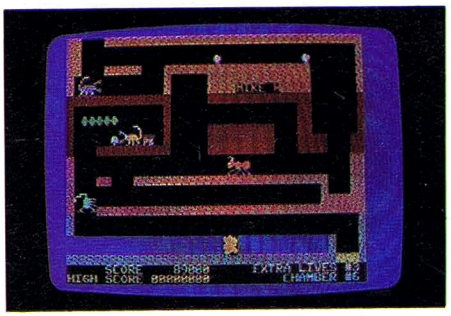
Runs on: Commodore 64
Made by: Mogul
Price: £8.00

The scenario of this game is based around the loyalty of the last remaining soldier ant whose queen has just been captured by a band of renagade scorpions and has therefore the perilous task of having to rescue her.

The ant's movements are controlled by the direction of the player's joystick (it would have been useful to allow for a keyboard option as the manoeuverability of the ant could be hampered by the failings of a well used joystick, during a frantic chase).

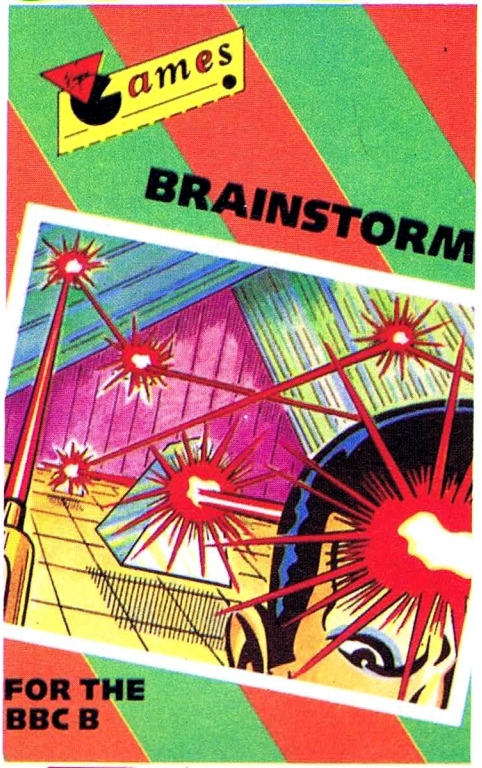
There is only one skill level but as each screen is traversed the problems and mazes posed become progressively more complicated. The basic object of the game, that runs through each of the different screens is that of collecting the certain key that opens the specific door that could lead to the next screen, or the door that leads to another key.

To add to the game, the keys can only be taken in a specific sequence. So, passing over one key may have no effect whilst another may then be used to open a yellow door, revealing either the exit, another yellow barrier or some vital life preserving substance!



So far, I managed to work my way through 5 of the screens, but with only 3 lives, considerable practice will be required as an action in the wrong sequence, results in the loss of a life, i.e., not collecting the oxygen, crossing the water without building a bridge, crossing bad water etc. Then there is the ever daunting presence of the 3 scorpions, whose touch is fatal and who occassionally change colour and double their speed of movement. As an aid, there is on each screen, a spade shaped podule, which once taken allows the ant to pass over the Scorpions unharmed, for a period of 15 seconds.

On the whole I found this to be a very exciting and addictive game.



BRAINSTORM

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

Brainstorm is a two player grid based game. The players attempt to destroy each other's brain situated on opposite sides of the screen. To do this there is only one method, laser refraction. This may sound complicated but in fact it is easy and unentertaining.

Each player places one electroprism on each of his turns, or alternatively he may fire his laser. Electroprisms are like mirrors, they deflect laser beams in a set direction. To place a prism only requires co-ordinates and then a number from 1 to 8 which determines in what direction the laser is deflected. The number corresponds to a compass direction (NE or South etc). To fire your laser you just move it up or down and fire. The laser beam travels until it hits a prism when it is deflected. A laser beam can travel through up to 25 prisms or until it leaves the grid. If it hits any brain then the score is altered and the grid is reset.

There are three grids to choose from and the length of time which the laser is visible can be set. The graphics and sound are below average so in my opinion unless you are desperate for a game, leave Brainstorm alone.

NIFTY LIFTY

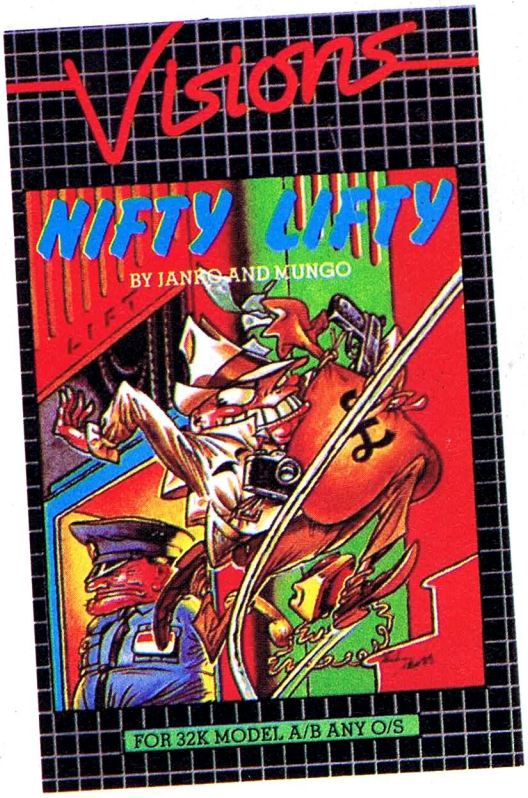
Runs on: BBC
Made by: Visions
Price: £5.95

There is very little that can be said to describe this game. You are on the ultimate shopping trip — you take everything. You move up the screen floor by floor avoiding getting hit by the lifts that move up and down.

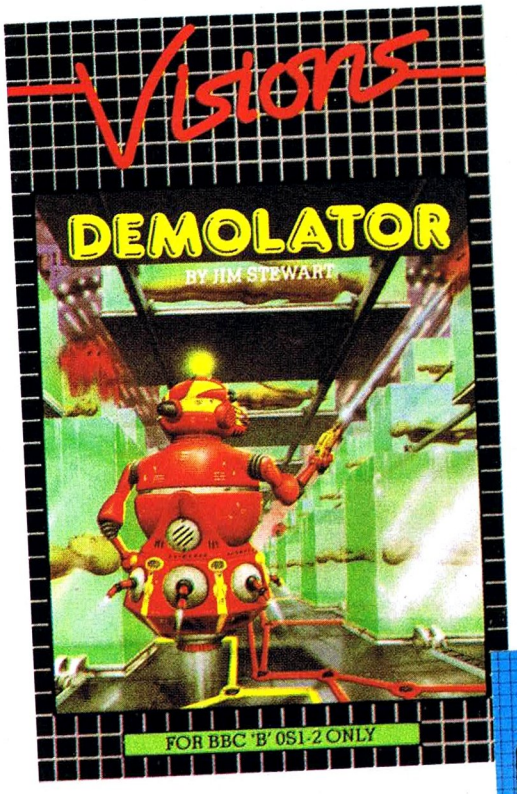
The number of lifts and the speed at which they travel increases as you complete more and more screens. At higher levels there is more than one lift per lift shaft and using some new law of physics they allow lifts to go up and down in the same shaft.

The use of graphics is very good but the sound lets the program down. Like many games now coming on the market it asks if you want music while it loads. If you select yes it plays what is at first a very nice tune but it continues even when the main program has been loaded. There is no way of stopping it except by pressing break.

There is little skill involved in this game as your only controls are left and right — but younger users might enjoy it. It got a bit boring after the first few levels.



REVIEWS



DEMOLATOR

Runs on: BBC
Made by: Visions
Price: £7.95

Demolator has been widely advertised by Visions so I took it for granted that it would be good. I was wrong. Demolator involves you controlling a robot around a cargo bay of a space freighter. Your mission is to stop the invading demolators (unfriendly robots) from stealing your important cargo — humans. The demolators have different roles, some steal the humans from their life support (frozen) chambers while others simply attack you.

Control is by one of a choice of methods and even though the keys may be redefined I found a joystick easier.

After clearing all the enemy in each phase you progress to a harder but very similar one. For those who want to get good at the game there is a practice version of the game on the 'B' side of the cassette.

Although the game is colourful and sound is acceptable there is no real enjoyment and its addictive qualities are nil.

JET POWER JACK

Runs on: BBC
Made by: Micro Power
Price: £7.95

As the name suggests to those acquainted with the Spectrum games 'Jet Pack', Jet Power Jack is not very original. Despite that, this version is superior to the Spectrum game. Jack must refuel waiting spacecraft by fetching fuel pods from the far side of the screen/hangar, and returning to the space ship. The screens (5 of them, selected at start of each game) are not as barren as those of Jetpack and each one is different. To stop you from performing your task are various nasty creatures ranging from bats to living balloons which send you crashing down to earth when you cross their path.

Control is by joystick or keyboard, the keys are in sensible positions and respond well, the joystick offers no great advantage. The graphics are colourful and are generally flicker free, one complaint is Jack's movement is not as smooth as it could have been.

A moderate idea has been made into a very playable game which is very addictive. Jet Power Jack is well worth the money to anyone who likes a challenging game.

CORPORATE CLIMBER

Runs on: BBC/Electron
Made by: Dynabyte Software
Price: £7.95

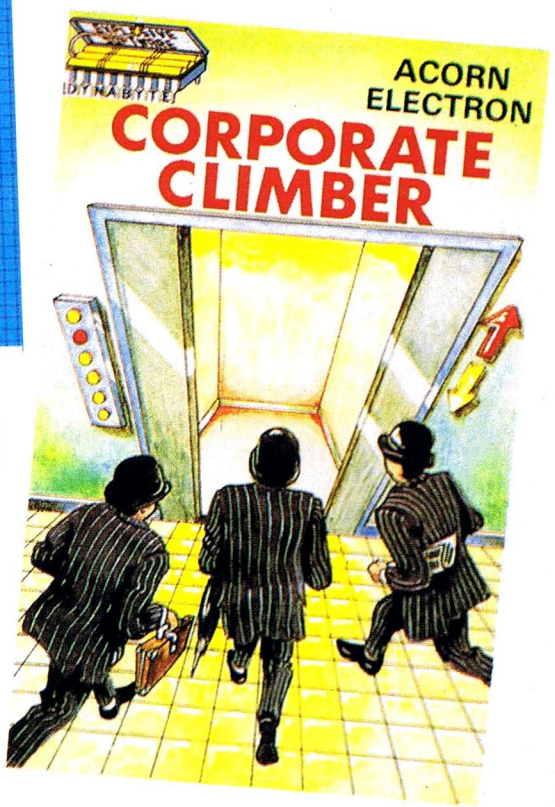
This has to be one of the simplest (in terms of strategy) games available for the BBC Micro or Electron. There are two different versions since the BBC game on an Electron is painfully slow and jumpy. However the Electron game does not achieve the speed of the BBC and results in a lesser challenge for the expert player but no less fun.

The game begins with the choice of a number of game playing options, including the ability to turn off the sound, an entirely necessary option for those who don't like the little computer ditty trilling away in the background while they are trying to concentrate on the matter in hand. Why don't they use the much nicer lower volume registers of the sound chip?

The matter in hand involves controlling the climber with left and right keys as he makes his way from level to level, unable to stop moving in either direction in his struggle to the top. The only respite is at the start of each level where he may halt before venturing out into the cut and thrust world of point scoring objects and lifts which can 'ping' the climber back to his starting point at the cost of one life.

Since the climber is always on the move and so are the lifts, anticipation and strategy come into the completion of a screen successfully and the unique accolade of 'engaging' the lavatory at the top of the climber's tree.

As you can tell, the game has a certain humorous aspect. The screen is all go with a time bonus ticking away, an indication of blood pressure which seems to accurately reflect the players current state of mind! and a motley assortment of objects for the climber to collect on his ascent, including a telephone, a cup of tea, a key, and an acorn. You have five lives to get as far as you can in this software rat race and will undoubtedly enjoy every one of them.



REVIEWS

AMSTRAD REVIEW

Some time ago the computer world was shocked by the promise of a computer that claimed to do it all for very little.

That computer was the Amstrad CPC 464. The first venture into the computer market by the hi-fi manufacturers Amstrad. Mike Roberts puts the Amstrad on the test bench to see if it really does measure up to all the claims made for it.

The Amstrad computer comes as a two part package with the keyboard and cassette deck in the first box with a monitor and power supply in the other. A monitor is a kind of television that can only be used with a computer, give a better picture, and cannot pick up broadcast signals.

There are two monitor options: a full colour RGB type, and a green screen. The full colour monitor is like a small television — in fact the tube is a standard TV tube and doesn't give the definition of a dedicated RGB monitor. It can just about resolve 80 columns, but not very well. The 80 column mode of the Amstrad can get quite tiring on the eyes with the colour monitor.

The green screen monitor is quite good — having a custom monitor tube similar to those used for long periods by programmers and word processor operators who don't need colour. The 80 column mode on this screen is perfectly readable and it might be worth getting this version of the Amstrad as it's £100 cheaper and getting the TV modulator box later for playing games.

The TV modulator box has its own power supply and will drive a television set just like a normal computer. This means that the green screen version of the computer can be bought at the cheaper price and you can use a TV to play games on.

In Built Cassette

Also inbuilt into the package is a cassette recorder. This is a standard audio cassette recorder with a few modifications for using computer tapes. One thing that Amstrad missed was having a computer controlled digital cassette deck. The Commodore deck is, and has a lot of computer control over it, it's 100% reliable, and can be pushed to 8000 baud. The Amstrad device needs to be told by the user when the play button is down, it has two speeds: 1000 baud and 2000 baud, the 1000 baud rate is quite reliable but the 2000 is a bit dodgy. By comparison a BBC uses 300 or 1200 baud, a Spectrum uses 1500, and an Oric uses 300 or 2400.

The cassette deck is on the side of the keyboard. This is good for easy access but does mean that it is difficult to put the unit on your lap for easy typing. Even if you could the two leads to the monitor are only about eight inches long, which makes things difficult.

Keyboard

The actual keyboard itself is very good. The feel is almost up to the excellent quality of a Commodore keyboard and is as good as a BBC. There are three clusters of keys. The main keyboard which is very well laid out with a quad sized enter key and a full space bar. All the control keys are around the edge and are colour coded.

The 12 key numeric key pad, which isn't really a numeric keypad at all. The number keys are along the top as usual and the extra keys are actually function keys, the keys come pre-defined as number keys which is an excellent idea.

The last cluster is the cursor keys which are formed in a square with the copy key in the middle. This is a nice touch and makes editing easier — which it needs as the editor on the Amstrad is awfull.

An editor is a way of changing a program that you have typed in. A good editor is very important for somebody that is new to computing. The best editors are found on the Atari, Adams, Einsteins, and Commodores, these are called screen editors and are very easy to use. The worst types are called line editors and are found on Spectrums and Dragons. These are very difficult to use. The BBC micro has a cross between the two called a twin cursor editor or a copy editor, the Oric has something similar although more primitive.

The Amstrad has a similar version of the BBC editor which is very difficult to use. The Commodore/Atari screen editor is very good to use and was specifically designed for computers. Line editors are a throwback from teletype editors where you could only work on one line at a time. I wish that computer manufacturers had more

AMSTRAD REVIEW

sense, an editor is the interface between a computer and the user — it must be good, the Amstrad one just doesn't come up to scratch.

Graphics Ability

The graphics are quite good — three modes with up to 16 colours. The first mode is 640 by 200 in two colours, the second mode is 320 by 200 in four colours, and the last mode is 160 by 200 in 16 colours. All colours are selected from a palette of 27 plus any two colours flashing. Due to good memory paging the hi-res screen is hidden under the Basic ROM in a similar manner to Commodore 64 hi-res screens. Further paging is carried out on the RAM for basic programs. This leaves up to 42K of RAM for the user whatever hi-res mode he is in.

This memory paging idea is very good as it allows a good 32K long Basic interpreter to co-reside with a 16K video screen and 48K of Basic RAM. This gets past the worst features of some of the most popular competing computers such as the BBC with a good Basic but little RAM and the Spectrum with a lot of RAM but a very poor Basic.

The graphics are on a par with the BBC but with a greater choice of colours (16 on the screen at once from a choice of 27 instead of 16 from 8) though the Commodore 64 still has the edge with its different graphics modes, sprites, and multiple screens. These graphics knock the Spectrum for six — we can expect some really great games for this computer soon.

Music To My Ears

The sound generator is a more basic, but similar, one to that used in the Taitung, Oric, and other popular machines. The sound is produced through a tinny little speaker in the keyboard unit. There is, however, a good volume control on the side of the cassette deck and a headphone socket on the back of the machine. We found that the voltage level through this socket wasn't enough to drive a set of walkman headphones without an amplifier. A very nice feature is that the socket is wired for stereo, this is because, like most sound chips, the Amstrad has three sound channels. This means that it can play up to three note chords. On the Amstrad the first channel is designated as the left channel, the second as the right channel and the third comes through on both. This is an idea that was first used about five years ago on a computer called the DAI but it didn't catch on. I hope that software houses use this great feature as it has a lot of potential.

Beautiful Basic

The Basic is very good, it is very BBC-like, having procedures and other structures. There are some extra features as well which improve considerably on Acorn's original. Interrupt handling is supported from Basic as standard. At this point I should explain about interrupt handling. An interrupt is a way of stopping a program in mid flow. Doing something else. And then returning again to where you stopped off. There are various interrupt options, three timers that operate every 50th of a second, and the sound queues. The sound queues allow music and sound effects to be played whilst a program is running. When the music has run out an interrupt will happen telling the computer to 'top up' the sound chip for more music.

One thing that is very bad, and inexperienced users will find it a great problem, is spaces between words in a program are compulsory. Spaces in a program use up memory, and if you are getting heavily into a programming session at 2am and you are wondering why your latest masterpiece will not work, it is very annoying to find that the culprit is the ommision of a mere space.

The Amstrad's connections with the outside world are not as impressive as the BBC or Commodore 64 but they are there. There is a parallel printer port, a disk drive expansion port, monitor socket, power, headphones, and joysticks.

The printer port will drive most popular printers. The disk expansion port is the one that all extra add-ons will have to hang on. There is the promise of disks to put on this port and this is where the 'up to 240' sideways ROMs will have to be put. There is little need to put 240 ROMs on but some people will want to put in quite a lot as is demonstrated by some BBCs that I have seen.

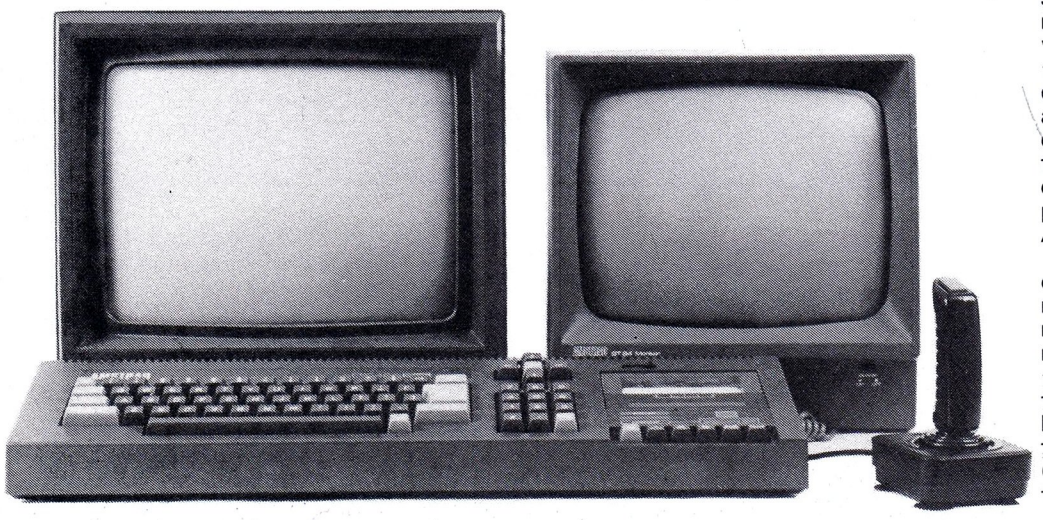
The Joy of Joysticks

The joystick port is the connection that will be of greatest interest for the games player. It is a single 9 pin D connector similar to those used by Atari and Commodore, but with one important difference. There is only one socket but it is possible to plug in two joysticks as long as you use the Amstrad ones, this is because the Amstrad joysticks have the usual stick, fire button, suction cups, and long lead. However, on the base of the stick is a socket where another joystick can be plugged in, thus allowing two joysticks to be used!

Overall the Amstrad is a very interesting machine. Its excellent graphics ability and very good (and stereo) sound make it a promising games machine. A lot of software companys are producing software for the Amstrad, so watch out for Jet Set Willy, Fred, and Booga Boo the Flea.

The one thing that may put it out of most peoples bracket is the price: £229 with green screen and £329 with colour. For games you really need a colour screen and if you are going to get a TV modulator to use with a colour Tv then why bother with a monitor that adds £70 to the price anyway? The same could be said for the cassette recorder although I always have prefered a dedicated unit without all the connecting leads and mains wires, and a dedicated unit wouldn't add a lot to the price (especially as they are made by Amstrad themselves).

To sum up I think that the Amstrad could have wiped the whole computer market clean if they had dropped the monitor and cassette recorder and released the computer for around £150. As it stands it will still emulate the success of the BBC micro, especially as it is following in the Beeb's footsteps with a similar spec machine (although without the support and options available with the Beeb).



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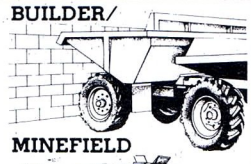

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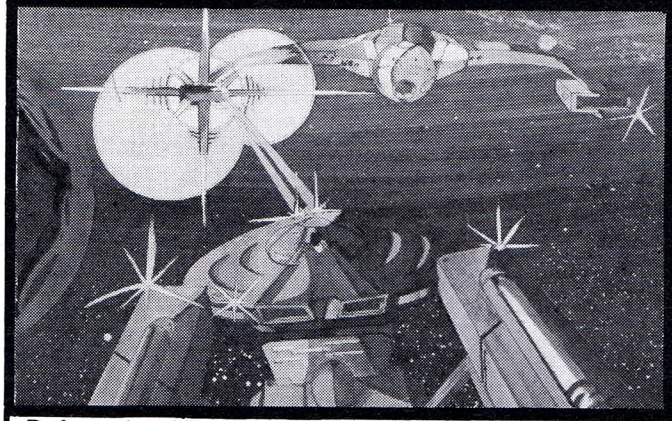

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The Runaway Robot Replies

Dear Sir,
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In the past many people have sent cash to user groups only to get little or nothing in return, we are prepared to offer A FREE OF CHARGE enrolment to The Cuthbert Club, which is Microdeal's own user group to anyone wishing to join...all they need do is write to us at the following address, for their free badge, quarterly magazine hint sheets etc.
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John Symes
Microdeal Ltd.
41 Truro Road,
St. Austell,
Cornwall PL25 5JE
Telephone: 0726 3456

Dear Editor
I am writing in reply to Stephen Joyce's letter in your June issue. I am afraid that I cannot help you with 'Savage Island', but I have almost completed 'Pirate's Adventure'.

The key to the door is located under the mat in London. The mat is nailed down and to remove the nails you will need the clawed hammer from the cave that joins the hallway that was mentioned in the letter.

Give some rum to the pirate in the grass shack as this will make him leave. When he's gone, open the chest with the keys. Here you will find a map and a plan for a boat, TAKE these. Get the water wings from the cave by the hallway and swim along the lagoon.

When you've crossed the lagoon you must grab some fish and feed the crocodiles (this will take a few goes as the fish keep drying up). When the crocodiles have been suitably fed they will let you unlock the door. The door leads to the hallway, this is the way to carry the sails and other objects from the cave to the beach. You must look at the plans to decide what you need. To find the anchor look in the lagoon.

Build the boat and wake the pirate in London. Return to the boat and type 'set sail'.

On treasure island, walk 30 paces in the field and dig (get the spade from the pirate's island). You should then find the first treasure. It is in a box that can be opened with the clawed hammer.

The other treasure is in the monastry, but it is guarded by some snakes which refuse to let me reach it.

This is as far as I've got. Oh, don't bother using the mongoose onthe snake — it turns out to be a squirrel.
Simon Burford
Middx

Out of all the letters that we received, Simon got the furthest. Can you improve on this? I'm sure anyone who hasn't got very far is dying to be given some more hints!

Dear Sir or Madam,
I would be grateful if you would mention the formation of the Independent Coleco Adam Users Club in your magazine. We are a national club specializing in the Coleco Adam computer system.

We aim to offer the following to members:

Newsletter (10 issues per annum)
Articles
News
Reviews
Program Listings
Hints and Tips
Problems and Answers
Software Library
Area meetings around the country.

Users, owners and potential owners of the Coleco Adam computer system are welcome to write to the club at the address below. Prospective members are requested to enclose a stamped, self-addressed envelope if asking for membership details.
Yours faithfully
David Winnett

Independent Coleco Adam Users Club,
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Northamptonshire,
NN12 7JU.

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?
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...LONG LIVE

Eureka!

By Ian Livingstone

250K of pure mystery. Be the first to know.
Send your name and address to: Eureka!, 228 Munster Road, London SW6 6AZ

Missile Silo is an adventure game that runs on the Commodore 64. The scenario is an American missile base and you are Russia's best KGB agent. Your mission is to 'hack' into their computer and stop the launch.

Commands are transmitted to the computer the usual verb/noun format. Verbs that can be used are Look, Eat, Drop, Consume, Use, Repair, Put, Shoot, and Inventory. Most words have an abbreviation of three letters or so.

A useful hint is 'look at everything carefully'.

There is a time limit on this adventure as the missile will be launched in 36 minutes!

RUNdown

Lines	Action
65-128	Define title display
130-143	Centre titles
150-280	Print titles
290-310	Await response of user or continue after time delay
320-700	Instructions
800-1999	Set up data
2000-2020	Give time remaining
2030-2125	Positioned information display
2130-2380	Accept input and check for errors
2390	GOTO lines depending on which verb was used
2400-2540	Check on space disease and death if necessary
2550	Alter clock
2551	Check to see if you have space disease, if so then increase your level of illness
2552	Print current health condition
2554	Check to see if time has run out
2500-2620	Check on guards
2630-2640	Wait
3000-9380	Verbs
9800-9890	Check end game
11000	Inventory
14000-14170	Look
15000-15380	Out of time
18000-18110	Security check
19000-20010	Win game

Variables Use

IL	Health
TL$	Titles
TL	Tab position of titles
RR$	Name of room
RN	Room to north
RS	Room to south
RW	Room to west
RE	Room to east
OO$	Name of object
OG	Whether object is gettable
OM$	Message on object
OP	Position of object
CC$	Abbreviation of object
VB$	Names of verbs
HR	Time left
CR	Current room number
IN$	Input
V$	Input verb
VN	Verb number
N$	Input noun
NN	Noun number
L$	Illness message
G	Guard status
NI	Number of items being carried
A$	Picture of rocket

MISSILE SILO

RUNS ON CBM 64

MISSILE SILO

```
5 REM ANDREW READ : 14.12.83
7 POKE53280,15:POKE53281,15:PRINT"■";
10 PRINT"□"
15 RESTORE
61 MT=INT(RND(TI)*2)+1:IL=2
65 REM TITLE PAGES
70 TL$(1)="
80 TL$(2)="
90 TL$(3)="
100 TL$(4)="
110 TL$(5)="
120 TL$(6)="
125 TL$(7)="AUTHOR : A.R.READ"
126 TL$(8)="=================="
127 TL$(9)="*** MISSILE SILO ***"
128 TL$(10)="## GOOD LUCK ##"
130 TL(1)=LEN(TL$(2)):TL(1)=20-(TL(1)/2)
140 TL(2)=LEN(TL$(5)):TL(2)=20-(TL(2)/2)
141 TL(3)=LEN(TL$(8)):TL(3)=20-(TL(3)/2)
142 TL(4)=LEN(TL$(9)):TL(4)=20-(TL(4)/2)
143 TL(5)=LEN(TL$(10)):TL(5)=20-(TL(5)/2)
145 PRINT"■■■■■■"
150 PRINTTAB(TL(1))TL$(1)
160 PRINTTAB(TL(1))TL$(2)
170 PRINTTAB(TL(1))TL$(3)
180 PRINT
190 PRINTTAB(TL(2))TL$(4)
200 PRINTTAB(TL(2))TL$(5)
210 PRINTTAB(TL(2))TL$(6)
220 FOR I=1 TO 26
240 FOR J=1 TO 20:NEXT J
250 NEXT I
260 PRINT:PRINT
270 PRINTTAB(TL(3))TL$(7)
280 PRINTTAB(TL(3))TL$(8)
290 FOR J=1 TO 500
300 GET I$:IF I$=" "THEN 320
310 NEXT J
320 PRINT"□";
350 PRINT"  YOU ARE A RUSSIAN SECRET AGENT AND    "
360 PRINT"YOUR MISSION IS TO DESTROY AN AMERICAN  "
370 PRINT"MISSILE SILO BEFORE IT CAN LAUNCH ITS   "
380 PRINT"WEAPONS AGAINST YOUR COUNTRY."
390 PRINT:PRINT"  YOU COMMAND THE COMPUTER IN PLAIN
400 PRINT"ENGLISH. WHEN THE COMPUTER ASKS YOU WHAT"
410 PRINT"TO DO YOU MUST ANSWER WITH A VERB       "
420 PRINT"FOLLOWED BY A NOUN OR ADJECTIVE. (YOU   "
430 PRINT"NEED ONLY ENTER THE FIRST TWO LETTERS OF"
440 PRINT"EACH BUT YOU MUST LEAVE A SPACE BETWEEN "
450 PRINT"EACH WORD)."
460 PRINT:PRINT"PRESS '■SPACE■' TO GO ON."
470 GET I$:IF I$<>" "THEN 470
480 PRINT"□";
490 PRINT"  HERE IS A LIST OF VERBS THAT YOU CAN  "
500 PRINT"USE BUT YOU MUST FIND OUT THE NOUNS FOR "
510 PRINT"YOURSELF."
520 PRINT:PRINT
530 PRINT"■LO■OK"
540 PRINT:PRINT"■GO■"
550 PRINT:PRINT"■GE■T"
560 PRINT:PRINT"■DR■OP"
570 PRINT:PRINT"■CO■NSUME"
580 PRINT:PRINT"■US■E"
590 PRINT:PRINT"■RE■PAIR"
610 PRINT"■■■■■■
```

RUNS ON CBM 64

```
4000 IFOP(NN)<>CRANDOP(OP(NN))<>CR THEN PRINT"■I CAN'T FIND IT.":GOTO20000
4002 IF OG(NN)=0 THEN PRINT:PRINT"I CAN'T GET THAT !":GOTO 20000
4005 IF OP(NN)=0 THEN PRINT:PRINT"I'VE ALREADY GOT IT !":GOTO 20000
4006 IF NI=8 THEN PRINT:PRINT"YOU CAN'T CARRY ANY MORE":GOTO 20000
4010 OP(NN)=0:PRINT:PRINT"O.K":NI=NI+1:GOTO 20000
4500 IF OP(NN)<>0 THENPRINT:PRINT"I HAVN'T GOT IT TO DROP !":GOTO 20000
4510 OP(NN)=CR
4520 PRINT:PRINT"O.K"
4525 NI=NI-1
4530 GOTO 20000
5000 I=0:IF NN=5 AND MT=1 THEN GOTO 2480
5010 IF NN=6 AND MT=2 THEN GOTO 2480
5020 IF NN<>5 AND NN<>6 THEN PRINT:PRINT"I CAN'T EAT THAT":GOTO 20000
5040 OP(NN)=10
5050 IL=3:PRINT:PRINT"I FEEL GREAT !":GOTO 20000
6000 IFOP(NN)=0THEN 6009
6005 IF OP(NN)=CR THEN 6009
6006 PRINT:PRINT"I CAN'T USE IT BECAUSE I CAN'T FIND IT":GOTO 20000
6007 IF OP(OP(NN))=CROR OP(OP(NN))=0THEN 6009
6009 REM
6021 IF NN<>17 THEN 6071
6025 IFOP(16)<>0ANDOP(16)<>CRTHENPRINT"■I DON'T HAVE A MALLET .":GOTO20000
6030 PRINT:INPUT"WHAT DO YOU WANT TO CHISEL";IN$
6035 FORJ=1TO20
6037 IF CC$(J)=LEFT$(IN$,2)THEN 6042
6040 NEXT J
6041 PRINT:PRINT"I DON'T UNDERSTAND":GOTO 20000
6042 IFOP(J)<>0ANDOP(J)<>CRTHENPRINT:PRINT"I CAN'T FIND IT.":GOTO20000
6050 PRINT:PRINT"*** CRACK ***"
6060 PRINT:PRINT"THE CHISEL HAS SNAPPED"
6070 OP(17)=10:GOTO 20000
6071 IF NN<>25 THEN 6080
6072 PRINT:PRINT"TRY ■SH■OOT"
6076 GOTO 20000
6080 IF NN<>12 AND NN<>7 THEN 6130
6090 IF CR<>1 OR RL(4)=0 THEN 6120
6100 PRINT:PRINT"IT DOSEN'T FIT THE LOCK"
6110 GOTO 20000
6120 PRINT:PRINT"I CAN'T SEE A LOCK TO USE IT ON":GOTO 20000
6130 IF NN<>21 THEN 6220
6140 IF OP(22)<>21 THENPRINT"■THE DETONATER IS NOT ATTACHED":GOTO20000
6150 PRINT
6160 FOR I=0TO 10
6170 PRINT10-I;
6174 V=TI
6175 IF(TI-V)<50 THEN 6175
6180 NEXT I
6190 PRINT:PRINT"CLICK"
6200 PRINT:PRINT"NOTHING HAPPENS."
6201 GOTO 20000
6220 IF NN<>22 THEN 6240
6230 GOTO 6150
6240 IF NN<>26 THEN6270
6250 PRINT:PRINT"TRY ■RE■PAIR"
6260 GOTO 20000
6270 IF NN<>19 THEN 6320
6280 IF OP(19)<>15 THEN 6310
6290 PRINT:PRINT"IT IS ALREADY CONNECTED UP"
6300 GOTO 20000
6310 PRINT:PRINT"I HAVN'T GOT ANYTHING TO USE IT ON":GOTO20000
6320 IF NN<>15 THEN  6370
6330 IF OP(19)=15 THEN 6350
6340 PRINT:PRINT"THERE IS NO POWER IN THE COMPUTER":GOTO20000
6350 GOTO 19000
6370 IF NN<>23OROP(23)<>0THEN6420
6380 PRINT:PRINT"YOU HAVE ALREADY GOT IT ONE"
6385 GOTO 20000
6400 PRINT:PRINT"THAT IS NOT POSSIBLE"
6410 GOTO 20000
6420 IF NN<>14 THEN 6400
6430 PRINT:PRINT"** HISSSSSSSS **":OP(14)=10
6435 PRINT:PRINT"THE GAS HAS DISLOVED THE CANISTER!!"
6440 IF OP(23)=0 THEN 6500
6450 PRINT:PRINT"AAGH!!! GAS!!"
6460 FOR J=1 TO1500:NEXTJ:GOTO2480
6500 IF OM$(23)="0"THEN 6600
6510 PRINT:PRINT"AAGH!!! THE GAS - ITS COMING IN!!!  A LEAK!!!"
6520 GOTO 6460
6530 IF CR=7 OR  CR=8 OR CR=6 THEN 6600
6540 PRINT:PRINT"THE GAS HAS DISPERSED THROUGH AN AIR     ";:PRINT"VENT"
6550 GOTO 20000
6600 G=-1:PRINT:PRINT"A CHOCKING,COUGHING SOUND IS HEARD IN   ";
6610 PRINT:PRINT"THE DISTANCE. THE GAS THEN ESCAPES":OO$(18)="DEAD GUARDS"
6620 PRINT:PRINT"THROUGH AN AIR VENT."
6630 GOTO 20000
8000 IF NN<>23 THENPRINT:PRINT"IT DOSEN'T NEED REPAIRING!":GOTO 20000
8010 PRINT:INPUT"WITH WHAT ";IN$
8020 IN$=LEFT$(IN$,2)
8030 IF IN$<>"PU"THENPRINT:PRINT"THAT WON'T WORK !":GOTO 20000
8040 OP(26)=10:OM$(23)="0"
8050 PRINT:PRINT"O.K":GOTO 20000
8500 IFOP(NN)<>0THENPRINT:PRINT"I HAVN'T GOT IT TO PUT ANYWHERE!":GOTO20000
8520 PRINT:INPUT"WHERE";IN$
8530 IN$=LEFT$(IN$,2)
8535 IFIN$="RO" THEN J=28:GOTO8580
8540 FOR J=1TO29
8550 IF IN$<>CC$(J)THEN 8570
8560 GOTO 8576
8570 NEXT J
8575 PRINT:PRINT"I DON'T UNDERSTAND":GOTO 20000
8576 IFOP(J)<>CRANDOP(J)<>0THENPRINT"■I CAN'T FIND WHERE THAT IS":GOTO20000
8580 IF J<>28 THEN8600
8590 OP(NN)=CR:PRINT:PRINT"O.K":GOTO 20000
8600 IF J<>15 OR NN<>19 THEN 8630
8610 OP(NN)=15:OM$(15)=OM$(15)+"  BATTERY"
8620 PRINT:PRINT"O.K":GOTO 20000
8630 IF J<>25 THENGOTO 8680
8640 IF NN<>8AND NN<>9AND NN<>10ANDNN<>24THEN 8680
8650 OP(NN)=25:IF OM$(25)="0"THEN OM$(25)=""
8660 OM$(25)=OM$(25)+OO$(NN)+"  "
8670 GOTO 8620
8680 IF J<>21 AND NN<>22 THEN 8710
8690 OM$(21)="DETONATOR":OP(22)=21
8700 GOTO 8620
8710 IF J<>27 OR OP(27)=10 THEN 8750
8720 IF NN<>12 AND NN<>7 THEN 8750
8725 IF CR<>1 THENPRINT"I CAN'T SEE A LOCK ANYWHERE.":GOTO 20000
8730 PRINT:PRINT"IT WON'T FIT THE LOCK."
8740 GOTO 20000
8750 IFJ<>23ANDJ<>15ANDJ<>11THEN 8800
8760 OP(NN)=J:IFOM$(J)="0"THENOM$(J)=""
8770 OM$(J)=OM$(J)+"  "+OO$(NN)
8775 PRINT:PRINT"O.K":GOTO 20000
8800 PRINT:PRINT"I CAN'T PUT IT THERE"
8810 GOTO 20000
9000 PRINT:INPUT"WITH WHAT";IN$
9010 IF LEFT$(IN$,2)="FL" THEN 9100
9020 PRINT:PRINT"I CAN'T SHOOT SOMETHING WITH THAT !"
9030 GOTO 20000
9100 IFOP(NN)<>CRANDOP(NN)<>0THEN:PRINT:PRINT"I CAN'T HIT IT FROM HERE.":
9101 IFOP(NN)<>CRANDOP(NN)<>0THEN20000
9105 IF OP(25)=0 THEN 9150
9110 PRINT:PRINT"I DON'T HAVE A FLINT LOCK TO SHOOT WITH!":GOTO 20000
```

```
9150 IFOP(8)=25OROP(24)=25OROP(9)=25OROP(10)=25THEN 9200
9160 PRINT:PRINT"THE DAMN THING'S EMPTY !"
9170 GOTO 20000
9200 IFOP(8)=25ANDOP(24)=25ANDOP(9)=25ANDOP(10)=25 THEN 9250
9210 PRINT:PRINT"IT'S NOT FULLY LOADED"
9220 GOTO 20000
9250 PRINT:PRINT"*** BANG ***":OP(8)=10:OP(9)=10:OP(10)=10:OP(24)=10
9260 OM$(25)="0":IF NN<>27 THEN9300
9270 PRINT:PRINT"THE LOCK HAS BEEN SHOT OFF AND THE DOOR"
9280 PRINT"SWINGS OPEN."
9290 OP(27)=10:RL(4)=0
9295 GOTO 20000
9300 IF NN<>18 THEN 9340
9310 PRINT:PRINT"A GUARD FALLS TO THE FLOOR BUT THERE ARE";
9320 PRINT"STILL TWO AFTER YOU."
9330 FORJ=1TO1500:NEXTJ:GOTO 20000
9340 IF NN<>29 THEN 9370
9350 PRINT:PRINT"THE BULLET JUST BOUNCED OFF."
9360 GOTO 20000
9370 PRINT:PRINT"NO DAMAGE IS DONE."
9380 GOTO 20000
9800 IF NN<>15 THEN 9890
9810 IF OP(19)<>15 THEN 9870
9820 GOTO 19000
9870 PRINT:PRINT"CLICK...":FORJ=1TO600:NEXTJ
9880 PRINT:PRINT"NOTHING HAPPENS !"
9885 GOTO 20000
9890 GOTO 9880
11000 PRINT"■■YOU HAVE :■"
11010 PRINT:I=0:NI=0
11020 FOR J=1 TO 29
11025 IF OP(J)=0 THEN PRINTOO$(J):PRINT:I=1:NI=NI+1
11030 NEXT J
11040 IF I=0 THEN PRINT"NOTHING"
11050 GOTO 20000
14000 PRINT:PRINT"I SEE":IF NN<>1 THEN14050
14010 IF RN(CR)=0 THEN 14040
14020 PRINTRR$(RN(CR))
14030 GOTO 20000
14040 PRINT"NOTHING":GOTO 20000
14050 IF NN<>2 THEN 14100
14060 IF RS(CR)=0 THEN 14040
14070 PRINTRR$(RS(CR))
14080 GOTO 20000
14100 IF NN<>3 THEN 14150
14110 IF RW(CR)=0 THEN 14040
14115 IF CR=5 THENPRINT"A SECURITY CHECK":GOTO 20000
14120 PRINTRR$(RW(CR))
14130 GOTO 20000
14150 IF RE(CR)=0 THEN 14040
14160 PRINTRR$(RE(CR))
14170 GOTO 20000
15000 DIMA$(50)
15010 A$(2)="    |"
15020 A$(3)="   /‾\"
15030 A$(4)="  |U |"
15040 A$(5)="  |  |"
15050 A$(6)="  |S |"
15060 A$(7)="  |  |"
15070 A$(8)="  |A |"
15080 A$(9)="  |  |"
15090 A$(10)="  |♠ |"
15100 A$(11)="  |♠ |"
15110 A$(12)=" /|♠ |\"
15120 A$(13)="| |   | |"
15130 A$(14)="| |___| |"
15140 A$(15)="  ‾/ \‾  "
15150 A$(16)="   ‾‾‾   "
15160 A$(1)="_____________          _____________"
15170 A$(17)="|       |"
15180 A=16
15200 PRINT"■■■■■■■■■■■■■■■■■■■■";
15210 PRINTA$(1):PRINT:PRINT"■";
15220 FOR B=1 TO 6:PRINTTAB(A)A$(17)
15230 NEXT B
15240 B$="■■■■■■■■■■■■■■■■■■■
```

Part 1.

```
10 POKE52,28:POKE56,28:CLR
20 FORI=7168TO7679
30 READA
40 POKEI,A
45 PRINT"■■■■■■■■■■■■■■■■■■■■■■"I
50 NEXTI
60 POKE198,3:POKE632,147:POKE633,131
99 REM***Q*BERT***
100 DATA195,129,149,149,129,195,219,201
109 REM***PYRAMID***
110 DATA255,126,60,24,153,126,60,24
120 DATA255,255,255,255,255,255,255,255
130 DATA1,3,7,15,15,15,11,9
140 DATA0,0,0,0,24,60,126,255
150 DATA128,192,224,240,240,240,208,144
160 DATA231,102,60,24,153,126,60,24
165 DATA129,195,231,255,255,255,219,153
169 REM***DEAD BERT***
170 DATA195,141,169,141,129,195,219,201
180 DATA195,177,149,177,129,195,219,60
184 REM***BALL***
185 DATA199,163,65,65,65,97,179,199
189 REM***COILY***
190 DATA231,215,223,231,251,199,189,195
199 REM***DEVIL***
200 DATA66,0,165,195,129,102,219,237
209 REM***BOOT***
210 DATA31,31,17,0,0,0,0,16
219 REM***BARREL***
220 DATA255,129,36,36,126,36,36,129
229 REM***MUSHROOM***
230 DATA249,243,243,231,231,129,129,195
239 REM***BROLLY***
240 DATA199,1,41,239,239,239,235,247
249 REM***MUSICAL NOTE***
250 DATA231,233,239,239,143,15,15,159
259 REM***PLANT***
260 DATA159,87,235,239,131,131,199,199
269 REM***FACE***
270 DATA153,165,36,0,102,60,153,195
279 REM***BOX***
280 DATA255,224,220,186,6,117,115,7
289 REM***CHOPPER***
290 DATA255,128,247,227,221,221,227,221
299 REM***THE BEBE***
300 DATA195,129,102,102,102,129,195,153
309 REM***HAMMER***
310 DATA0,0,0,0,231,231,231,231
319 REM***FIRE BALL***
320 DATA247,231,219,181,182,170,213,227
329 REM***ROBOT***
330 DATA193,162,182,213,193,162,162,247
339 REM***BUG***
340 DATA255,219,129,102,66,66,129,219
349 REM***THE SHWARZ***
350 DATA195,129,102,36,66,102,126,60
359 REM***THE ECKY***
360 DATA153,0,102,0,153,60,153,195
369 REM***STOOGE***
370 DATA195,165,165,129,129,165,189,60
399 REM***CREDITS***
400 DATA19,44,68,68,64,64,65,65
410 DATA0,128,131,132,132,130,48,48
415 DATA0,0,0,0,0,0,0,0
420 DATA0,0,16,136,72,48,0,0
425 DATA64,71,72,38,33,33,9,6
440 DATA0,19,42,74,75,74,82,34
450 DATA0,188,16,16,144,19,19,16
460 DATA60,126,231,195,195,224,112,56
470 DATA28,14,7,195,195,231,126,60
480 DATA30,63,115,96,96,115,63,30
490 DATA30,63,115,97,97,115,63,30
500 DATA55,63,189,176,176,176,48,48
510 DATA7,143,156,31,31,28,15,7
520 DATA128,192,224,224,224,0,192,192
530 DATA243,243,97,127,127,97,243,243
540 DATA207,207,134,134,134,134,207,207
550 DATA7,15,31,61,57,57,123,255
570 DATA191,159,207,68,36,12,6,3
590 DATA0,30,18,54,38,38,38,62
600 DATA0,4,12,12,12,12,12,12
610 DATA0,60,4,12,28,48,48,60
620 DATA0,60,4,12,60,12,12,60
630 DATA0,36,36,44,60,12,12,12
640 DATA0,60,32,48,60,12,12,60
650 DATA0,60,32,48,60,52,52,60
660 DATA0,60,4,4,12,12,12,12
670 DATA0,60,36,44,60,44,44,60
680 DATA0,60,36,44,60,12,12,60
690 DATA252,246,226,67,65,192,96,48
700 DATA60,102,66,66,82,78,102,61
710 DATA0,206,168,204,168,206,0,128
720 DATA0,206,164,196,164,164,0,0
730 DATA216,204,230,127,63,6,12,24
800 DATA192,224,240,120,56,56,184,252
```

Part 2.

```
5 HI=0
9 REM***SET VARIABLES***
10 LB=0:SC=0:M=5
15 PRINT"■":POKE36879,8:POKE36869,255
20 E(1)=10:E(2)=11:G=140
50 S1=36875:S2=36874
60 POKE36878,15
70 C=30720
99 REM***PRINT PYRAMID***
100 PRINT"■■■■■■■■■■■■■■■■■■■
```

KU BERT

RUNS ON VIC-20

This game for the unexpanded VIC 20 casts you as a small round furry character from the planet Alpha Centuri (called Kubert, or Bert to his friends). Bert just happens to be jumping around a pyramid, for no apparent reason. You score points for each hexagon of the pyramid that you jump on. When all the hexes have been covered a new pyramid appears.

If all this sounds easy — you're in for a shock! There are snakes slithering and balls bouncing around the pyramid all trying to harm you. Also if you fall off the pyramid you die. You have five lives to play with (remember you *are* from Alpha Centuri, and small round furry things have five lives there).

Controls

Q: Left and up

P: Right and up

Z: Left and down

,: Right and down

Space pauses the game.

When typing in this game, type in **program one** first and save it on tape, *then* type in and save **program two**. To run the program load and run the first program. The hi-res graphics will then set up and the second program will be loaded automatically.

RUNdown

The program is divided into two parts in order to fit into an unexpanded VIC. The first program defines the high resolution graphics and is self explanatory. The second program is as follows.

Line	Action
5-70	Initialize variables.
100-560	Print out the pyramid and credits.
600-610	Print score and men left at the top of the screen.
700-770	Move Bert and check if he has jumped off the pyramid or hit a nasty.
780-880	Move nasties and check their position.
900-910	Check if all the dots have been collected.
2000-2060	Tones for movement.
3000-3540	End of game/Play tune/Wait for key to be pressed.
3600	DATA for tune.

Variables Used

HI	Hi-score.
LB	Number of dots collected.
SC	Score.
M	Men left.
E(1) and E(2)	Characters for nasties.
S1	Voice one.
S2	Voice two.
C	Colour.
B(1) and B(2)	Position of nasties.
J	PEEK for key pressed.
Q	Position for Bert.
G	Counter variable.

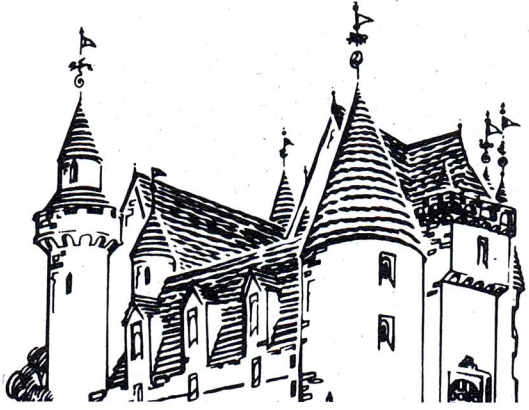
Conversion Clues

Here is a list of memory locations and their functions featured on the VIC. Other computers will have Basic words to cover these features.

Location	Function
36878	Volume control (0 to 15).
36869	Used to select user defined graphics.
36874/5/6	The three sound channels (0 to 127 on each channel).
7168--7679	Memory locations for UDGs.
7680--8185	Screen memory.
197	Current key being pressed, equivalent to GET.
POKE 198,0: WAIT 298,1	Waits for any key to be pressed.
52-56	Alter HIMEM/RAMTOP.

PUZZLES

Summer holidays are over again; the nights are drawing in — soon it will be winter. So to cheer you up here is Lou and Les's special back to school issue of the puzzle page. No talking at the back there. Pay attention.....



1. THAT'LL TEACH YOU

Back in Falkovia (hurray!), the cruel Duke Bootylace was engaged in tax collection again — needed to finance his shark pools, snake pits and his other hobbies. Those who couldn't or wouldn't pay were summoned to the castle, where a terrible punishment awaited them.

This time though the crowd was enormous and the Duke was at a loss as to how to dispose of them all. Perhaps Tell, his trusty adviser could help. "Tell Tell to come here." he bellowed, and the call was repeated like an echo down the long dark corridors of the castle. Tell raced to answer the summons — in Falkovia no one is indispensible.

"Tell me, Tell, how do I clear the backlog of prisoners?" Tell thought, and finally came up with an ingenious solution — which the Duke couldn't wait to try out.

There were now 1247 prisoners outside, thronging the courtyard. The latest arrival was called in, and taken to the specially prepared dungeon. Before the quaking tax avoider were 8 doors, maked A-H.

"Pay close attention, dog." growled the Duke. "You are the 1247th person to offend me today. Yet my mercy knows no bounds. Count these doors in order — A is one, B is two, so H will be...?"

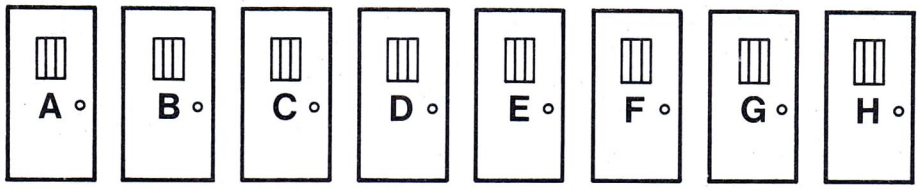
"8?" ventured the prisoner.

"Exactly!" howled the Duke. "And if you carry on counting back then G will be 9, F,10 and back to A which will be 15. Yes?"

"Err, yes."

"And reversing again, B will be 16 and so on. Now if you carry on counting to 1247 and open that door, you can walk out a free man. Inside the other 7, by the way, lurks a lingering death. So start counting." The Duke left, turning only to say" By the way, you have one minute."

Now about here we usually say the bloke worked it all and got away. Well this one panicked, opened a door at random and met a horrible and slow end. If it had been you, would you have fared better?



2. GUEST SPOT

Two contributions this time from Neil Fairclough of Wigan;

"The rungs on a ladder hung from the side of a ship are one foot apart. Three hours before high tide the bottom two rungs are under water. The tide rises 16" per hour. How many rungs are under water at high tide?"

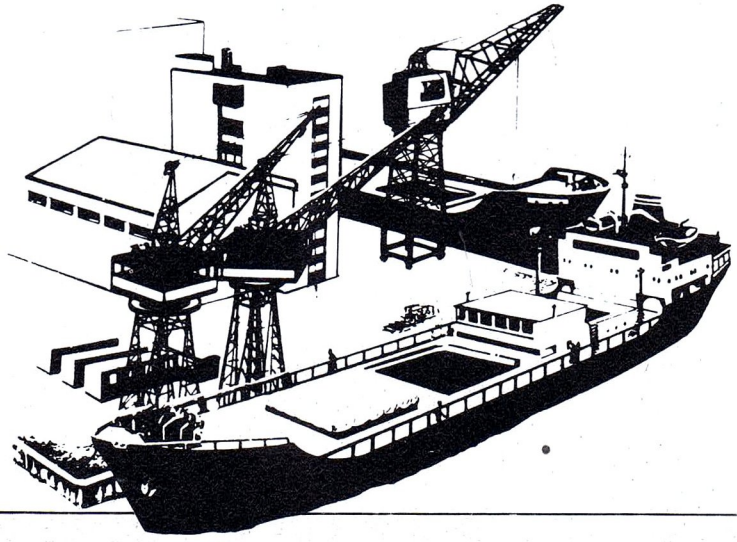
"Every morning on his way to work a man gets the elevator from the 14th floor of his apartment block to the basement garage. When he gets home he takes the elevator to the 7th floor and walks up to his flat. Why does he do this, and what is his job?"

And, from R.J. Marratt of Wolverhampton;

Can you find a number ¾ less than its square?

Can you find a number ¼ more than its square?

Our thanks again for being able to sit this one out. More prizes are racing from the puzzle page to the deserving few. It's not too late to join this most exclusive of clubs — the GOLL Club — Guest of Lou and Les.



▶ P73

MAY WICO BE WITH YOU

When you're up against all the evil in the universe, you need the finest joystick. Weak, sticky, slow controls can only lead you to your doom.

You need a Wico.® The controls in more than 500 modern arcade games are actually made by Wico.® They set the industry standard for durability and performance. And the same arcade quality goes into the Wico® you take home.

Wico® joysticks work directly with the Commodore 64,™ Vic 20,™ all Atari® Home Computers and Atari® Video Games.

Add an interface, and you can connect into a Sinclair Spectrum or Apple II® and IIe.® If you have a new MSX computer there's the just released MSX Grip Handle for you.

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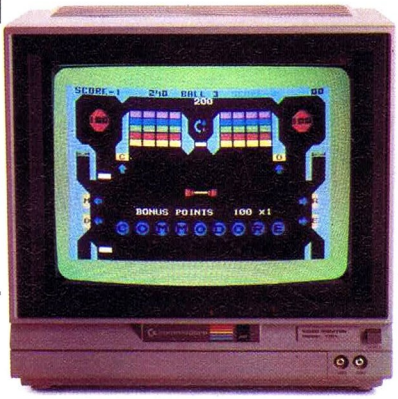

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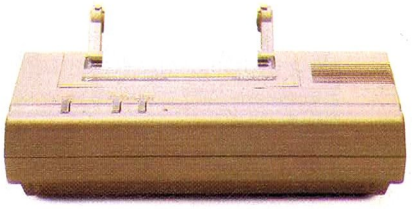

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Warning: these gar

nes show no mercy.

Acornsoft have now unleashed eight more merciless games onto unsuspecting BBC micro owners.

Ranging from 'Gateway to Karos', where putting a foot wrong could mean instant death. To the relentless antics of Drogna which could have you dying with laughter.

Gateway to Karos.

An adventure game in which you'll need all your patience and ingenuity just to stay alive. Your objective is to find the Talisman of Khoronz but, whichever path you choose, you'll be beset by treachery. Serpents lie in wait and magical phenomenona are in abundance. Should you find the Talisman, you've still to find your way back.

Kingdom of Hamil.

As the rightful heir to the Kingdom of Hamil, you are in the unusual position of having to prove your claim to the throne. Evil people are trying to prevent you accomplishing your task by any means. An adventure game fraught with many dangers, puzzles and problems.

Tetrapod.

You're in an arena littered with dormant lizards, killer bees and other hostile creatures with whom you'll have to do battle to survive. But beware of your own laser bullets, as they bounce off the arena walls.

Drogna.

A game for two people – preferably with devious minds. There are two vaults containing diamonds and your job is to collect and transfer them to your home base. While your opponent is out collecting you could sneak in and steal his loot . . . but keep an eye out for him doing the same to you.

Crazy Tracer.

An arcade style game where you're in charge of a paint roller. Guide your roller around a maze of rectangles while evading monsters who are committed to destroying it. Gain extra rollers and bonus points by painting different objects. But you'll have to avoid running out of paint.

Volcano.

Mount Crona has erupted after 150 years of silence. And your mission as an Emergency Rescue Helicopter Pilot is to save sightseers stranded on the slopes. Time is of the essence as the lava approaches the sightseers. But you'll have to take time to evade – or shoot – the boulders being hurled from the volcano.

Carousel.

A re-creation of the fairground shooting gallery – with a difference. Shoot down all the ducks, owls and rabbits before you run out of ammunition. Watch out for the low-flying ducks. If you fail to shoot these, they'll steal your bullets and reduce your chances of success.

Meteor Mission.

On an alien planet are six stranded astronauts. Launch your capsule from the Mothership and by avoiding – or shooting – meteors and alien craft, pick up the astronauts one at a time and return them to the Mothership.

All games – with the exception of Gateway to Karos which is currently only available on cassette – can be bought direct in either cassette or disc form. You will find all these programs at your local Acorn stockist. To find out where they are simply call 01-200 0200. Credit card holders, phone 01-200 0200, anytime. Or 0933 79300, during office hours.

Alternatively, you can order the games by sending off the coupon below to: Acornsoft, c/o Vector Marketing, Denington Estate, Wellingborough, Northants NN8 2RL. Please allow 28 days for delivery.

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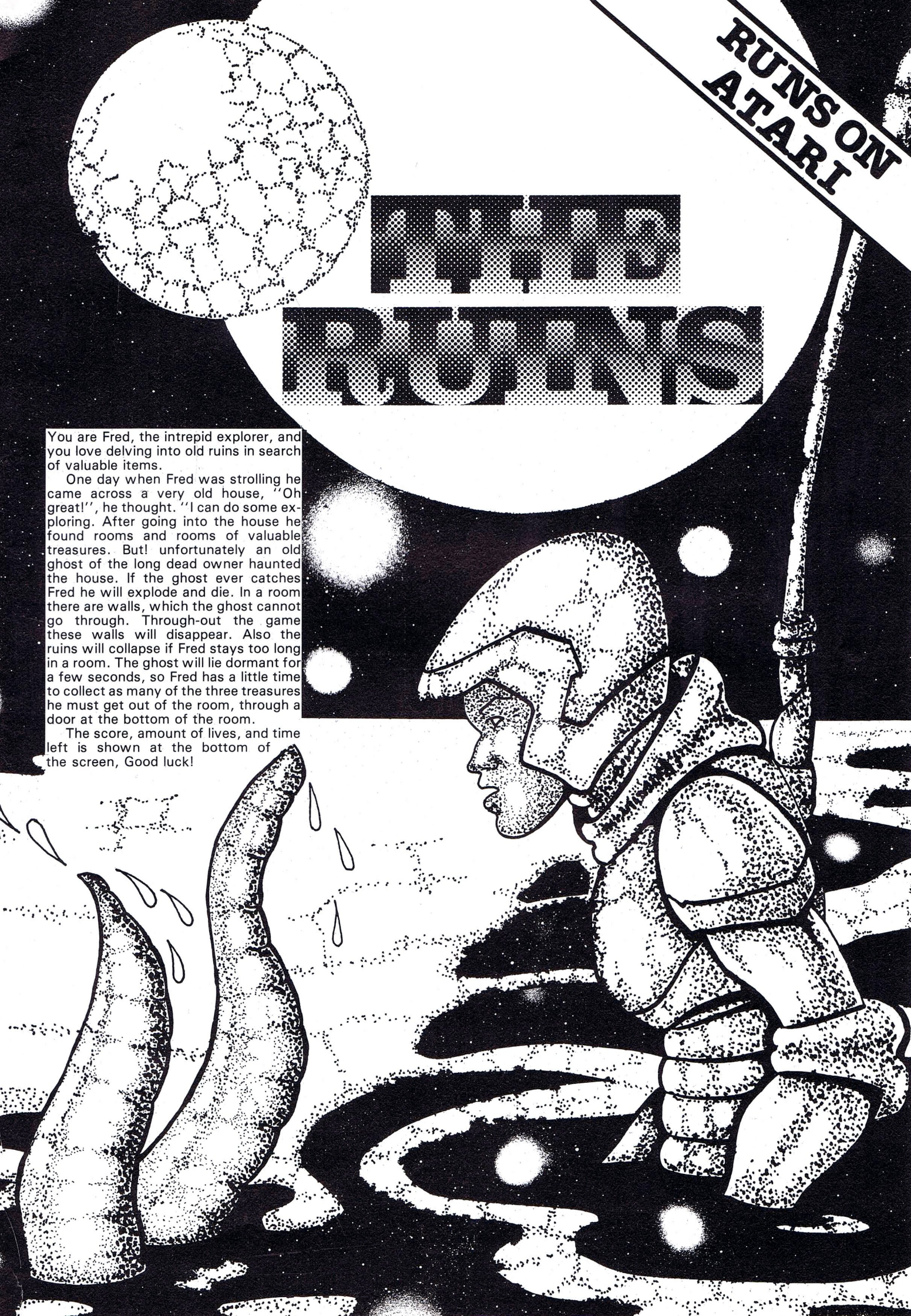
ACORNSOFT

```
1 REM RUIN by Michael Kempster
10 GOSUB 30000:REM REDEFINE
20 GOSUB 20000:REM TITLE SCREENS
25 REM SET UP IMPORTANT VARIABLES
30 LI=3:SK=1:AS=0.5:SC=0
40 X=10:Y=10:TI=100:TR1=0:TR2=0:TR3=0
45 POSITION 0,0:PRINT #6;CHR$(125):REM DRAW SCREEN
50 COLOR 132:PLOT 7,19:DRAWTO 0,19:DRAWTO 0,0:DRAWTO 19
,0:DRAWTO 19,19:DRAWTO 12,19:COLOR 166:PLOT 8,19
55 COLOR 165:PLOT 11,19:COLOR 4
60 IF SK<3 THEN PLOT 2,5:DRAWTO 2,7:DRAWTO 4,7:PLOT 17,
5:DRAWTO 17,7:DRAWTO 15,7:PLOT 4,12:DRAWTO 2,12:DRAWTO
2,14
61 IF SK<3 THEN PLOT 15,12:DRAWTO 17,12:DRAWTO 17,14
70 IF SK<6 THEN PLOT 7,8:DRAWTO 7,11
80 IF SK<9 THEN PLOT 12,8:DRAWTO 12,11
90 COLOR 132:PLOT 5,4:DRAWTO 14,4:PLOT 5,15:DRAWTO 14,1
5
95 GOSUB 10000
100 COLOR 7:PLOT X,Y:COLOR 40:PLOT AH,AV
105 POSITION 6,21:? #6;"TIME:";INT(TI);" "
107 POSITION 0,23:? #6;"SCORE:";SC:POSITION 14,23:? #6;
"men:";LI
110 S=STICK(0):IF TI<1 THEN 3000
120 IF S=14 THEN GOSUB 990:Y=Y-1
130 IF S=13 THEN GOSUB 990:Y=Y+1
140 IF S=11 THEN GOSUB 990:X=X-1
150 IF S=7 THEN GOSUB 990:X=X+1
153 IF TI>90 THEN FOR N=1 TO 15:NEXT N:GOTO 200
155 COLOR 32:PLOT AH,AV
160 IF AH<X THEN LOCATE AH+AS,AV,P:IF P=32 OR P=7 THEN
AH=AH+AS:GOTO 180
170 IF AH>X THEN LOCATE AH-AS,AV,P:IF P=32 OR P=7 THEN
AH=AH-AS
180 IF AV<Y THEN LOCATE AH,AV+AS,P:IF P=32 OR P=7 THEN
AV=AV+AS:GOTO 200
190 IF AV>Y THEN LOCATE AH,AV-AS,P:IF P=32 OR P=7 THEN
AV=AV-AS
195 IF X=AH AND Y=AV THEN GOTO 3000
200 SETCOLOR 2,X,15:SOUND 1,TI,10,15:SOUND 0,0,0,0:SOUN
D 1,0,0,0
205 LOCATE AH,AV,P:IF P=7 THEN GOTO 3000
210 TI=TI-0.5:SETCOLOR 2,X,15
220 IF Y=19 AND TR1=1 AND TR2=1 AND TR3=1 THEN GOTO 200
0
225 IF Y=19 THEN 3000
230 LOCATE X,Y,P:IF P=32 THEN 100
240 IF P=161 OR P=162 OR P=163 THEN 1000
250 IF P=132 OR P=4 THEN 3000
270 GOTO 100
990 COLOR 32:PLOT X,Y:SOUND 1,91,10,10:RETURN
1000 REM TREASURES
1010 IF P=161 THEN TR1=1:SC=SC+10*SK
1020 IF P=162 THEN TR2=1:SC=SC+10*INT(RND(0)*10)
1030 IF P=163 THEN TR3=1:SC=SC+10*SK
1040 RESTORE 1500
1050 FOR NOTES=1 TO 6:READ N,D:SOUND 0,N,10,15:FOR DUR=
1 TO D:NEXT DUR:NEXT NOTES
1060 GOTO 100
1500 DATA 81,50,91,50,68,50,60,25,45,25,53,100
2000 ? #6;CHR$(125)
2005 SOUND 0,0,0,0:SOUND 1,0,0,0
2010 POSITION 5,2:? #6;"tresure is"
2020 POSITION 0,10
2030 ? #6;"$$$ $$$ $ $ $  $ $$ $   $ $ $ $ $$ $ $ $$$
$ $ $ $ $ $$ $ $$   $ $ $ $ $  $ $ $$   $$$ $$$ $  $ $$
"
2040 POSITION 2,19:? #6;"PREPARE FOR RUIN"
2050 SK=SK+1:AS=AS+0.1:IF AS>1 THEN AS=1
2055 TUNE=1
2060 FOR N=1 TO 500:NEXT N
2070 RESTORE 2500
2080 READ N:IF N=-1 THEN SOUND 0,0,0,0:GOTO 40
2090 SOUND 0,N,10,10:FOR D=1 TO 200:NEXT D:GOTO 2080
2500 DATA 81,72,91,144,123,-1,-1
3000 REM DEAD OR ALIVE
3010 TUNE=1
3020 REM DEAD
3030 COLOR 169:PLOT X,Y:SOUND 0,255,10,15:FOR N=1 TO 10
0:NEXT N
3040 COLOR 170:PLOT X,Y:SOUND 0,250,10,15:FOR N=1 TO 10
0:NEXT N
3050 COLOR 171:PLOT X,Y:SOUND 0,245,10,15:FOR N=1 TO 10
0:NEXT N
3060 COLOR 172:PLOT X,Y:SOUND 0,200,8,10:FOR N=1 TO 75:
NEXT N
3070 COLOR 173:PLOT X,Y:SOUND 0,180,8,6:FOR N=1 TO 75:N
EXT N:SOUND 0,0,0,0
3080 LI=LI-1:IF LI<1 THEN GOTO 3500
3090 FOR N=1 TO 400:NEXT N:? #6;CHR$(125):GOTO 40
3500 ? #6;CHR$(125)
3510 POSITION 2,10:? #6;"BAD LUCK youre":POSITION 8,12:
? #6;"dead"
3520 FOR N=1 TO 400:NEXT N:? #6;CHR$(125)
3530 GOTO 20
```



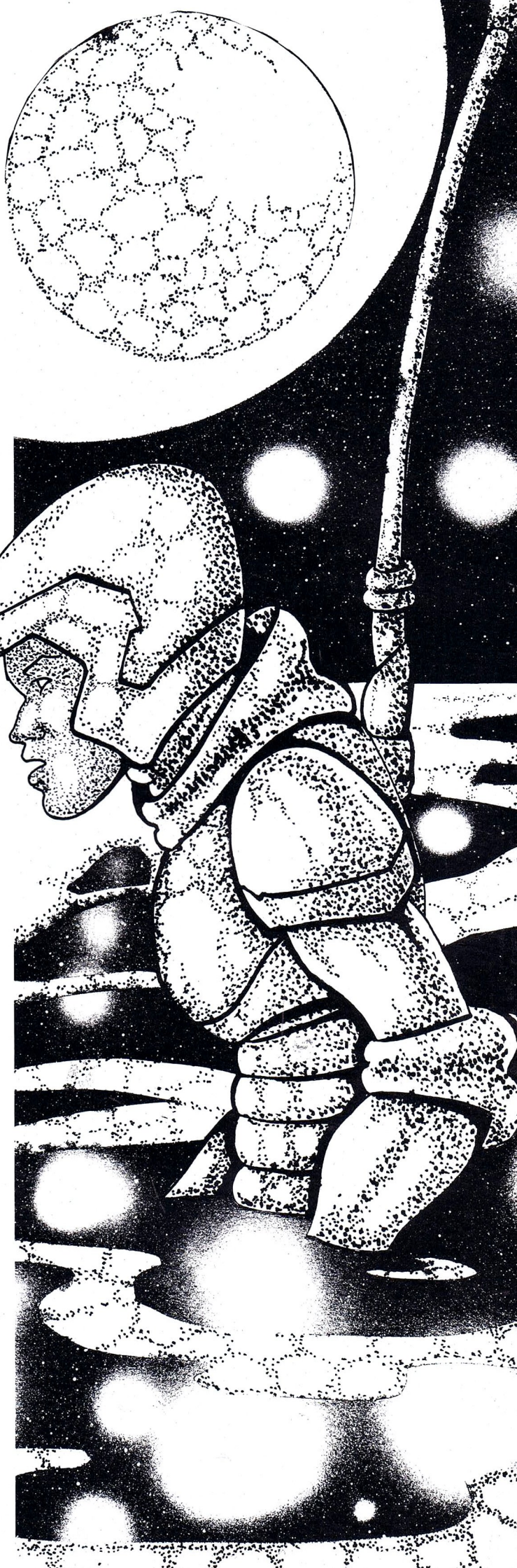
You are Fred, the intrepid explorer, and you love delving into old ruins in search of valuable items.

One day when Fred was strolling he came across a very old house, ''Oh great!'', he thought. ''I can do some exploring. After going into the house he found rooms and rooms of valuable treasures. But! unfortunately an old ghost of the long dead owner haunted the house. If the ghost ever catches Fred he will explode and die. In a room there are walls, which the ghost cannot go through. Through-out the game these walls will disappear. Also the ruins will collapse if Fred stays too long in a room. The ghost will lie dormant for a few seconds, so Fred has a little time to collect as many of the three treasures he must get out of the room, through a door at the bottom of the room.

The score, amount of lives, and time left is shown at the bottom of the screen, Good luck!

AMS RUINS

```
10000 GOSUB 15000:COLOR 161:PLOT AH,AV
10010 GOSUB 15000:COLOR 162:PLOT AH,AV
10020 GOSUB 15000:COLOR 163:PLOT AH,AV
10030 GOSUB 15000:COLOR 40:PLOT AH,AV:COLOR 7:PLOT X,Y
10035 IF TUNE=1 THEN FOR N=1 TO 250:NEXT N:RETURN
10040 RESTORE 13000
10050 READ N,D:IF N=-1 THEN SOUND 0,0,0,0:RETURN
10060 SOUND 0,N,10,15:FOR DUR=0 TO D:NEXT DUR:GOTO 1005
0
13000 DATA 31,50,28,50,35,50,42,100,37,50,47,50,0,50,64
,50,57,50,72,50,85,100,76,50,96,50,0,50,128,50
13010 DATA 114,50,144,50,173,100,153,50,173,50,182,50,1
93,50,0,125,47,75,0,25,-1,-1
15000 REM PLACE CHARACTERS
15010 AH=INT(RND(0)*17)+1:AV=INT(RND(0)*17)+1:LOCATE AH
,AV,P:IF AV=10 THEN 15010
15015 IF P=32 THEN RETURN
15020 GOTO 15010
20000 SETCOLOR 0,3,10:SETCOLOR 1.0.12:SETCOLOR 2.15.15:
SETCOLOR 3,6,10
20010 POSITION 0,1
20020 ? #6;"$$$ $ $ $$$ $  $ $$$";
20030 ? #6;"$ $ $ $  $  $$ $ $  ";
20040 ? #6;"$$$ $ $  $  $ $$ $$$";
20050 ? #6;"$$  $ $  $  $  $  $";
20060 ? #6;"$ $ $$$ $$$ $  $ $$$";
20070 POSITION 9,9:? #6;"by":POSITION 2,11:? #6;"MICHAE
L KEMPSTER"
20080 POSITION 4,18:? #6;"press START"
20090 IF PEEK(53279)<>6 THEN 20090
20100 FOR Y=8 TO 23:COLOR 32:PLOT 0,Y:DRAWTO 19,Y:NEXT
Y
20105 IF SC>=HI THEN HI=SC
20110 POSITION 4,7:? #6;"/ potion"
20120 POSITION 4,9:? #6;"= key"
20130 POSITION 4,11:? #6;"# crystal"
20140 POSITION 4,13:? #6;"' explorer"
20150 POSITION 4,15:? #6;"( ghost"
20160 POSITION 7,17:? #6;"SCORE:";SC
20170 POSITION 6,19:? #6;"hiscore:";HI
20180 POSITION 1,22:? #6;"PRESS start TO play"
20190 IF PEEK(53279)<>6 THEN 20190
20195 TUNE=0
20200 RETURN
30000 DIM M$(32),P(1):GRAPHICS 1+16
30010 RESTORE 30100
30020 FOR I=1 TO 32:READ A:M$(I)=CHR$(A):NEXT I
30030 P=PEEK(106)-4:P=P-4:P(1)=P
30040 P=P(1)*256:A=USR(ADR(M$),57344,P)
30050 FOR I=8 TO 111:READ A:POKE P(1)*256+I,A:NEXT I
30055 POKE 756,P(1)
30060 RETURN
30100 DATA 104,104,133,204,104,133,203,104,133,206,104,
133,205,162,4,160,0,177,203,145,205,136,208,249,230,204
30110 DATA 230,206,202,208,240,96
30120 DATA 102,36,66,149,129,169,66,60
30130 DATA 0,224,160,191,170,168,224,0
30140 DATA 64,228,78,4,64,228,78,4
30150 DATA 36,102,195,24,24,195,102,36
30160 DATA 4,4,7,2,2,7,4,4
30170 DATA 32,32,224,64,64,224,32,32
30180 DATA 90,90,66,60,24,60,36,102
30190 DATA 124,254,182,146,254,254,170,170
30200 DATA 0,90,90,60,24,60,102,0
30210 DATA 0,0,24,60,24,60,0,0
30220 DATA 0,0,0,24,24,0,0,0
30230 DATA 0,0,20,0,0,20,0,0
30240 DATA 0,66,0,0,0,0,66,0
```



AMS RUINS

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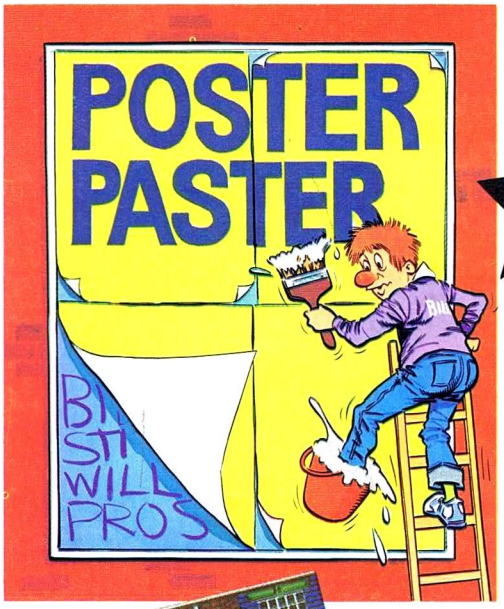

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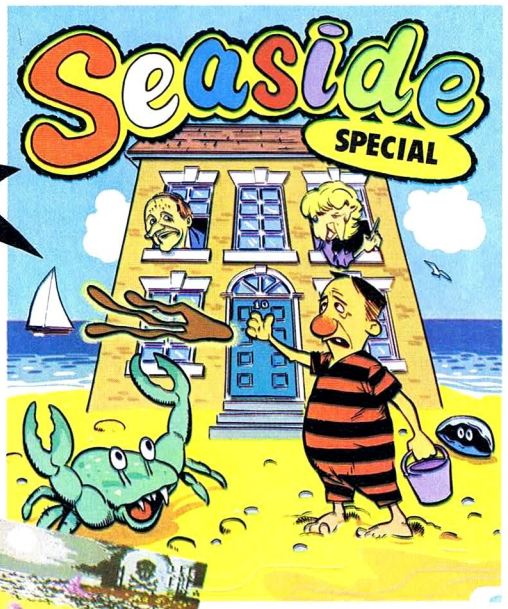

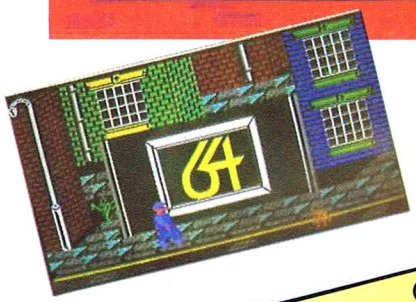

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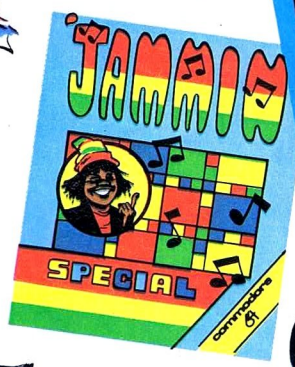

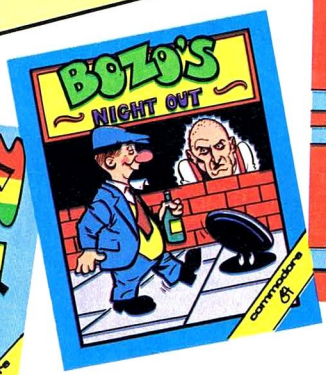

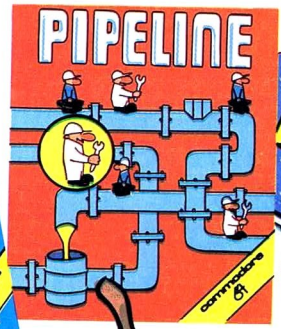

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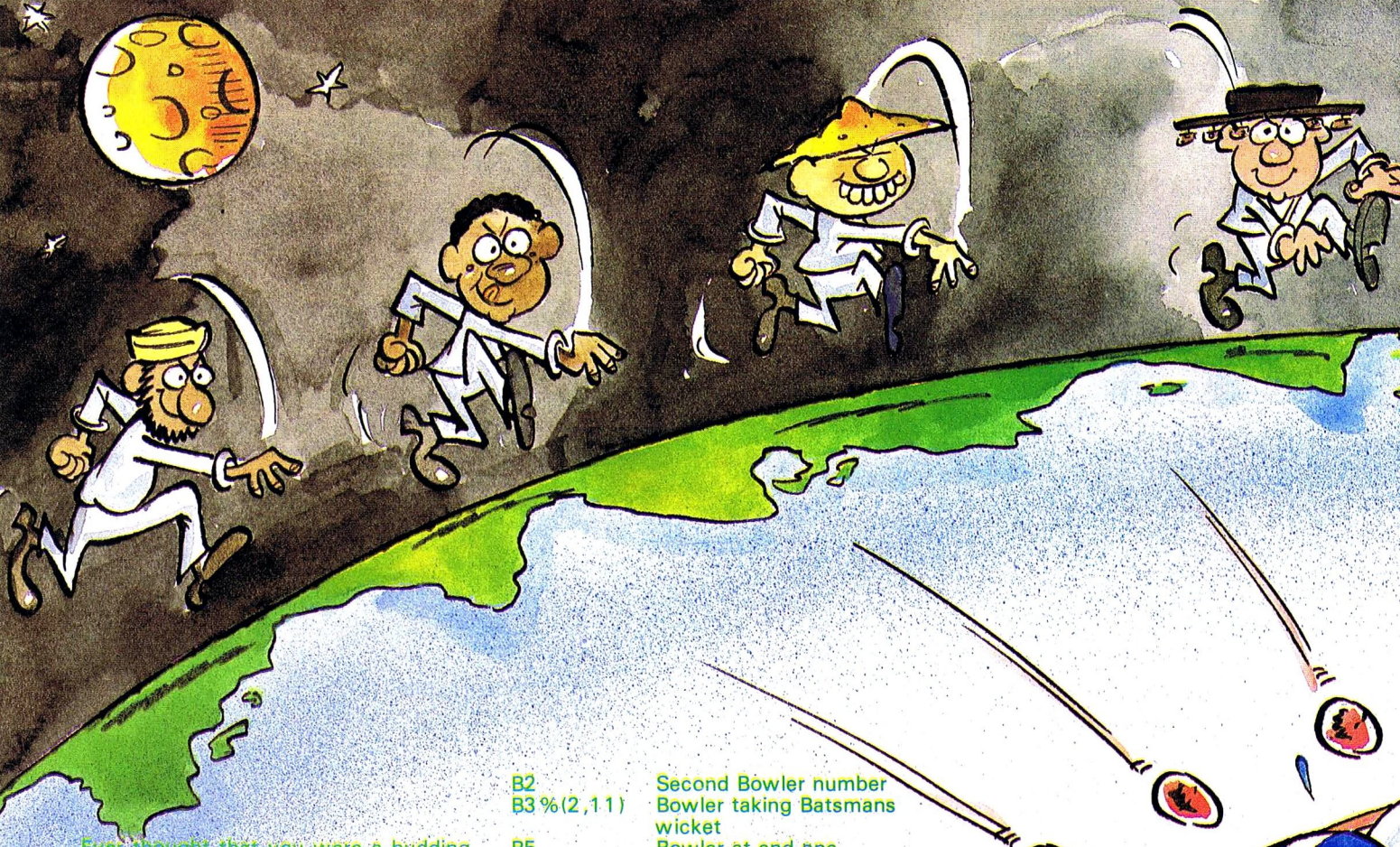


Ever thought that you were a budding Denis Lilley? or had aspirations of eating more Shredded Wheats than Ian Botham? If so then this is the game for you.

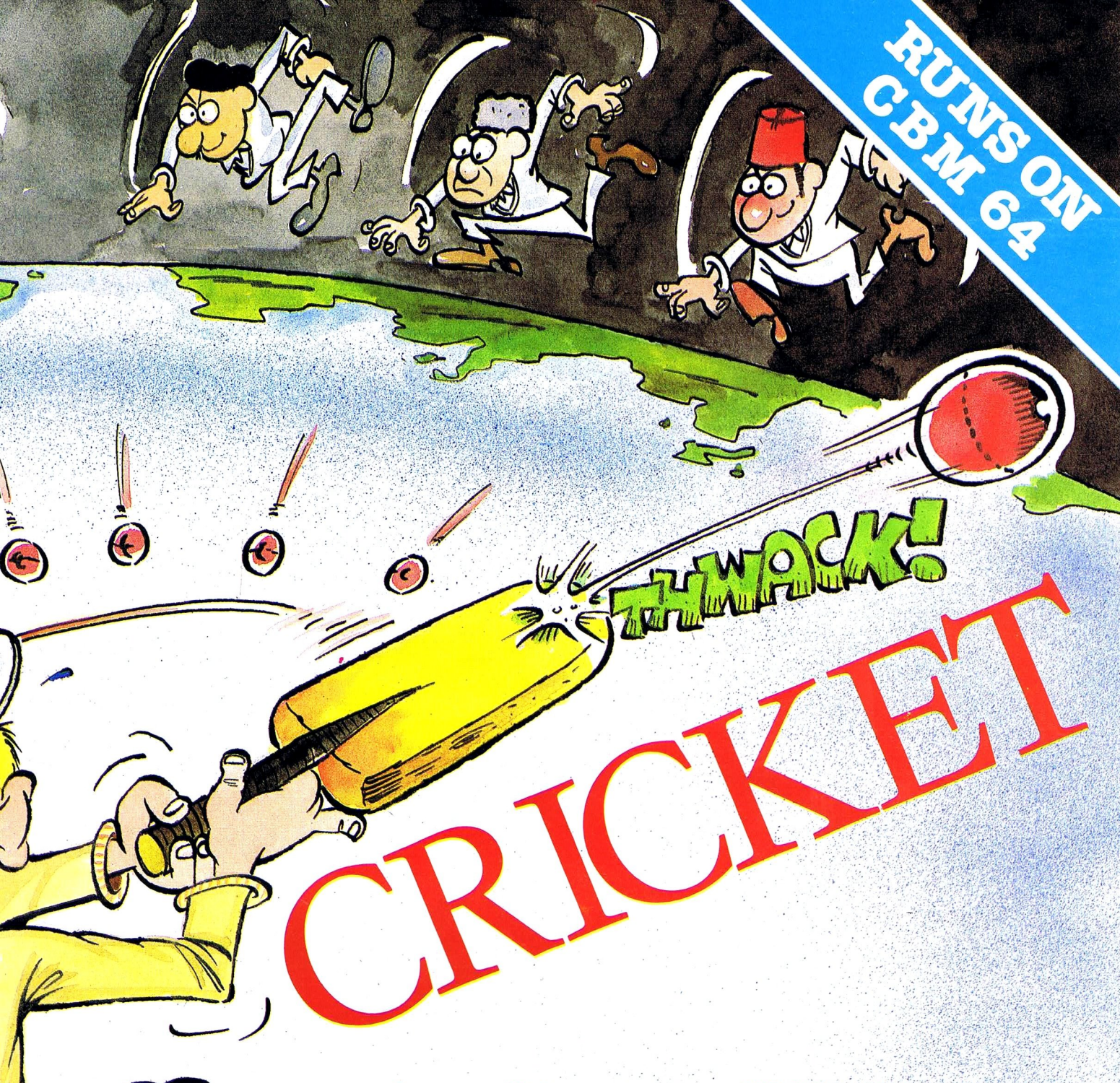
This cricket game for the Commodore 64 is not a graphical action game but an accurate simulation of a test match between two opposing teams. Full statistics are kept of the match and after a few games you begin to understand what the cricket commentators are actually talking about!

The player is allowed to enter their own team or use the computer selection. The computer will field a rest of the world team of current and past stars. The two main types of match can be selected i.e. a full four innings game or a limited over match.

Full statistics are kept of the match and may be displayed at any time. At the end of each over the player changes ends and bowlers. The player is asked to identify which are bowlers and they may only bowl eight overs before change. Batting and Bowling are entered by the use of a random number running until a key is pressed. When Batting the score is then given (0/1/1/3/4 or 6) or 'Hows That' is displayed and the computer will give it's judgement. When bowling the player hits a key to stop a display of 'How Outs' including Not Out which is actioned accordingly. A scoreboard is displayed to the player at all times and instructions are included in the program.

Variables Used

A$	Computer Team Name
B	Bowler Bowling
B1	First Bowler number
B1%(2,11)	Batsman — Number of balls faced
B2	Second Bowler number
B3%(2,11)	Bowler taking Batsmans wicket
B5	Bowler at end one
B6	Bowler at end two
B7	Number of overs bowled by bowler B5
B8	Number of overs bowled by bowler B6
C$	Command Input
C1$	Command Input
E$	Work
E1%	Extras
E2%(2,11)	Bowlers Extras
F1%(2,11)	Fall of wicket scores
G	How out code
H1$(2,11)	Batsman — How out code
I	Number of innings
I$	Innings literal
L1%	Last man out score
L2%	Last wicket score
N$	Human Team Name
O	Number of overs
O%	Overs played
O1%(2,11)	Overs bowled by bowler
P1$(2,11)	Player Names
P1$(2,11)	Player Names
P3	First Batsman No.
P4	Second Batsman No.
P5	Work



CRICKET

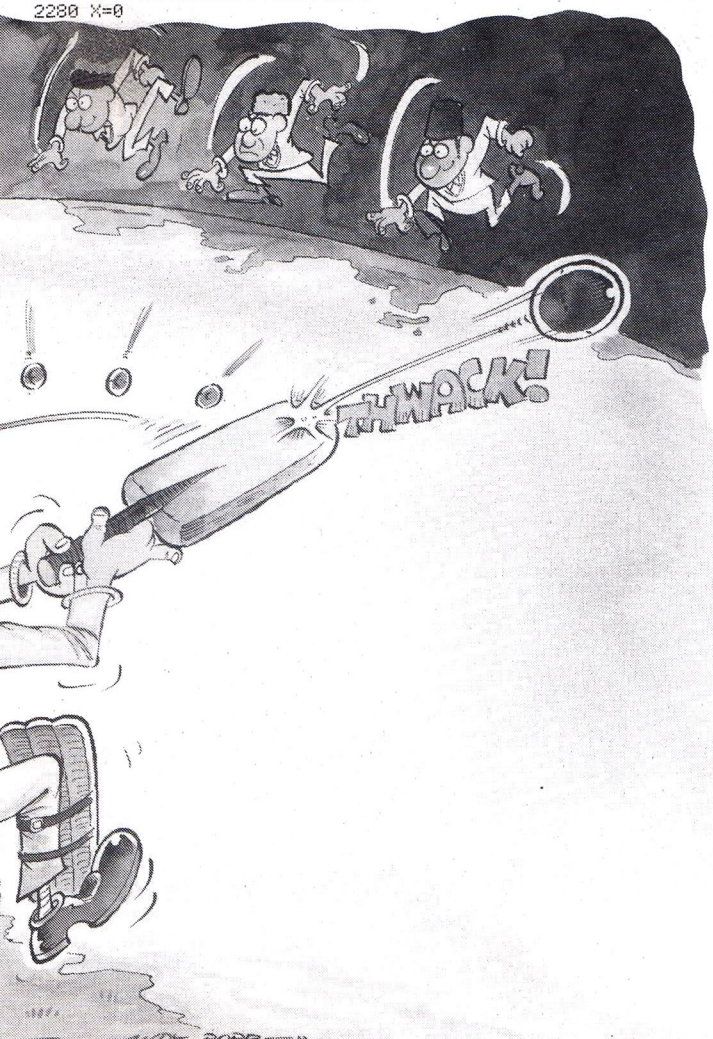
Q	Work	W1%(2,11)	Individual wickets taken
		W2%	Wickets Taken
R	Receiving End		
R1%(2,11)	Bowlers Runs	X	Work
		X1	Work
S1%(2,11)	Individual Score	X2	Balls played in over
S2	Work	X3	Work
		X4	Work
T	Tab character number	X5	Work
T1%	Score	X6%	No of wickets taken/Work
T2%	Score for both Innings — Computer	X7	Innings defeat flag
T3%	Score for both Innings — Human	Z1	Work
T4%	Number of runs won by	Z2	Subscript
T9%	Score total for card	Z3	Subscript
		Z4	Subscript
U$	How out	Z5	Subscript
U1$	How out (short)/Literal usage	Z6	Bowlers average
		Z6%	Bowlers average

CRICKET

```
100 REM **************************
110 REM ** AUTHOR  LEN KEIGHLEY **
120 REM **  WRITTEN  4/4/81     **
130 REM **************************
135 POKE53280,15:POKE53281,15:PRINT"■";
140 PRINT"□■■■■■■■■■"
150 PRINT"■■■■■■■■■
```

RUNS ON CBM 64

```
1690 IFB5<10THENU1$="BOWLERS   ":GOTO1710
1700 U1$="BOWLERS  "
1710 PRINTU1$B5". "TAB(14)LEFT$(P1$(Z3,B5),22)
1720 IFB6<10THENU1$="          ":GOTO1740
1730 U1$="         "
1740 PRINTU1$B6". "TAB(14)LEFT$(P1$(Z3,B6),22)
1750 PRINTTAB(30)"┌──┐"
1760 PRINTTAB(30)"│  │"
1770 PRINTTAB(30)"└──┘"
1780 IFQ=9999THENRETURN
1790 IFR=2THENPOKE1344,42
1800 IFB=1THENPOKE1752,42
1810 IFB=2THENPOKE1792,42
1820 IFR=1THENPOKE1264,42
1830 PRINT"■"
1840 PRINT"■■■■■PLAY (Y/N)■"
1850 GETC$:IFC$=""THEN1850
1860 IFC$="S"THEN4310
1870 IFC$="D"THEN3520
1880 IFC$<>"Y"THEN1830
1890 IFZ2=2THEN3360
1900 X=INT(RND(0)*10)
1910 IFX=8THENX=0
1920 IFX=9THENX=1
1930 IFX<>7THEN1960
1940 POKE1105,8
1950 GOTO2000
1960 IFX<>5THEN1990
1970 POKE1105,5
1980 GOTO2000
1990 POKE1105,48+X
2000 GETC$
2010 IFC$=""THEN1900
2020 IFX=5THEN2240
2030 IFX=7THEN2390
2040 PRINT"■■■■■SCORE - "X
2050 FORQ=1TO1000:NEXTQ
2060 IFR=1THENS1%(Z2,P3)=S1%(Z2,P3)+X:B1%(Z2,P3)=B1%(Z2,P3)+1
2070 IFR=2THENS1%(Z2,P4)=S1%(Z2,P4)+X:B1%(Z2,P4)=B1%(Z2,P4)+1
2080 IFX=2ORX=4ORX=6ORX=0THEN2130
2090 IFE$="Y"THEN2130
2100 IFR=1THENQ=2
2110 IFR=2THENQ=1
2120 R=Q
2130 T1%=T1%+X
2140 IFZ2=1THEN2180
2150 IFX4<>3THEN2200
2160 IFT2%+T1%>T3%THEN3520
2170 GOTO2200
2180 IFX4<>3THEN2200
2190 IFT3%+T1%>T2%THEN3520
2200 IFE$="Y"THEN1110
2210 IFB=1THENR1%(Z3,B5)=R1%(Z3,B5)+X
2220 IFB=2THENR1%(Z3,B6)=R1%(Z3,B6)+X
2230 GOTO1110
2240 REM - EXTRAS
2250 X3=RND(0)
2260 IFX3<0.1THEN2300
2270 IFX3<0.2ANDX3>0.1THEN2370
2280 X=0
```




```
2290 GOTO2040
2300 PRINT"■■■■■NO BALL■"
2310 IFB=1THENE2%(Z3,B5)=E2%(Z3,B5)+1
2320 IFB=2THENE2%(Z3,B6)=E2%(Z3,B6)+1
2330 E1%=E1%+1:E3%(Z2)=E1%
2340 X=1:X2=X2-1:E$="Y"
2350 FORQ=1TO1000:NEXTQ
2360 GOTO2080
2370 PRINT"■■■■■WIDE■"
2380 GOTO2310
2390 REM - HOW'S THAT - COMPUTER
2400 PRINT"■■■■■HOW'S THAT!■"
2410 IFZ2=2THEN3470
2420 FORX5=1TO50
2430 X=INT(RND(0)*10)
2440 POKE1895,48+X
2450 NEXTX5
2460 IFX=0THEN2420
2470 ONXGOTO2750,2780,2810,2840,2870,2900,2930,2960,2960
2480 GOTO2390
2490 PRINT"■■■■■
```

CRICKET

```
3370 X=INT(RND(0)*10)
3380 IFX<>5THEN3400
3390 POKE1105,5:GOTO3450
3400 IFX<>7THEN3420
3410 POKE1105,8:GOTO3450
3420 IFX=8THENO=0:X=0
3430 IFX=9THENO=1:X=0
3440 POKE1105,48+X
3450 NEXTX5
3460 GOTO2020
3470 X=INT(RND(0)*10)
3480 POKE1895,48+X
3490 GETC$
3500 IFC$=""THEN3470
3510 GOTO2460
3520 REM - END OF INNINGS
3530 Q=9999
3540 GOSUB1260
3550 Q=0
3560 FORZ1=1TO4000:NEXTZ1
3570 IFZ2=2THENT2%=T2%+T1%
3580 IFZ2=1THENT3%=T3%+T1%
3590 IFX4=1ANDI=0THEN3990
3600 IFX4<>2THEN3670
3610 IFZ2=2THEN3650
3620 IFT3%>T2%THEN3670
3630 X7=1
3640 GOTO3990
3650 IFT2%>T3%THEN3670
3660 GOTO3630
3670 IFX4=3THEN3990
3680 IFX4=1ANDI=1THEN3990
3690 IFZ2=2THENO=1
3700 IFZ2=1THENO=2
3710 Z2=0
3720 IFX4<>1THEN3760
3730 I$="2ND INN"
3740 C$="X"
3750 GOTO4310
3760 T1%=0
3770 W2%=0
3780 L1%=0
3790 L2%=0
3800 E1%=0
3810 O%=0
3820 IFX4=1THEN3850
3830 X4=X4+1
3840 GOTO1060
3850 FORZ3=1TO2
3860 FORZ4=1TO11
3870 O1%(Z3,Z4)=0
3880 W1%(Z3,Z4)=0
3890 R1%(Z3,Z4)=0
3900 B1%(Z3,Z4)=0
3910 B3%(Z3,Z4)=0
3920 F1%(Z3,Z4)=0
3930 H1$(Z3,Z4)="     "
3940 E2%(Z3,Z4)=0
3950 S1%(Z3,Z4)=0
3960 NEXTZ4
3970 NEXTZ3
3980 GOTO3830
3990 REM - END OF MATCH
4000 PRINT"■"
4010 PRINT"■RESULT"
4020 PRINT"■■■■"A$
4030 IFT2%>T3%THEN4070
4040 IFT3%>T2%THEN4090
4050 PRINT"■■■■■■■■■■DREW WITH"
4060 GOTO4100
4070 PRINT"■■■■■■■■■BEAT"
4080 GOTO4100
4090 PRINT"■■■■■■■■■LOST TO"
4100 PRINT"■■■■"N$
4110 IFT3%>T2%THENT4%=T3%-T2%
4120 IFT2%>T3%THENT4%=T2%-T3%
4130 IFT2%=T3%THEN4170
4140 PRINT"■■■■■■■■■■■■BY:-■"
4150 IFI=2THEN4180
4160 PRINT"■■■■■■■■■■"T4%" RUNS"
4170 FORQ=1TO2000:NEXTQ:GOTO4310
4180 IFX7<>1THEN4210
4190 PRINT"■■■■■AN INNINGS AND "T4%" RUNS"
4200 FORQ=1TO2000:NEXTQ:GOTO4310
4210 IFW2%=10THEN4240
4220 PRINT"■■■■■■■■■■"10-W2%" WICKETS"
4230 FORQ=1TO2000:NEXTQ:GOTO4310
4240 FORZ1=1TO11
4250 IFH1$="     "ORH1$=""THEN4270
4260 X6%=X6%+1
4270 NEXTZ1
4280 IFX6%=10THEN4160
4290 W2%=X6%
4300 GOTO4220
4310 REM - STATISTICS
4320 PRINT"■BOWLING FIGURES"
4330 PRINT"■"N$":-■"
4340 Z5=1
4350 PRINT"                    O   W   R  E  AVG"
4360 FORZ1=1TO11
4370 IFO1%(Z5,Z1)=0THEN4630
4380 IFZ1<10THENPRINT" ";
4390 PRINTZ1LEFT$(P1$(Z5,Z1),14)
4400 T=0
4410 IFO1%(Z5,Z1)<10THENT=2:GOTO4430
4420 IFO1%(Z5,Z1)<100THENT=1
4430 PRINT"■"TAB(17+T)O1%(Z5,Z1)
4440 T=0
4450 IFW1%(Z5,Z1)<10THENT=2:GOTO4470
4460 IFW1%(Z5,Z1)<100THENT=1
4470 PRINT"■"TAB(21+T)W1%(Z5,Z1)
4480 T=0
4490 IFR1%(Z5,Z1)<10THENT=2:GOTO4510
4500 IFR1%(Z5,Z1)<100THENT=1
4510 PRINT"■"TAB(25+T)R1%(Z5,Z1)
4520 T=0
4530 IFE2%(Z5,Z1)<10THENT=2:GOTO4550
4540 IFE2%(Z5,Z1)<100THENT=1
4550 PRINT"■"TAB(28+T)E2%(Z5,Z1)
4560 Z6%=(R1%(Z5,Z1)+E2%(Z5,Z1))*100
4570 Z6%=Z6%/O1%(Z5,Z1)
4580 Z6=Z6%/100
4590 T=0
4600 IFZ6<10THENT=2:GOTO4620
4610 IFZ6<100THENT=1
4620 PRINT"■"TAB(31+T)Z6
4630 NEXTZ1
4640 IFZ5=2THEN4680
4650 Z5=2
4660 PRINT"■"A$":-■"
4670 GOTO4350
4680 Z5=1
4690 GOSUB5390
4700 U1$=A$:T9%=0
4710 IFZ5=1THENU1$=N$
4720 PRINT"■■BATTING FIGURES - "U1$
4730 PRINT"          NAME                BLS BL H/OT SCR"
4740 PRINT"■■■■■■■■■■■■
```

COMPETITION

Remember the top selling 'Jack and the Beanstalk' from Thor software? Well all you Commodore 64 owners out there have the chance to win a copy of this great game as *Games Computing* in conjunction with Thor are giving them away as prizes.

Spectrum, BBC, and VIC 20 owners are not left out either — two other great Thor games are up for grabs, The Giant's Revenge for the Spectrum, and Ollie for the VIC 20.

90 tapes can be won and these games are the latest and greatest when it comes to new software.

Jack and the Beanstalk is the best selling graphics adventure for the Spectrum that got to number 1 in most charts, it has now been converted for the Commodore 64 and the result is really impressive. The idea of the game is to travel through six hi-res screens to try and chop the giant for good.

Gaints Revenge is the sequel to Jack and the Beanstalk and runs on a Spectrum. In this game the giant has landed on the ground and dug himself some caves and caverns. Your task is to dig him out and finish him off once and for all.

Ollie for the VIC 20 casts you as a diver after some pearls — of course Ollie the octopus doesn't want you to get them. You'll need cunning and agility to get around this game.

Also you may choose any game from Thor's current range for the BBC, VIC, Spectrum, or Commodore 64.

Thor is relatively new on the software scene having only been in operation since last Christmas. In that time they have made their mark with games such as Twilight Zone, Night Stalker, and Gremlins. All these you can win.

How to Enter

On this page is a wordsquare grid and a list of Thor products. All you have to do is ring the names of the games When you have ringed the names there should be some letters left — this forms a sentence and some letters. Write this on the back of the envelope with your entry in and write it in the area reserved for it on the coupon.

When you fill in the coupon don't forget to state your name, address, telephone number, and age. We also need to know what computer and what game you want. The game can be selected from any in the list for the wordsquare. Put the coupon and the completed wordsquare in an envelope and send it to us — simple!

Next to the list for the wordsquare is a list of machines that the program runs on — DO NOT use the names of the computers in the wordsquare as there are none there, just the names of the games.

Send all your entries to:

Games Computing/Thor Competition
1 Golden Square
London W1R 3AB

List of Words

Programs	Computers they run on
Jack and the Beanstalk	Spectrum Commodore 64
Ollie	VIC 20
Giants Revenge	Spectrum
Twilight Zone	Spectrum
Wonder Worm	BBC
Gremlins	Spectrum
Night Stalker	Spectrum
Love Bug	VIC 20 + 3K or 8K
Blocker	BBC
Mega Fruit	Spectrum
3D Silicon Fish	VIC 20 Commodore 64

Competition Rules

1. This competition is open to all UK readers of *Games Computing*, except employees of Argus Specialist Publications Ltd, their printers and distributors, employees of Thor or anyone connected with them.
2. As long as the correct coupon is used for each entry there is not limit to the number of entries per person, photocopies will not be accepted.
3. All enries must be postmarked before 31st October.
4. The prizes will be awarded to the first 90 entries judged to be correct by the editor.
5. No correspondence will be entered into with regard to the competition results and it is a condition of entry that the editor's decision is final.
6. The winners will be notified by post and the results will be published in a future issue of *Games Computing.*

W	G	U	B	Z	G	O	K	C	A	J
O	O	I	O	E	D	B	T	E	N	S
R	R	N	A	G	G	E	W	V	D	R
M	E	I	D	N	E	A	I	O	3	A
S	K	G	T	E	T	N	L	L	M	E
I	C	H	R	V	R	S	I	E	L	S
L	O	T	T	E	H	T	G	G	O	O
I	L	I	D	R	M	A	H	S	L	A
C	B	U	T	E	S	L	T	T	T	H
O	O	R	R	G	A	K	I	M	E	S
N	F	F	I	S	H	E	R	N	O	M
T	H	E	G	O	D	R	S	G	S	C

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Program: . . . . . .
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Telephone: . . . . . Age: . . . . . .

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NEW RELEASES

MUSIC MASTER
At last, a commonsense program for ordinary people. You needn't know anything about music (or computers)! There's no easier way to make music with your 64, and no easier way to learn about music.

GRAPHICS DESIGNER
The only all machine code sprite and character editor. Joystick or keyboard control; easy to learn, and easy to use.

BUSICALC 3
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STAR COMMAND
Three-dimensional space combat game with convincing graphics.

INTERDICTOR PILOT
Forget ordinary flight simulators! You'll probably never pilot a jumbo - but you might well fly a spaceship. The 48-page manual describes in detail the Interdictor Mk3 craft, and teaches the basics of space combat. Learn in the simulator, then go on to fly real missions!

PESKY PAINTER
A superb adaptation of the classic Amidar game; excellent graphics (thanks to GRAPHICS DESIGNER), superb music (thanks to MUSIC MASTER).

STAR CRASH
Music by Dvorak, program by the Common Market's answer to Jeff Minter. Arcade action from France with just a hint of Star Trek.

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HELICOPTER PILOT

RUNS ON ATARI

The object of the game is to land the Helicopter on the pad at the left side of the Oil Rig. Full instructions are included.

To play this game, you will need one joystick plugged into the left-most control port of any Atari Computer with 16K RAM and a BASIC cartridge.

The program uses the Atari "Player Missile graphics." and a GR.23 (7 + 16) playfield.

If anybody wants to convert this program to run on other systems, I would suggest that you study the "Run Down" and start from scratch. This is due to the fact that P/M graphics are unique to Atari computers and the only system that comes close is the C.B.M. 64. and also because vertical movement is done using machine code routines. Alternatively one could use Re-defined characters.

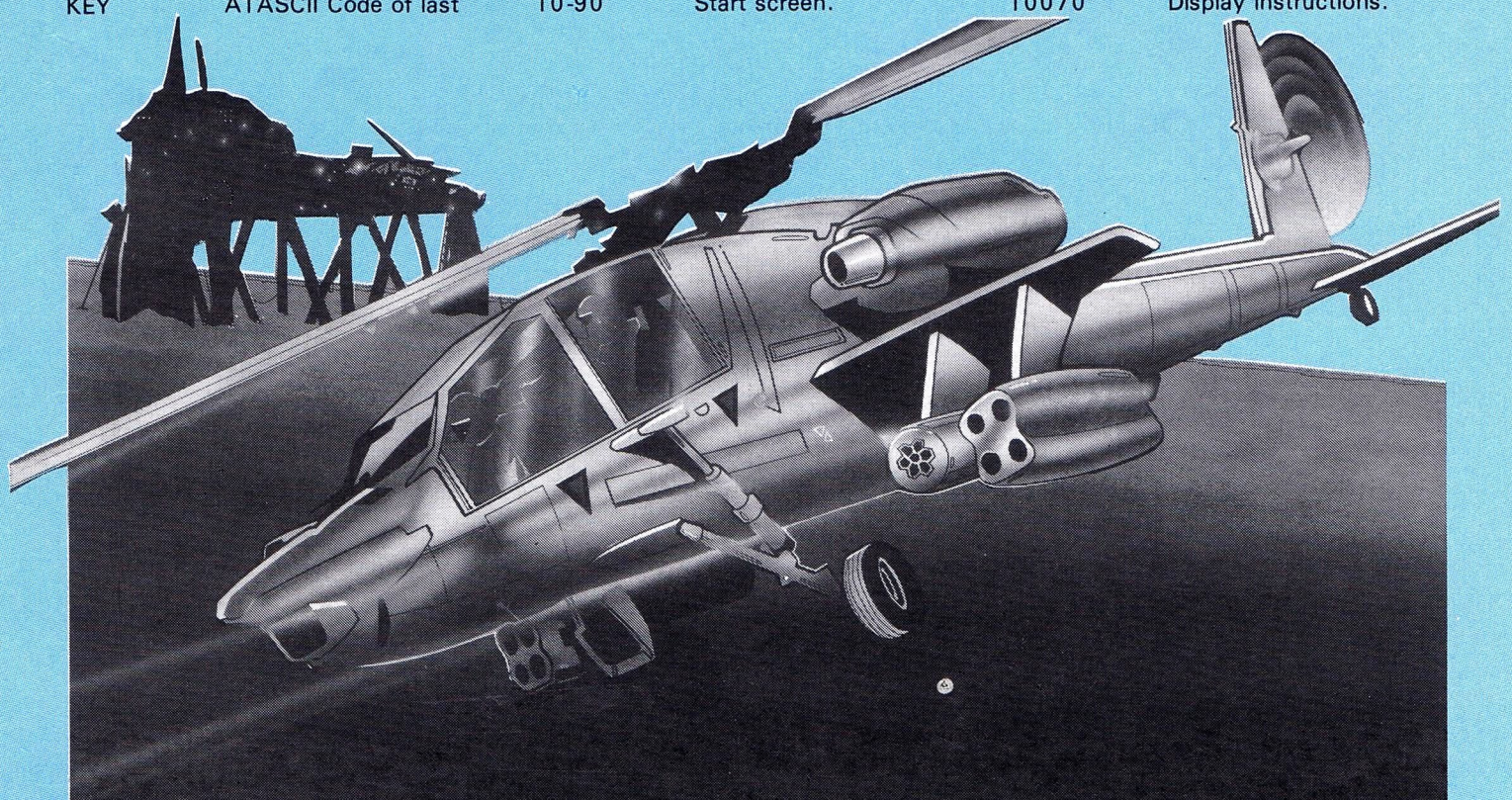
The machine code addresses are as follows:
Up = 1536
Down = 1566

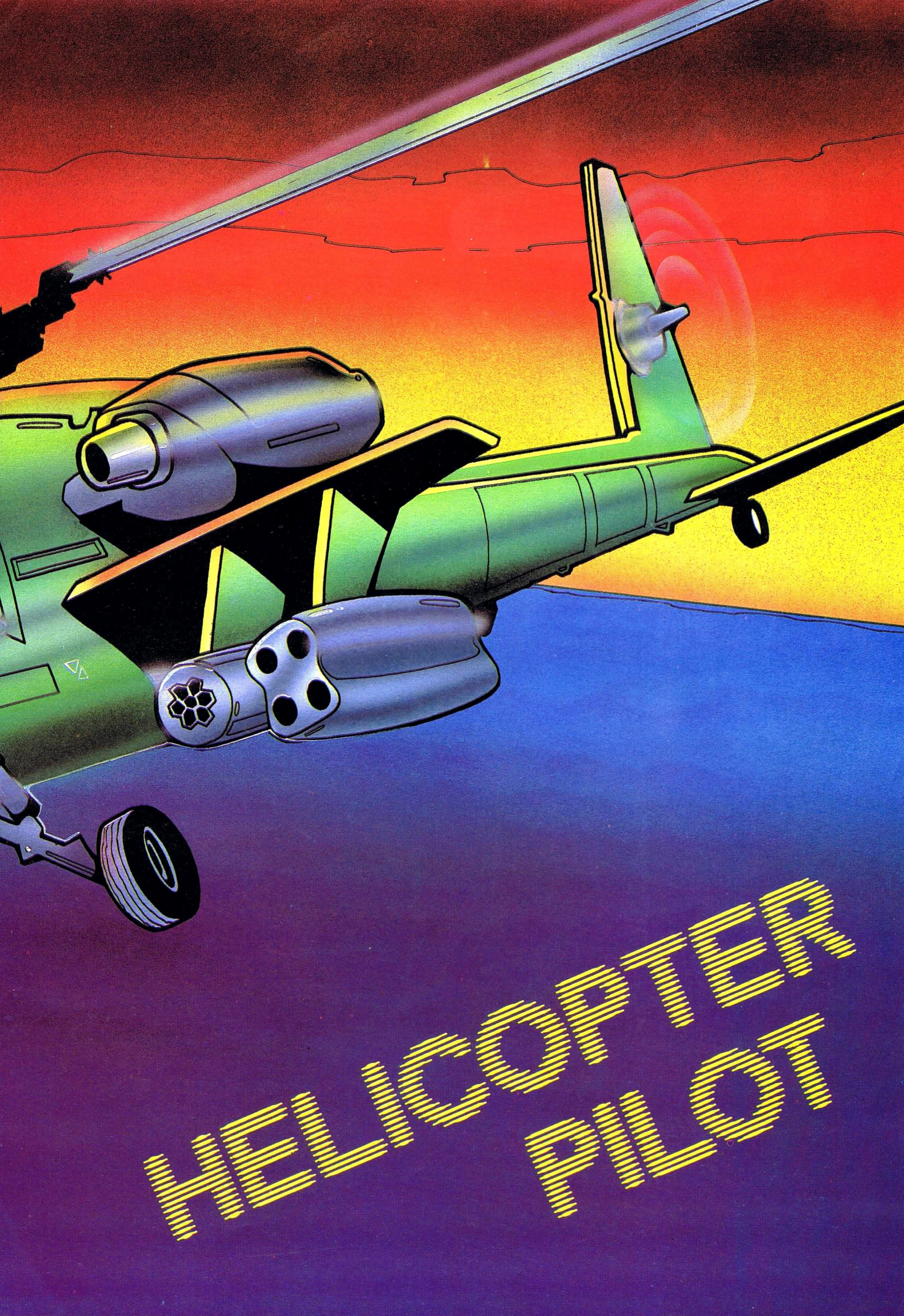
Variables Used

DL	Display list base address + 3
SC	Score.
HSC	High Score.
LI	Number of lives left.
KEY	ATASCII Code of last key to be pressed.
X	Used to draw oil rig & then it is used to position the helicopter on the screen.
Y	Used as 'X' but for vertical co-ordinates.
A	Page corresponding to P/M graphics base address.
PSTART	Starting address of P/M graphics RAM for Player 0.
I,W,N	Loop variables.
J	Used to READ DATA from DATA statements.
UP	Start address of Machine code routine to move helicopter up.
DOWN	Start address of Machine code routine to move helicopter down.
S	Value last taken from STICK (0)
NUM	Used to generate head/ tail winds.
P,P1,P2,V,C	SOUND command variables.

RUNdown

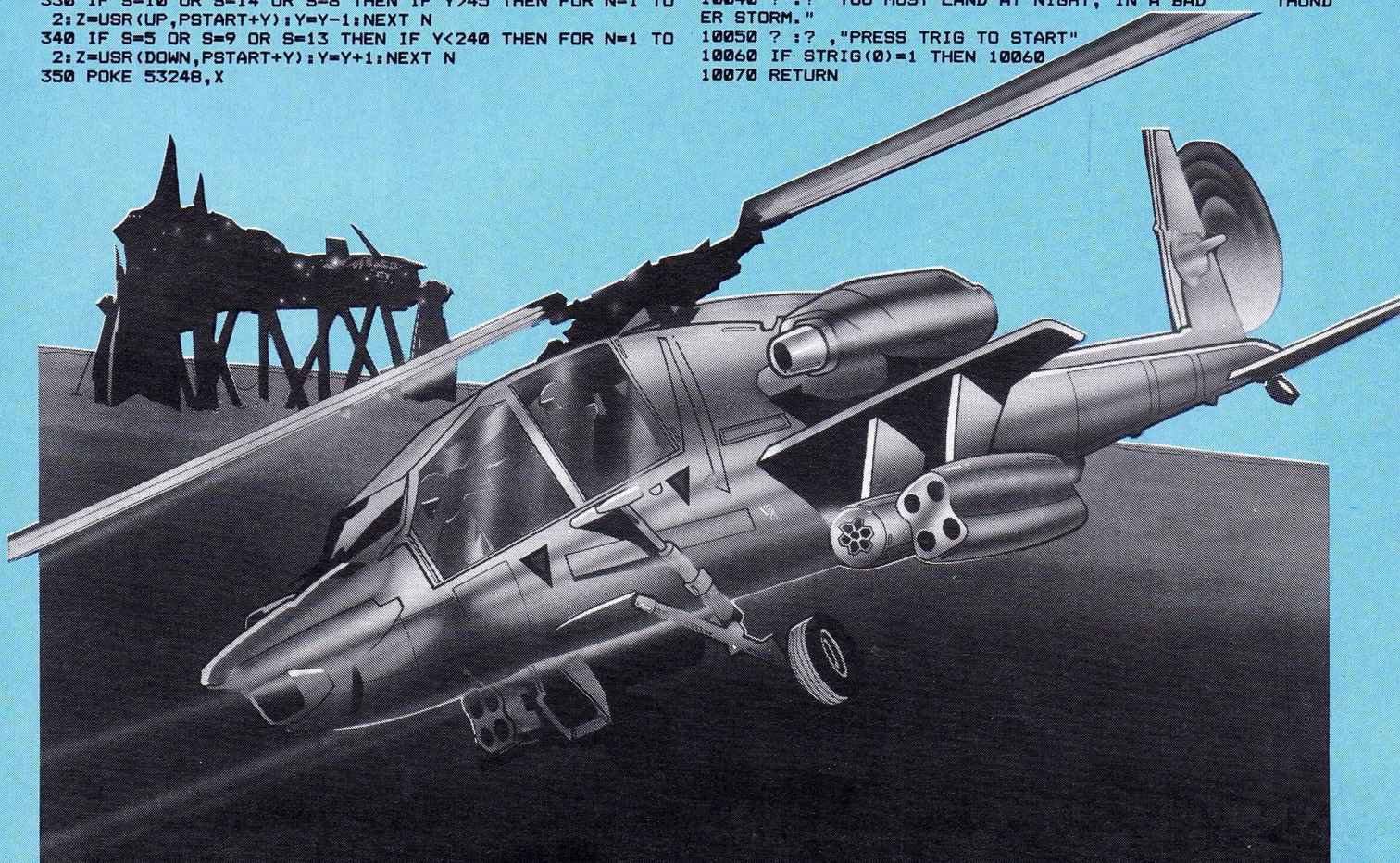
Lines	Action
5	Set variables.
10-90	Start screen.
100-195	Draw oil rig in GR.7
200-230	Define P/M graphics for helicopter.
240-285	Define Machine code routines to move helicopter.
300-350	Read joystick & move helicopter.
360	Test for landing.
370	Test for collision with oil rig or lightning bolt.
380	GOSUB display score, high score & lives left.
390	Lightning strike. Changes colour register 0 and makes a noise.
394-396	Simulate Head/Tail wind by automatically moving helicopter.
400	Go back to 300
1000-1040	Stop helicopter engines after landing.
2000-2090	Helicopter hit object so blow it up.
3000	Display scores.
4000-4010	Test for all lives lost.
5000-5070	"GAME OVER" Routine. Update high score, Reset variables & wait for 'FIRE' to be pressed.
6000-6010	Erase helicopter after a successful landing.
7000-7020	Draw/Erase lightning bolt.
10000-10070	Display instructions.

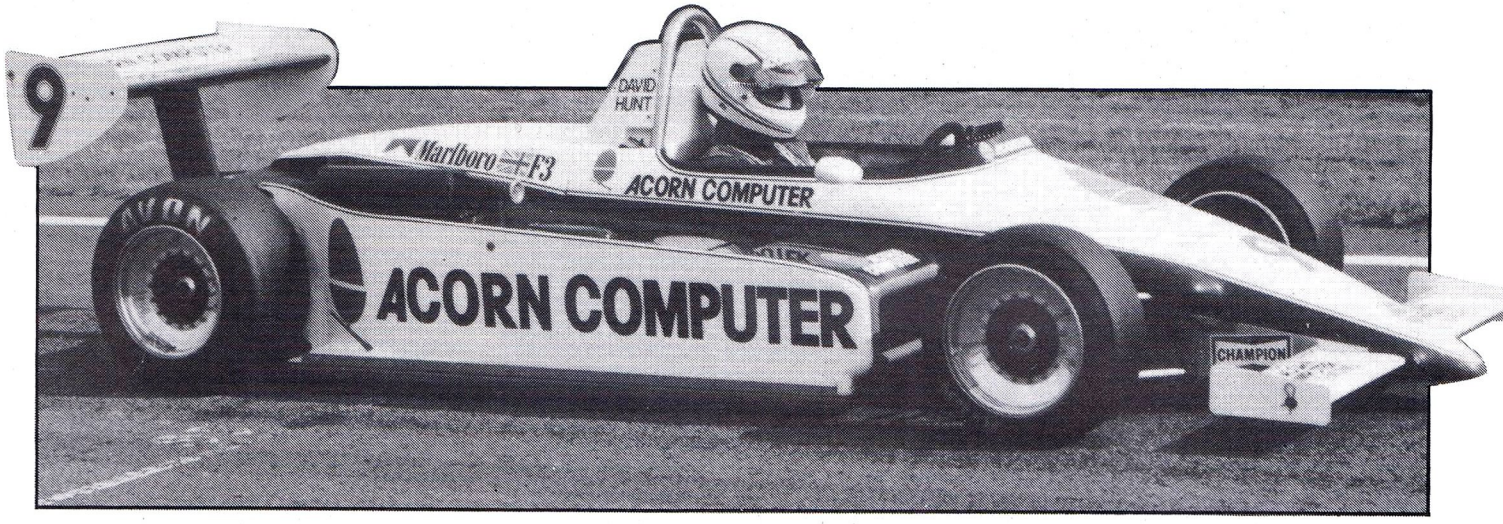



HELICOPTER
PILOT

HELICOPTER PILOT

```
5 SC=0:LI=3:HSC=100
10 GRAPHICS 18:SETCOLOR 0,0,15
20 POSITION 2,2:? #6;"HELICOPTER PILOT"
40 POSITION 3,4:? #6;"BY ANDREW SHAW"
50 POSITION 4,6:? #6;"INSTRUCTIONS"
60 POSITION 8,8:? #6;"Y/N?"
70 OPEN #1,4,0,"K"
80 GET #1,KEY:IF KEY=89 THEN GOSUB 10000:GOTO 100
90 IF KEY<>78 THEN 80
100 GRAPHICS 23:SETCOLOR 0,8,2:SETCOLOR 1,0,15:SETCOLOR
 2,9,2:SETCOLOR 4,9,2:COLOR 1:POKE 752,1
105 DL=PEEK(560)+256*PEEK(561)+3:POKE DL+3,2:POKE DL,66
:POKE DL+4,2
108 GOSUB 3000
110 PLOT 80,60:DRAWTO 120,60:PLOT 80,61:DRAWTO 120,61
120 PLOT 82,60:DRAWTO 82,55:PLOT 88,60:DRAWTO 88,55:PLO
T 80,55:DRAWTO 90,55
130 PLOT 82,55:DRAWTO 88,60:PLOT 82,60:DRAWTO 88,55
140 PLOT 95,60:DRAWTO 95,20:DRAWTO 105,20:DRAWTO 105,60
150 FOR X=20 TO 50 STEP 10:PLOT 95,X:DRAWTO 105,X+10:PL
OT 105,X:DRAWTO 95,X+10:NEXT X
160 FOR X=107 TO 118:PLOT X,45:DRAWTO X,60:NEXT X
170 COLOR 2:FOR X=109 TO 117 STEP 2:FOR Y=48 TO 56 STEP
 2:PLOT X,Y:NEXT Y:NEXT X
180 COLOR 1:FOR X=82 TO 86:PLOT X,62:DRAWTO X,80:NEXT X
190 FOR X=112 TO 116:PLOT X,62:DRAWTO X,80:NEXT X
195 COLOR 1:GOSUB 7000
200 A=PEEK(106)-32:POKE 54279,A:POKE 559,62:X=70:Y=80:P
OKE 53248,0:PSTART=(A*256)+1024:POKE 53277,3:POKE 704,1
5
205 POKE 53256,2:POKE 53278,255:POKE 623,4
210 FOR I=PSTART-Y TO PSTART+255:POKE I,0:NEXT I
220 FOR I=PSTART+Y TO PSTART+7+Y:READ J:POKE I,J:NEXT I
230 DATA 0,28,148,214,255,126,68,255
235 FOR I=0 TO X:POKE 53248,I:SOUND 0,255,10,14:SOUND 0
,0,0,0:FOR W=1 TO 10:NEXT W:NEXT I:SOUND 0,0,0,0
240 UP=1536:DOWN=UP+30
250 FOR I=UP TO UP+20:READ J:POKE I,J:NEXT I
260 DATA 104,104,133,204,104,133,203,160,1,177,203,136,
145,203,200,200,192,11,208,245,96
270 FOR I=DOWN TO DOWN+20:READ J:POKE I,J:NEXT I
280 DATA 104,104,133,204,104,133,203,160,10,177,203,200
,145,203,136,136,192,255,208,245,96
285 SOUND 3,255,2,4
290 REM MAIN LOOP FOLLOWS
300 S=STICK(0):IF S=15 THEN 390
310 IF S=5 OR S=6 OR S=7 THEN IF X<200 THEN X=X+2
320 IF S=9 OR S=10 OR S=11 THEN IF X>50 THEN X=X-2
330 IF S=10 OR S=14 OR S=6 THEN IF Y>45 THEN FOR N=1 TO
 2:Z=USR(UP,PSTART+Y):Y=Y-1:NEXT N
340 IF S=5 OR S=9 OR S=13 THEN IF Y<240 THEN FOR N=1 TO
 2:Z=USR(DOWN,PSTART+Y):Y=Y+1:NEXT N
350 POKE 53248,X
360 IF X>128 AND X<132 AND Y=152 THEN COLOR 0:GOSUB 700
0:GOTO 1000
370 IF PEEK(53252)=1 THEN GOSUB 2000
380 GOSUB 3000
390 IF RND(0)>0.9 THEN FOR S=0 TO 30:SOUND 0,S,6,10:POK
E 708,S:NEXT S:SOUND 0,0,0,0:POKE 708,130
394 NUM=RND(0)
395 IF NUM>0.5 THEN X=X+1:POKE 53248,X
396 IF NUM<0.5 THEN X=X-1:POKE 53248,X
400 GOTO 300
1000 FOR P1=0 TO 100 STEP 25
1010 FOR P2=0 TO 50
1020 SOUND 0,P1+P2,10,10:NEXT P2:NEXT P1
1030 SOUND 0,0,0,0:SC=SC+100:GOSUB 3000:POKE PSTART+Y,8
:POKE PSTART+(Y-1),126
1040 POKE 704,15:SETCOLOR 0,3,6:GOTO 6000
2000 FOR N=1 TO 4
2005 FOR I=PSTART+Y TO PSTART+Y+7:POKE I,INT(RND(0)*256
):POKE 704,INT(RND(0)*256)
2010 SOUND 0,255-RND(0)*254,8,14:FOR W=1 TO 10:NEXT W:N
EXT I:NEXT N
2015 POKE 704,253:POKE PSTART+Y-1,0:POKE PSTART+Y,0
2020 FOR V=15 TO 0 STEP -1
2025 FOR A=1 TO 15:Z=USR(DOWN,PSTART+Y):Y=Y+1:NEXT A
2030 SOUND 0,255,6,V:FOR W=1 TO 10:NEXT W:NEXT V
2080 FOR W=1 TO 400:NEXT W
2090 GOSUB 4000:POP :RESTORE :POKE 704,PEEK(712):GOTO 1
00
3000 POKE 87,0:POSITION 4,1:? "SCORE:";SC;"  LIVES:";LI
;"  HI SCORE:";HSC;:POKE 87,7:RETURN
4000 LI=LI-1:IF LI=0 THEN GOTO 5000
4010 RETURN
5000 GRAPHICS 18:POKE 708,15:POKE 53277,0:POSITION 5,2:
? #6;"GAME OVER!"
5005 FOR P=0 TO 3:SOUND P,0,0,0:NEXT P
5010 POSITION 5,4:? #6;"SCORE:";SC
5020 IF SC>HSC THEN HSC=SC
5030 POSITION 4,6:? #6;"HI SCORE:";HSC
5040 POSITION 1,8:? #6;"PRESS TRIG TO START"
5045 FOR W=1 TO 300:NEXT W
5050 IF STRIG(0)=1 THEN 5050
5060 IF SC>HSC THEN HSC=SC
5070 LI=3:SC=0:RESTORE :GOTO 100
6000 FOR C=0 TO 3:SOUND C,0,0,0:NEXT C:FOR W=1 TO 500:N
EXT W
6010 POKE 704,PEEK(712):RESTORE :GOTO 100
7000 PLOT 50,10:DRAWTO 48,20:DRAWTO 46,30:DRAWTO 45,40
7010 REM PLOT 51,10:DRAWTO 49,20:DRAWTO 47,30:DRAWTO 46
,40
7020 RETURN
10000 GRAPHICS 0:SETCOLOR 2,8,2:SETCOLOR 1,0,15:POKE 75
2,1
10005 ? :? "HELICPOTER PILOT"
10010 ? :? "  YOU PLAY THE PART OF A HELICOPTER   PILOT
. YOU ARE BRINGING THE MEN;WHO   WORK ON THE OIL RIG,";
10020 ? "URGENTLY NEEDED   SUPLIES. ALL YOU HAVE TO DO
IS LAND   YOUR HELICOPTER ON THE HELI-PAD."
10030 ? "  IF IT SOUNDS TOO EASY TO BELIEVE,   DONT THI
NG SO! THERE IS AS USUAL ONE  PROBLEM....."
10040 ? :? "YOU MUST LAND AT NIGHT, IN A BAD      THUND
ER STORM."
10050 ? :? ,"PRESS TRIG TO START"
10060 IF STRIG(0)=1 THEN 10060
10070 RETURN
```





Track Testing

Simon Rockman has just had first hand experience of Motor racing and found it almost as good as computer car games!

Acorn are indulging in one of the most expensive sports possible — motor racing. The annual budget is around 100,000 or 500 Electrons. That's doing it cheaply, the form of motorsport they've gone for is Formula 3, if they were into Formula 1 you could probably add a zero to those figures.

Formula 3 is very tightly controlled, the limits mean that all the cars are very similar, there are only two major choices of engines, Toyota or Volkswagen, two types of tyre, wet or dry, and many regulations regarding the weight and dimensions of the car.

The upshot of this is a race between drivers rather than a race between cars. This does not mean that a Formula 3 race is anything but a team effort. There are full time mechanics working on the car and constantly preparing it for the next race. The atmosphere is one of terrific tension, motor racing has the air and the electricity of horse racing but without the gambling.

Team Effort

To a spectator a motor race is a one day event, for the team it is closer to a week. The cars are taken to the circuit well in advance of the race and the teams install themselves in the pits, a row of double ended garages along the side of the track. Tyres are critical, they work best when warm, over 80 degrees, and have no tread on them. The purpose of tread on a tyre is to cut between water on the road, in a race it is possible to choose a tyre for the conditions — wet or dry. The wet weather tyres look much more like road tyres and are significantly slower than the slicks.

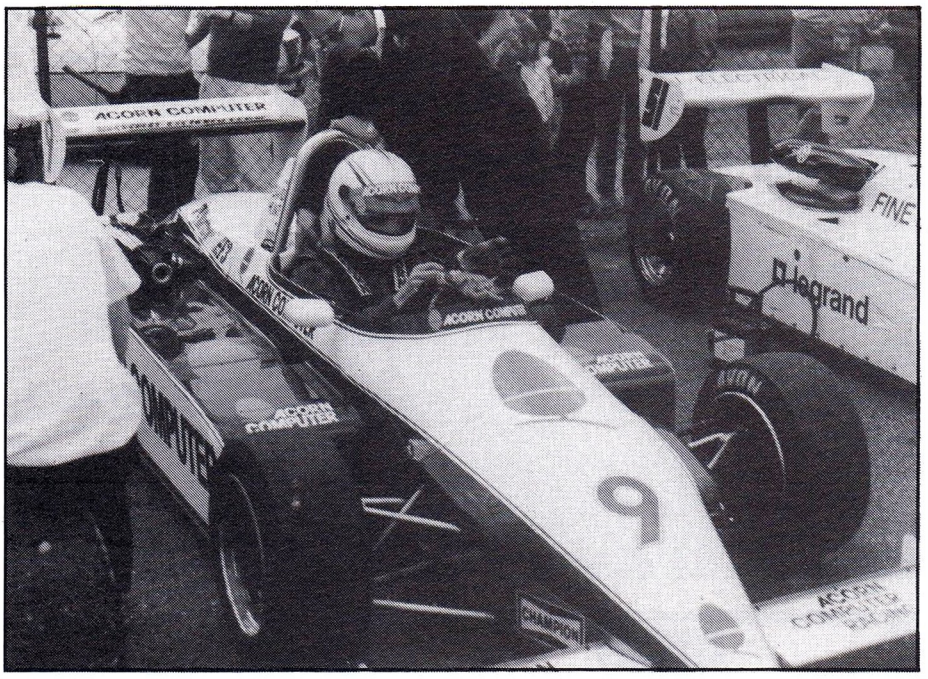
After a few laps of the track the hot slicks pick up the rubber left by previous races. I spoke to the driver of the Acorn sponsored car, David Hunt, whose brother James won the Formula One championship and has now retired from motor racing. He has taken the usual route in motor racing, he started with junior karts, progressed through Formulas and into Formula 3. In Formula 3 it is the driver's job to find a sponsor and a team, to do this he has to be both a businessman and capable of selling himself to potential sponsors, they have to be convinced that they will be getting value for their money, Acorn certainly seem to be. David appreciates the committment that Acorn have to racing, you may not hear about it much in compuiter magazines but in the non-specialist press David and Acorn have had a lot of coverage.

Computers have sidled their way into David Hunt's life through Acorn. He runs a business selling fast cars, Acorn have written a system to allow him to match buyers and sellers for these pricey toys. The main prerequisite for these cars is speed, a luxury saloon may be interesting to most people but unless it is really fast David Hunt will not deal with it.

To some extent David Hunt's company is being used as a guinea pig by Acornsoft, if his system proves successful it may be marketed. Acornsoft are doing a fair bit if specialist work on customised systems they have are not very newsworthy.

He Drives His Grandmother's Mini!

It came as quite a surprise to me to learn that David did not actually own a car, I was expecting him to tell me that



he had a rare Ferrari, instead he drives his grandmother's Mini, although he did later admit to arriving in a Porsche.

David said that his brother's success was both a help and a hinderance, it adds some celebrity value to his name but he has to get over to people that he is a different person and has to win his own battles. He said that he rarely talks about racing at home.

Motor racing is about winning, second best is not good enough. But the prize money is tiny, in a race which costs thousands of pounds to enter in fuel and time, the first prize is two hundred pounds.

The main tie up between Acornsoft and Acorn Computer Racing is the research for a forthcoming Pole Position type game. This is the result of my hours of discussion between David Hunt and Geoffrey Crammond (author of Aviator). The game will be based on the Acorn Formula 3 car, racing around a real track, probably Brands Hatch or Silverstone. It will be in colour. Aviator is black and white for smoothness. There will be an exceptional amount of control over the car. Unlike the Lo and Hi gear arrangement of the Atari game there will be five gears and a clutch. David was rather scathing of the arcade game because it is possible to drive around the whole course at full acceleration, racing isn't like that and so the Acornsoft game will be much more difficult, you will need to brake. A racing car has adjustments for the front and rear anti-roll bars, so there will be control over these in the Acornsoft game. There will be other cars on the track and if one of them wants to overtake you you will see it in a rear view mirror.

Putting You In The Cockpit

One of the major limitations of the arcade games is that you are not inside the car but looking at it from above and behind. The Crammond version will put you in the car's cockpit, with full view of the oil and water temperature and pressure gauges, the all important rev counter but no speedo. Real racing cars don't have speedometers, lap times are far more important. I doubt that the accuracy will be carried as far as the length of the race, I don't think my fingers could stand thirty odd laps of keyboard pounding, I'm sure that the Beeb wouldn't like it. The game sounds very promising, but will not be out for a fair while, the specification is very ambitious and some of the features may have to be dropped to squeeze it into the Beeb's memory.

The Beeb's speaker will not be able to do justice to the unsilenced engine noise, standing in the paddock surrounded by a horde of revving cars is simply deafening, many of the regular mechanics wear ear protectors.

One advantage of playing at home is the comfort as real motor racing is a very tiring sport. Drivers in hot races can lose a litre of water in sweat and so have to keep fit. David Hunt does not do anything special to keep in trim and does not have to watch his weight but is a fit and athletic person.

The car is built around the driver. To climb in, the side plate sized steering wheel has to be removed and then be locked back into place once the driver is comfortable. The cars are started in the paddock and crawl out onto the track in an orderly procession. They do a single warm up lap and then sit tense, ready to race.

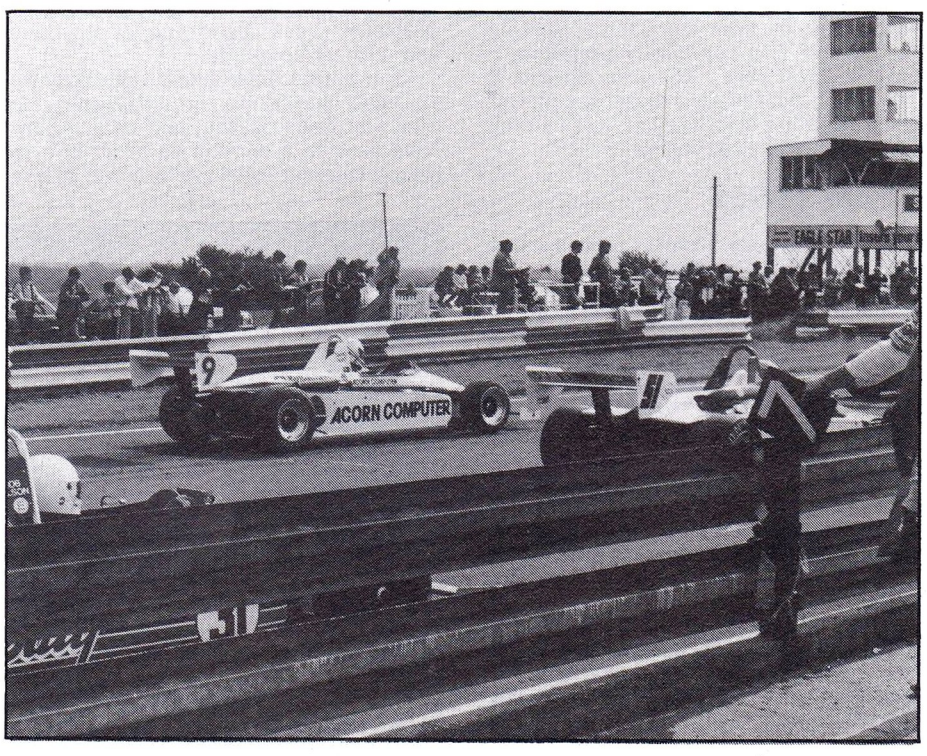
Starting positions are decided by practice times, the fastest cars go to the front and have a considerable advantage. The Acorn Computer car had not been performing well and so had only qualified for twelfth position. As the race started the cars shot into the first bend of the Snetterton track (Riches corner), the acceleration in this kind of car is amazing, 0 to 60 in about three seconds and on to 130mph, the cornering grip is stunning, the tightest bends on the track, The Esses. A saloon car would corner here at about 40, David Hunt's car took them at three times that.

The Race Is On

In the first lap the green and white Acorn car moved from twelfth to fifth. This seven place move put David Hunt in the running for points, the leading cars were soon well away with many seconds lead. The lap times for David Hunt's car varied very little, between 26.1 and 26.9 seconds, but a tenth of a second really makes a huge difference.

David did a magnificent job of hanging onto his place and despite dropping back to 6th managed to hold there and come in fifth after one of the leading cars dropped out. David's girlfriend said that he would be disappointed with fifth, racing is about winning, but then it was a commendable drive and an exciting race.

Even if you are not a motor racing fan a day at the track is great fun and quite a spectacle. I would highly recommend it.



By Sue Bartlett and Mike Roberts

VIDEO VYING

TURBO

Runs on: Colecovision
Made by: CBS Electronics
Price: Comes with Expansion Module 2 at £50

To play Turbo you need Expansion Module 2 — Turbo Drive Module, which fits into a Colecovision system. This expansion module consists of a steering wheel, a dashboard and an accelerator pedal. You also use a Colecovision hand controller which fits into the dashboard enabling you to change gear.

The Turbo Driver game cartridge is provided with the unit. When plugged into the CBS Colecovision console you actually drive your way through towns and tunnels, and negotiate obstacles and hazards in this exciting race. Other games are to be available which make use of the Turbo Drive Module too.

In Turbo, the game provided with the unit, there are four skill options and these can be chosen by pressing the corresponding number on the hand controller keypad. Lower skills are slower and have fewer cars and obstacles.

The first thing you see on the screen is a set of traffic lights and your car. Once the lights turn green you may shift into a low gear for a faster start and then shift into a high gear, using the control stick on the Colecovision hand controllers.

Each car you pass increases your points total and gets you closer to extended play. This is shown on the score indicator and the 'cars passed indicator'. For each car that passes you your total decreases.

If your tyres rub against the border, you will hear a squealing sound and your car will slow down. A collision brings you to a stop and this gives other cars a chance to race past. You may start up again by gearing down.

You must pass a certain number of cars in a stated time otherwise your car blows up. If you achieve the number stated the next skill sheet will appear, getting faster everytime you go onto a higher skill.

In the race you have to avoid oil slicks and an ambulance, which, unlike most ambulances tries to kill and not save you! You have to drive through cities, countries, mountain roads, on dangerous sea-side road curves and in icy conditions which can be difficult as your car tends to slip all over the road.

Provided with Turbo there is an owner's manual and a Cartridge Instructions booklet. These are both clear and concise. The owner's manual contains instruction for connecting the expansion module to the Colecovision, care of the game,and problems that may occur while playing and their solutions.

The Cartridge Instruction booklet contains clear pictures of the screen which show you what to expect before playing the game. Also, the number of points and where they can be gained are printed at the back of the booklet.

Overall, this game is well worth the price you have to pay. Graphics are good and control is accurate. On higher skill levels your car goes round the course at a hair-raising speed, making this a very exciting game to play.

Arcades

The latest hot game in the arcades is by Atari and is called 'Star Rider'. The game puts you on the saddle of a high speed jet cycle racing against four other computer controlled bikes. The backdrop graphics are by a laser disk with sundry images created by the main computer.

Most video disk games look a bit 'tacky' because when you die your computer generated space ship is turned into an optically generated explosion — very confusing. Where Star Rider is different is that the backdrops are also computer generated, but by a very big multi-million pound dedicated graphics computer like the one that made TRON or the Olympics titles for the BBC. The backdrops are of various race tracks all over the galaxy and have stunning scenery.

We may do a feature on how to beat this game, but first we have to get past level four and at 30p a time we will have to save up our pocket money!

Video News

Atari: Some weeks ago Atari was bought from Warner Communications, for an undisclosed sum in the low millions, by Jack Tramiel. Jack Tramiel is one of the founders of Commodore but left after a shake up of top management earlier this year. Atari lost many millions of dollars last year and its new boss has started a clean sweep to get Atari on its feet.

The company has also changed name from 'Atari International (UK)' to 'Atari Corporation (UK)'. The changes in Atari put some of its new products in doubt. The Atari 7800, billed as a Colecovision beater, is unlikely to appear on the British scene until after Christmas, however the Atari 2600Jr looks like it and will be launched on time for the Christmas rush. There is no news of what new games will be out so watch these pages for details.

Activision: The high-profile American games company famous for games like 'River Raid', 'HERO', and 'Space Shuttle' has started to drift away from its video game roots. The newest releases from Activision are for the Commodore 64 and other computers.

To mark its entry into the home computer market Activision has taken the Cornish software company Microdeal to court. Microdeal is a company that takes a hard line on software piracy, yet most of its own games are direct copies or unlicensed 'enhancements' of other people's ideas. The Microdeal game 'Cuthbert in the Jungle' is a perfect copy of Activision's 'Pitfall' game for the VCS/Colecovision.

As Activision are moving into the computer market it would be a bit silly to have two identical programs on the market at the same time.

The proceedings for an injunction against Microdeal were resolved when ''Microdeal gave undertakings that it would not make any further copies of 'Pitfall' or sell any more copies of their game 'Cuthbert in the Jungle' ''.

Geoff Heath, Managing Director of Activision UK, said that they ''would not hesitate to take action again should the occasion arise''.

VIDEO VING

MINER 2049er

Runs on: Colecovision
Made by: CBS Electronics
Price: £29.95

The objective of Miner 2049er is for Bounty Bob to survive all 11 game levels. To reach each successive level, Bounty Bob must 'mask' the entire framework on the present level before the time display reaches zero. After all the framework has been filled in, the time left on the clock is converted into points and added to your score. Other means of scoring include collecting miner tools, destroying mutants, and eating TNT! An extra Bob is rewarded when 10,000, 30,000 and 50,000 points are reached.

The first screen consists of ladders which Bob can climb up and down, but already there are mutants out to get Bob. These mutants are dangerous until one of the miner tools is taken, whereupon the mutants change colour and acquire a friendly appearance — they smile for a few seconds! During this period they are vulnerable and may be touched to destroy them. If they are not killed they will return to their dangerous state.

The next two levels are similar. The first one consists of sliding down slides and the second one involves an elevator.

The next five levels have lilypads, a deadly radioactive pool, multiple lifts and a hydraulic pump operation.

In level nine Bob meets the Stompers. Contact with these is lethal. At level ten Bounty Bob must advance to the upper framework by being shot out of a cannon! To do this he needs to go to the TNT chamber and eat some TNT, climb the ladder and then fall into the cannon. The cannon can be moved to the desired position and then Bob will shoot up one level per ton of TNT that he has eaten when the fire button is pressed. If Bob eats more than three tons of TNT at a time the cannon will shoot him out at lethal speeds.

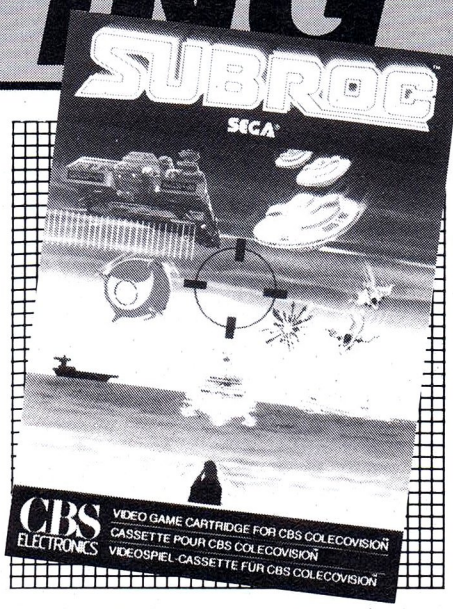
Level 11 is the abandoned uranium mine where Bob should find the reason for going on his adventure — the notorious Yukon Yohan. Bob has to take the uranium and you collect bonus points.

The game ends when three Bounty Bobs are killed. One or two players can play and there is the option of sound being on or off. These noises include the sound of Bob walking and sliding down the slides.

Miner 2049er, in my view, is an average arcade game and is similar to the more famous Manic Miner.

SUBROC

Runs on: Colecovision
Made by: CBS Electronics
Price: £29.95



A fleet of hostile forces has assembled around your vessel. You must defend the sea against wave after wave of enemies by directing your gunsight to locate them and then shooting them with either torpedoes or missiles.

You should try to eliminate seven types of enemy objects. Your torpedoes can destroy cruisers and battleships that steam across the sea and your missiles can eliminate flying saucers, but they can shoot missiles and mines back at you and so can the cruisers and battleships after a while.

A mystery ship can appear in every attack and when you hit it bonus points are awarded.

Green fighters will appear next. They fly at your Subroc vessel in close formation and will fire missiles at you. You have to destroy them all before the next attack.

Interceptors fill the sky. You must fire at these for 200 points each. Drones weave across the sea as they fire torpedoes, missiles and mines at your vessel. You must hit them with a torpedo to knock them out of action.

Once the sea clears the Command Plane will swoop in from above. The bonus value will start to decrease. If you destroy the Command Plane before the bonus value reaches zero, you will win the points in the Mystery Bonus Indicator. This plane fires missiles and hides behind a moving shield. If you hit the centre of the shield it vanishes for a second and you earn 400 points. You then have a chance of hitting the Command Plane.

Your final opponent is the Command Ship. Your vessel's weapons have to penetrate the ship's force field to eliminate this fleet leader.

In even numbered rounds of this game you start battling during the day. When the sky turns from blue to orange your vessel is in twilight and then, when the sky is black, it is night time.

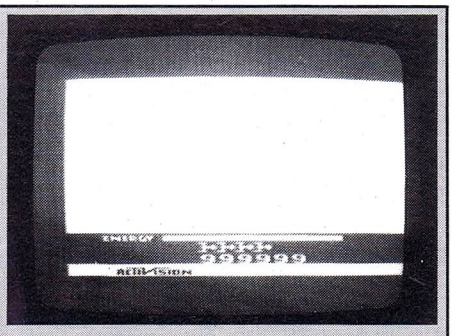
With this game, as you can see, there is plenty of action going on. There is the unusual combination of space ships and ships such as tankers on the screen in one game!

If you like unusual games Subrock should be added to your collection.

Megamania Madness

We print here a picture of what happens to Activision's 'Megamania' game for the VCS when you score more than 999999 points.

This amazing feat was performed by Peter Green — the editor of one of our sister magazines 'Computing Today'. Pete is one of the hottest video game players in our offices — yet he edits a 'serious' magazine that doesn't touch games at all!



Having made the screen go blank and the video game 'hang' completely so that it had to be turned off, Pete turned his hand to the Atari computer version of this game where his current score is around 128000. We don't yet know what happens when you 'clock' the computer version, but we would like to know.

If you have a high high-score then send in the details signed by a witness, and a picture of the screen if possible so that we can print it.

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SOFTWARE

CLASSIC RACING

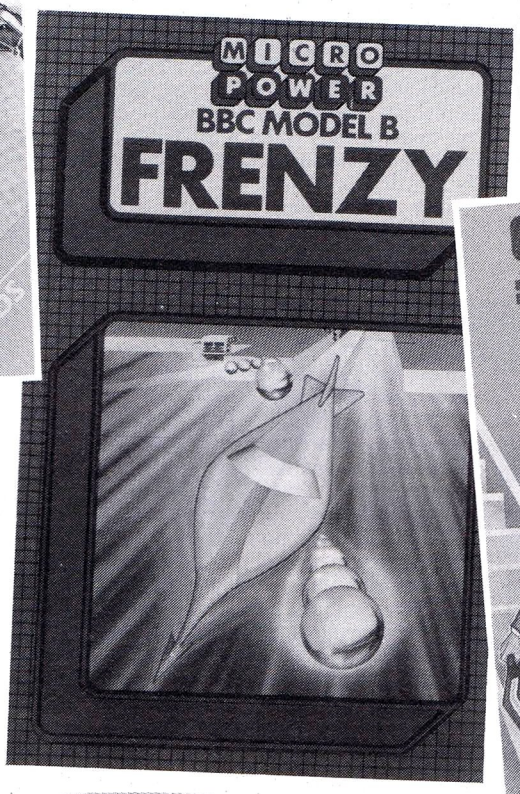
Runs on: Oric 1/Atmos
Made by: Salamander
Price: £7.95

This horse racing simulation enables up to six people to play at once so it can be, and is, a very good game for all the family. If less than six people play then the computer controls the remaining places — and tough opposition it makes too.

After entering your name you are presented with a choice of 4 to 16 meetings. To play the game properly you should play sixteen meetings so that you have plenty of time to find out what ground and distance each horse prefers. The race programme shows all the meetings in a season and what distances each race is over — there are six races to each season. Each player then selects a horse for each race from their stable of sixteen horses and then the betting takes place. The odds and weight are shown on the screen, the heavier the horse the better it will go. When all betting is finished the graphic capabilities of the Oric take over.

The course is set out, the green track enclosed by the rails and the starting line is in the middle of the screen. The horse (plus jockeys) walk to the line and then they are away. Realistic galloping sounds complement the graphics as the screen scrolls from right to left. As the horses battle for positions the furlong posts come and go and soon the race is over. The computer works out all the betting and the stake money is divided between the first three places. By entering the same horse in different races you are able to plan your favourites for the eight classics at the end of the season.

A save game feature is a very helpful addition to this truly excellent and addictive simulation game — a must for Oric owners — Get It!



FRENZY

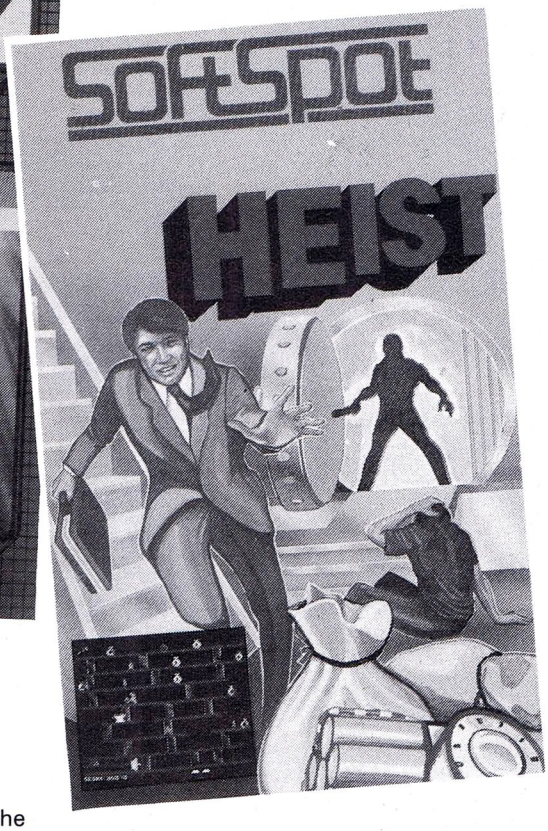
Runs on: BBC
Made by: Micro Power
Price: £7.95

In this great game you have to trap the darting 'leptons' using your robot craft. You do this by leaving a trail behind your craft and when you reach the edge of a filled in area the smaller of the areas is filled in.

The lepton is destroyed either by getting caught in the area that is filled in, or when 95% of the screen is filled in. The amount of area that is filled in is shown by a line at the bottom of the screen that disappears as you fill in the areas.

You have the option of two speeds for your robot craft. The slow speed fills in an area red, and the fast speed fills in areas pink. You start on the slow speed and go to the fast speed by pressing the space bar. You lose a life if a lepton hits you or the line behind your craft before the area is filled in.

A good strategy is to build narrow blocks in the centre of the screen using the fast speed until there is only a small gap near the top of the screen. Then to join these blocks to the top of the screen using the slow speed when the lepton is in the smaller half. This tactic only works if there are few leptons otherwise try to split it into three before trying the same tactics. This is a very enjoyable game that is very addictive and easy to play.



HEIST

Runs on: BBC
Made by: Soft Spot
Price: £6.95

You are a bank manager and it is the close of a very busy day so you have to go to different parts of the bank and return the money that you find there to the safe. Sounds simple, it would be but there are four burglars who also want the money and they are determined to

REVIEWS

SOFTWARE

catch you so that they can make off with it unhindered.

There are two hammers in corners of the bank and with these you can knock out the burglars, but you can't move up or down the ladders that connect the different parts of the bank. You get bonus points if you drink the cup of tea that appears at random for a short time somewhere in the bank.

The burglars also leave bombs around the bank that, if you don't defuse them, blow up killing you. When you get all the money to the vault in the bottom of the bank, business starts for the second day and this time the burglars are more determined, there is more money to collect, and more bombs to defuse.

I like the way your initials are put into the hi-score table using the cursor keys like in the arcades. There is also a freeze option, useful for answering the phone, making coffee, going to the toilet, etc. This is an enjoyable combination of both Donkey Kong and Space Panic with an element of its own.

CUTHBERT IN SPACE

Runs on: Commodore 64
Made by: Microdeal
Price: £8.00

Basically, the game resembles that of Ultimate's Jetpack but with added features to make full use of the Commodore's facilities.

The scenario is set with the player (using either the keyboard or a joystick) having the task of controlling a remote shuttle to firstly pick up fuel pods (which are lying on the different levels of the planet's surface) and return them, one at a time, to the mothership located at the base of the screen. Whilst keeping an eye on directing the shuttle to collect the fuel pods and return to the mothership, it would be useful if the other eye (at the same time) could be used to avoid the horizontally flying objects otherwise known as the Intergalactic Police Force.

Once having collected all of the fuel pods and returned each to the mothership, the player is then transported to another planet with an increased number of fuel pods and flying objects whose movements become increasingly erratic.

As an option, to gain additional points the player having collected the last fuel pod and before returning to the mothership to transport, can hang around to collect the falling treasures before they hit the ground, whilst still avoiding the IPF, returning only when totally satisfied with the loot, to beam into another screen.

Occasionally, whilst transporting between planets, the mothership develops a malfunction and requires maintenance. This is accomplished by having to send out the shuttle to the location of the nearest supply parts. The player is given the coordinates of the mothership's location, the shuttle's present position and that of the parts depot. The joystick or keyboard can then be used to change the coordinates of the shuttle's position to match that of the parts depot and then back to that of the mothership, within the specified time limit.

There is a pause feature with 12 levels of play of which 1-8 is user selectable.

ARENA 3000

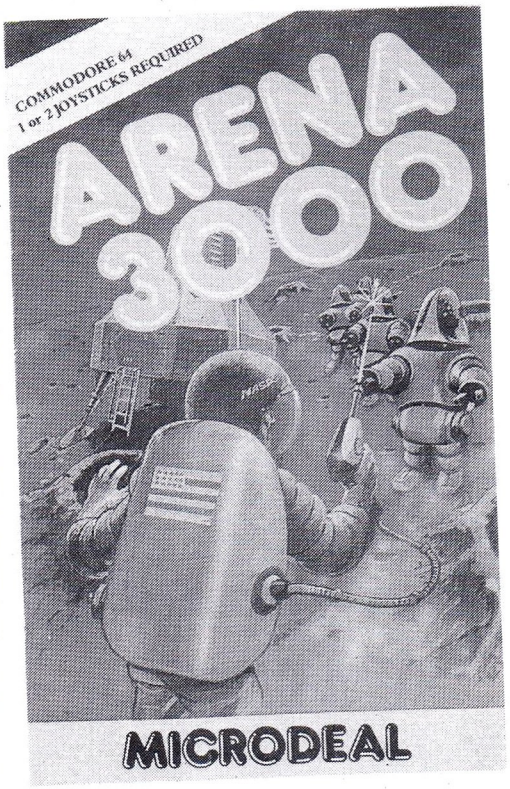
Runs on: Commodore 64
Made by: Microdeal
Price: £8.00

The theme of this game is set in the year 3000, where a lone cyborg (human/machine hybrid) begins in the centre of a large enclosure surrounded by hostile enemies. The task is to destroy the creatures within the enclosure (using an arm pistol) as the enemies approach from all directions.

Once having cleared a wave of dangerous robots, yet another appears but with opponents that move faster, require more hits to be destroyed and mutate, upon being hit into other forms of robots. Each form having a set pattern of movement.

The game begins with the player having 3 cyborgs at his/her disposal and an additional one for every set of 20,000 points scored.

Each screen has a certain number of enemies of which there are 8 different forms. The opponents, on a screen, can



be all of the same form or several different forms.

The game requires the use of one or two joysticks. If one joystick is used the cyborg's movement and firing is controlled by the directional movement of the joystick.

If two joysticks are used, then one joystick can be used to control the movement of the cyborg and the other can be used by a second player to fire in any direction regardless of the movements made by the first joystick. This proved to be very useful in tight situations to achieve enormous scores but requires the aid of a second player. As a matter of interest a score of over 2.5 million was reached with about 30 cyborg's remaining after around 150 screens/arenas (after the 99th screen the arena numbers are reset to Zero) when the phone rang and I frantically grabbed the instructions, searching for the key to pause the game but found none.

So, by this some indication can be given as to the addictiveness of the game.

THE FOREST

Runs on: Spectrum 48K
Made by: Phipps Associates
Price: £9.95

The Forest is a computer simulation of the sport of orienteering. The user of the program becomes the competitor and is able to tackle all the navigational problems encountered by orienteers without the necessity for physical

fitness. With the tape, you are supplied with a detailed map of preset routes marked out with the course you must take. To participate in the game you will need to have a ruler graduated in millimetres and a geometry protractor for measuring angles.

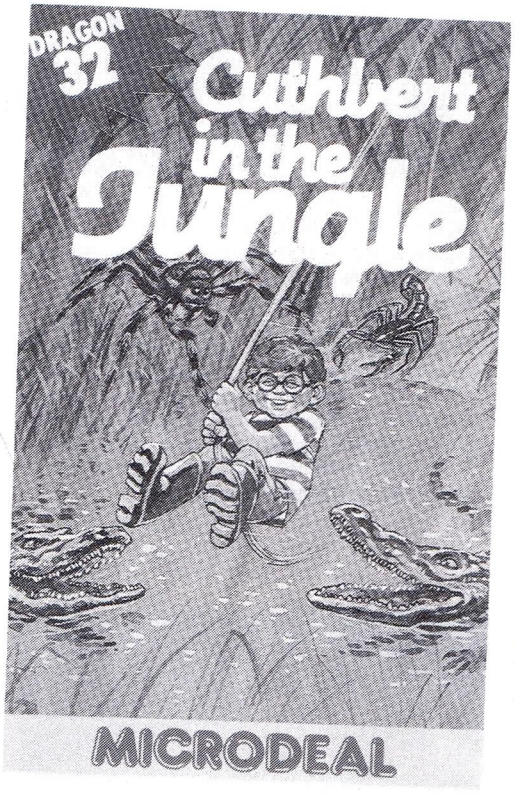
A book is provided with the tape which explains the principles of orienteering and also how to use all the commands and the cursor keys to move you along. It is essential to study the book carefully before commencing the race or you will waste valuable time looking up commands.

You can quit the game at any time and there is incorporated a facility for cheating to get you out of tight spots, but if the latter is used then this will be reported and held against your score at the finish.

As well as the two courses provided, there is an option which allows you to plan your own course and save it on tape and an extra map is available separately.

As you travel along your route, what you will see normally on the screen is what you would be seeing if actually orienteering out in the open, for instance trees, houses and other land features.

When you have mastered the art of map reading and operating the controls, 'The Forest' provides a very accurate representation of the difficulties encountered in orienteering, and would provide valuable experience for anyone wishing to take up the sport. It can also be a lot of fun for those who already participate and have previous experience in orienteering.



CUTHBERT IN THE JUNGLE

Runs on: Commodore 64
Made by: Microdeal
Price: £8.00

The star of the game features Cuthbert, whose adventurous nature has led him to a jungle filled with perilous perils.

The player controls Cuthbert via the keyboard or a joystick, and has the task of guiding him through the jungle, whilst avoiding the many hazards in order to collect the treasures strewn along the path.

There are 120 screens of which, no two screens are claimed to be the same. The hazards in this game include crocodiles, scorpions, fires, snakes and tar pits. Collision with any of these dangers would lead to the loss of a life. Then there are the rolling logs and holes in the ground. These are not as fatalistic as the previous set of hazards but either collision with the logs or falling down a hole leads to a loss of points rather than the loss of a life. So, instead of falling through the hole to reach the subterranean level, the ladder could be used, as in certain parts of the underground passage could be used to bypass the overhead dangers.

The game begins by giving the player 12 minutes and three lives to collect as many of the treasures inside the time limit, through the pause facility allows the player to take a breather from time to time.

Overall, I found this game to have a great addictive appeal, in that there are a number of obstacles that need to be overcome in a specific manner, before the treasures can be obtained.

DANGER RANGER

Runs on: Commodore 64
Made by: Microdeal
Price: £8.00

In this game the player controls the Ranger with the aid of either the keyboard or Joystick — personally I found that the keyboard gave a greater degree of control in the manoeuvres that were to follow. The basic object of the game is to traverse through the 2 different screens, which are then repeated but at an increased level of difficulty in terms of the ferocity of the attacking dangers namely — floating urns, radioactive bats and roving eyes (on the first screen) and the drop of acid rain accompanied by the stationary monsters found on the second screen.

The object of the game is to collect the 10 keys situated openly on the 5 platforms of the first screen. Each platform having 2 keys with 1 or 2 spaces for the Ranger to fall through to reach the platform below. The Ranger can jump over these spaces to reach the key on the opposite side of the platform. As well as being able to jump the Ranger can also duck down to avoid the bullets, floating bats and the roving eyes. At the centre of the fifth platform at the base of the screen is a spring that can be used to propel the Ranger back up to the first platform in order to collect any remaining keys.

Having collected the tenth key the Ranger then has to face the acid chamber to collect all of the treasure chests (located on the right hand side of the screen), whilst avoiding not only the drops of acid rain, but also the 4 demons which have to be shot.

There are 5 levels of skill, a hi-score tabe and a pause facility that allows one to ponder the oncoming doom. There is also a practice mode in which the Ranger can duck, dodge and shot to kill without being killed.

Overall, I found this to be a very difficult game and found myself increasingly attracted to the practice mode where my score seemed to be more reasonable.

THE ULTIMATE CROSSWORD

Runs on: BBC 32k
Made by: The Alien
Price: £6.95

This is as the title suggests 'The ultimate crossword' — it is three dimensional. Instead of just one 15 × 15 square to think over, it is a 15 × 15 × 15 cube of 30 crosswords with interlinked clues. This means that words now have to fit three ways not just two.

Each crossword is identified as either a front or a side followed by which one it is (A-R). The clues are arranged on the computer by a co-ordinate system the letter followed by the number. This is slightly annoying as in the book of clues supplied they are referred to as a number followed by the letter.

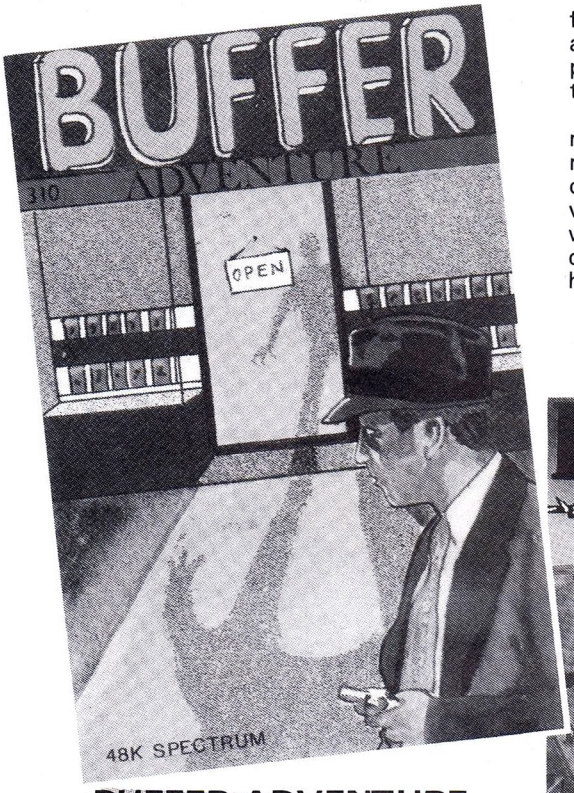
The puzzle itself if stored as data on tape and can be saved and reloaded for later use, this means that you don't have to keep typing in the clues that you have solved. The main program is in BASIC this means it is fairly easy to convert it for use on disc. Included within the program is an anagram solver, this might have some use for the dedicated crossword fanatic but I couldn't find one.

I am not the crossword sort of person, but I found it very enjoyable and easy to use, I even solved two clues (wow) side A 7H across is 'arc' and front B 1J down is 'orange'. That's what I made them and they fit, so please don't tell me they are wrong.

P.S. Can anyone tell me what "A wise plant?" is in four letters?

REVIEWS

SOFTWARE



BUFFER ADVENTURE

Runs on: Spectrum 48k
Made by: Buffer Micro
Price: £5.95

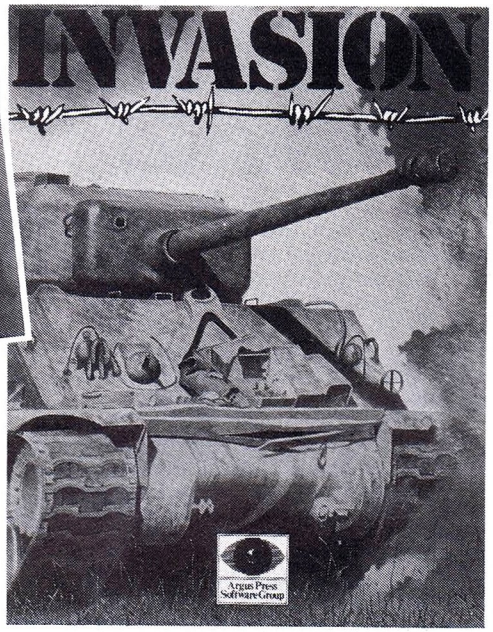
Buffer adventure is an adventure set inside the Buffer Micro shop. Inside you must discover the idiosyncrasies of the weird and wonderful characters who work in the shop. To complete the adventure you must enter the shop and search its many rooms and passages to find your credit card and buy the goods in the shop. When you have paid for your goods you will be permitted to leave.

Every correct action you perform will increase your score but beware of making mistakes for one wrong move could leave you trapped forever, never to see the light of day again. Also you must be careful not to annoy the employees of the Buffer shop, for one step too far and you could be dead.

Draw a map as you go to help you remember your position and watch out for sarcastic comments from your computer. In this shop your spectrum takes full command and will stand for no nonsense.

Keep an eye out for clues scattered around which may lead you to find what you're looking for. If you do make a fatal mistake then you can always start again, and the knowledge that you have previously acquired will assist you further the next time you play.

An exciting adventure requiring much thought and a talent for solving new challenges. The only problem I encountered was communication. The vocabulary was rather limited and it was difficult finding words that the computer could understand. A lot of fun however. Well worth buying.



DEMON KNIGHT

Runs on: Spectrum
Made by: ASP Software
Price: £6.99

Demon Knight is described as an adventure game which is difficult deadly and logical. You aim to root out and destroy the Demon Beelzebub. Beelzebub will not appreciate it if you attack him with weapons or try to kill him in this way, so to help you you must enlist the powers of magic. Before you even get the pleasure of meeting Beelzebub however, you must solve all the puzzles on the route to find him. This could take quite a time.

Demon Knight is a text adventure and one which I find to be rather slow. All commands, with the exception of Help, Quit an Inventory, must be entered as two word commands so that the computer can interpret them correctly. This also means that directional commands must be entered as two word commands such as, GO WEST or GO NORTH. This is extremely time consuming and there is a pause of quite a few seconds each time the computer responds or replys.

Instructions provided are adequate and the help command often gives some useful hints. Clues are also included in the description of each surrounding so if you look carefully you should be able to evaluate your next move.

Very much a typical adventure game but with a difference in the usual story line. In Demon Knight you have the opportunity to rescue a beautiful maiden in distress, from the evil clutches of the demon Beelzebub, and them marry to live happily ever after. A wonderful fairytale ending, if you ever get that far.

INVASION

Runs on: ZX Spectrum 48K
Made by: ASP
Price: £6.99

This is no arcade game but one of strategy where you are in charge of the Western Alliance land forces, just prior to an invasion by red tanks. You must exercise skill and judgement as you move, supply and build up your limited defences to stand any hope of victory. The screen is set up into three parts: the map, army numbers (morale and the number of units) and the message area.

The game begins with complex instructions and then draws the screen. The map consists of a grid with letters and numbers at the top and sides. Next you are asked for orders. Here you must input the number of the army (shown as a tank with a number on it) and then given choices of increasing your strength, reducing it or moving. To move cursor keys are used. Once you are satisfied with strength/moves you exit from ordering mode and are asked if you want to attack. If you choose to do this you must input the location, army number and the number of units to be used. Now a battle report will be given. This features the number of units lost on both sides. Now you are asked if you wish to abort the game. If you press "y" then the score is printed.

The graphics are only U.D.G.'s but reasonable considering the game is in BASIC and the sound is adequate. Recommend for a strategy fanatic.

REVIEWS

You are commanding a squadron of four ground attack aircraft...

The mission is seemingly hopeless.

Fly along the river at zero altitude, twisting and turning crazily to stay within its tortuous banks, blasting at anything and everything in sight. Especially the bridges.

Three of your jets are held in reserve while you are pitched against Battleships, Enemy Aircraft, Land Tanks, Balloons, Helicopter Gunships. All intent only on your destruction.

And destroy you they will, if you don't get them first. You'll need to keep an eye on your fuel gauge. But take comfort, you can take fuel on board from one of the special depots.

If you get hit – and nobody has yet reached the end of the river – your next reserve starts at the last bridge you blasted on your way through!

Each target you destroy adds to your points score.

Like all Activision Software, River Raid will hold you and keep you coming back for more.

Chocks away!

Lose yourself in the world of

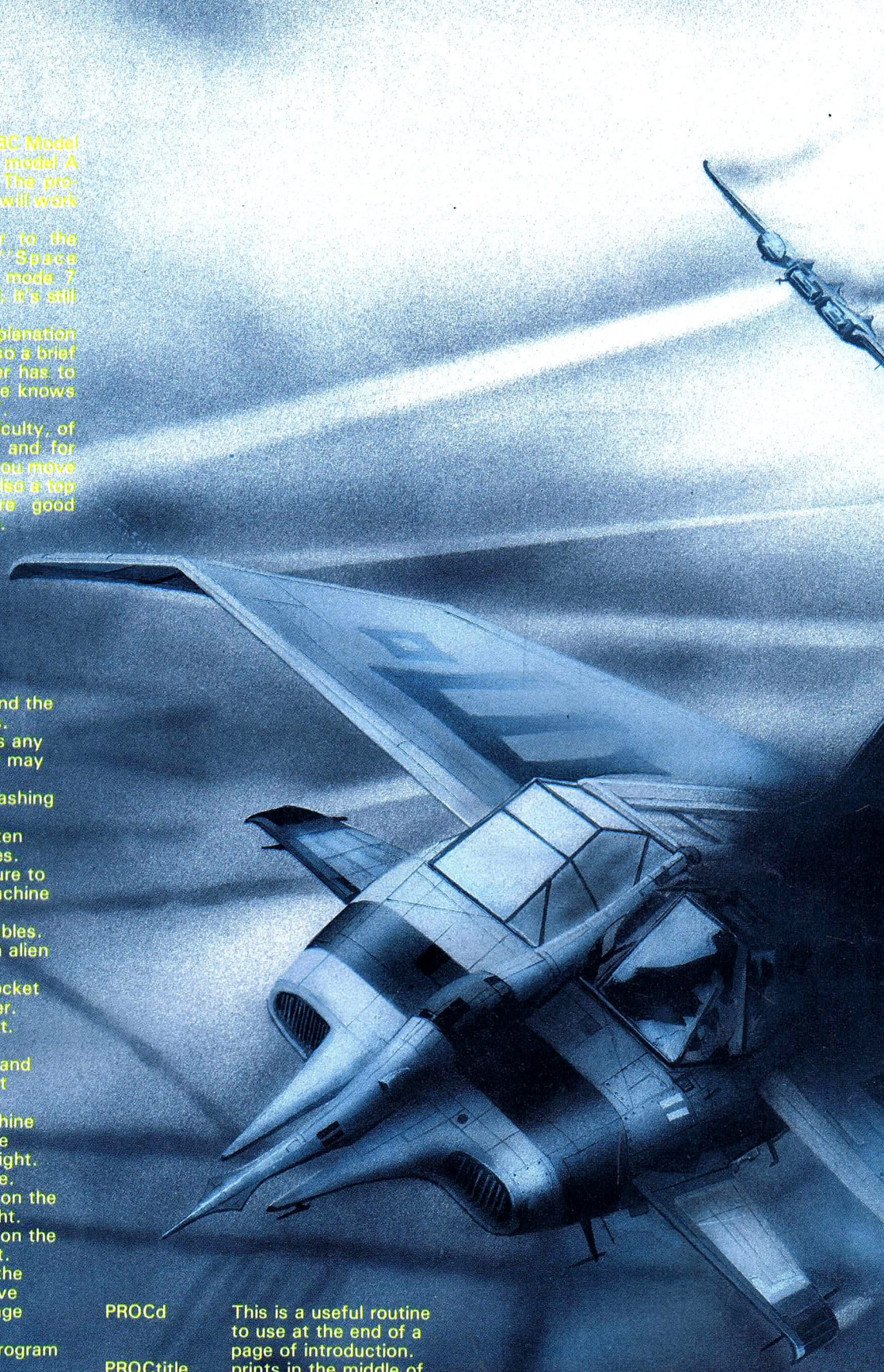
ACTIVISION®

This game was written on a BBC Model B (32K), but it will work on a model A (16K), as it runs in mode 7. The program is just under 6K long and will work on any operating system.

The game itself is similar to the popular arcade game "Space Invaders". Though, as it's in mode 7 the graphics are not very good, it's still fast action packed fun.

The program contains an explanation of the controls needed, and also a brief explanation of what the player has to do, although I expect everyone knows how to play "Space Invaders".

There are five levels of difficulty, of which level 1 is the easiest, and for every time you clear a screen you move up to the next level. There is also a top ten score board, if you are good enough, to put your name into.

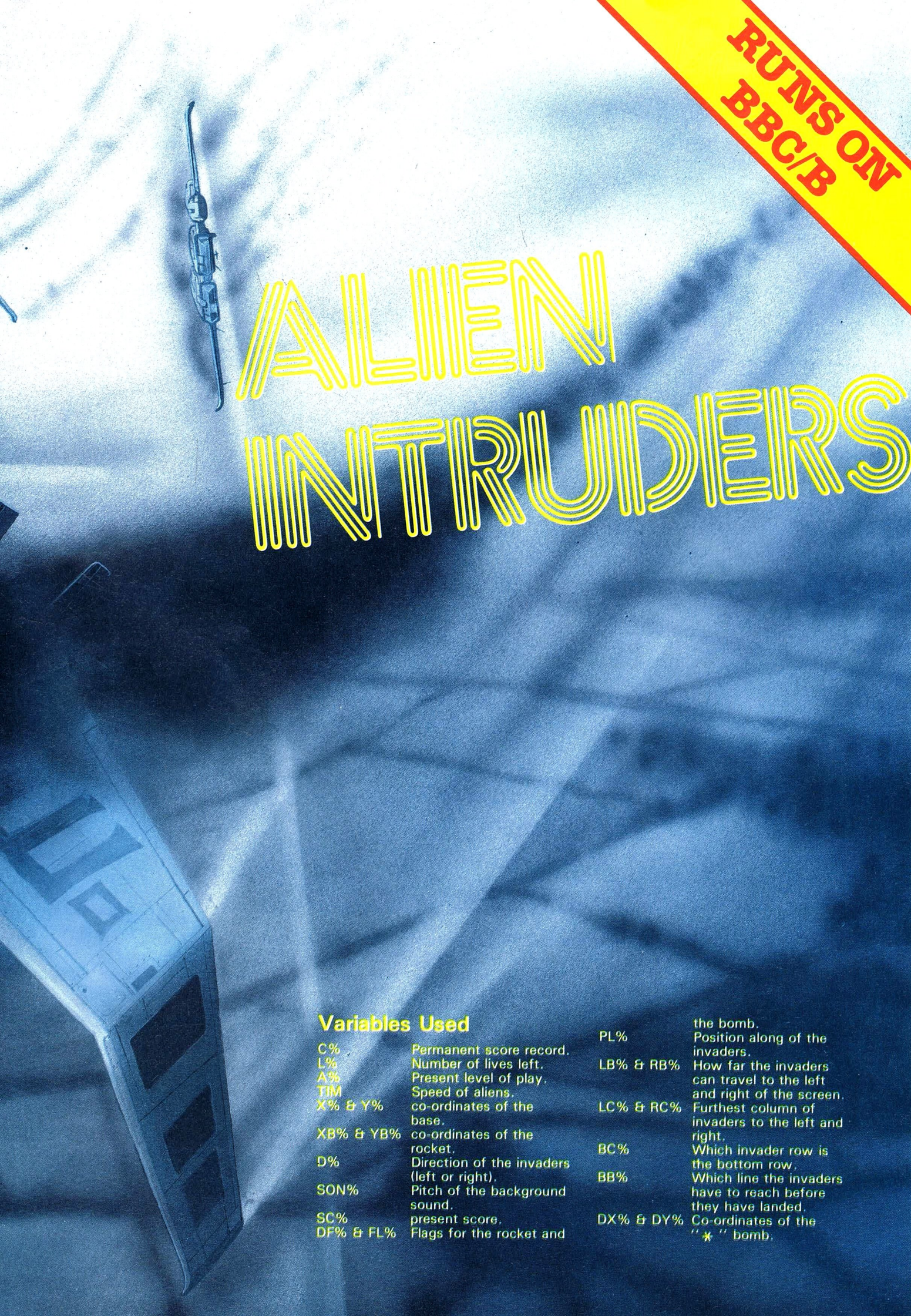


RUNdown

Lines	Action
10-40	sets the mode and the sound envelopes.
50	traps and reports any errors the reader may have made.
60	gets rid of the flashing cursor.
80-120	sets up the top ten scores and names.
140	calls the procedure to assemble the machine code.
150-360	sets up the variables.
PROCdecide	works out which alien has been hit.
PROChit	checks if your rocket has hit an invader.
PROCfire	moves the rocket.
PROCplay 810-940	moves the base and calls any relevant procedure.
950-1040	calls up the machine code to move the invaders left or right.
PROCmc	assembler routine.
1320-1640	moves any "V" on the screen to the right.
1670-1990	moves any "V" on the screen to the left.
PROCcheck	checks how far the invaders can move before they change direction.
PROCfin	This starts the program again.
PROCend	reduces the players lives by one and checks to see you have some left.
PROCdown	moves the invaders down the screen.
PROCsetd	works out which is the lowest invader in a column, so that it can drop a bomb, without hitting the ones below it.
PROCdropb	moves the "*" bomb down and checks if it has hit the base.
PROCd	This is a useful routine to use at the end of a page of introduction.
PROCtitle (W$,E%)	prints in the middle of the screen on line E%, in a random colour, in double height, W$.
PROCIntro	Prints up the introduction.
PROChi	Prints and places any new name in the top ten score board.
PROCask	Asks if the player wants another game and acts on the response.
PROClives	Prints up the number of bases the player has left at the bottom of the screen.

RUNS ON BBC/B

ALIEN INTRUDERS

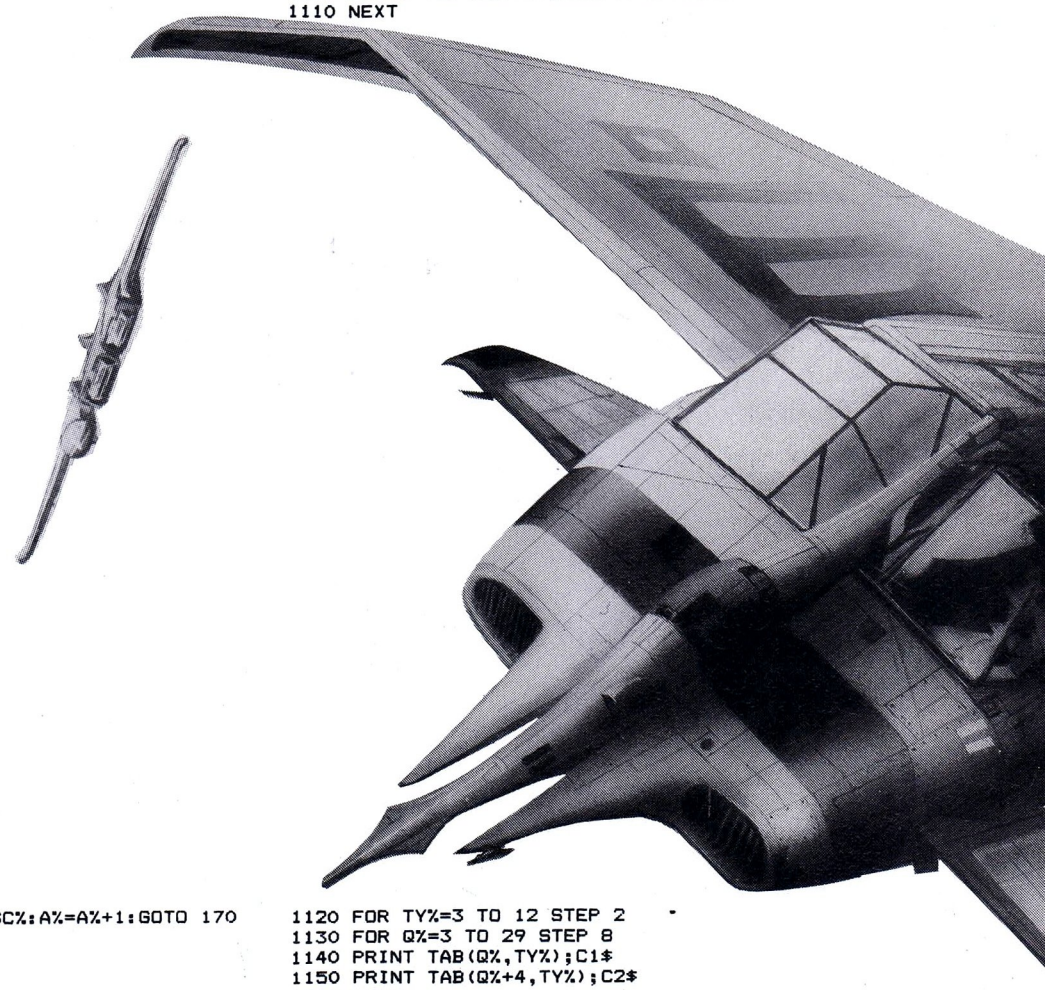


Variables Used

C%	Permanent score record.
L%	Number of lives left.
A%	Present level of play.
TIM	Speed of aliens.
X% & Y%	co-ordinates of the base.
XB% & YB%	co-ordinates of the rocket.
D%	Direction of the invaders (left or right).
SON%	Pitch of the background sound.
SC%	present score.
DF% & FL%	Flags for the rocket and the bomb.
PL%	Position along of the invaders.
LB% & RB%	How far the invaders can travel to the left and right of the screen.
LC% & RC%	Furthest column of invaders to the left and right.
BC%	Which invader row is the bottom row.
BB%	Which line the invaders have to reach before they have landed.
DX% & DY%	Co-ordinates of the "*" bomb.

ALIEN INTRUDERS

```
   10 MODE7
   20 ENVELOPE 1,2,1,-2,1,10,10,10,126,0,0,0,50,50
   30 ENVELOPE 2,2,12,-24,12,20,60,20,126,0,0,0,100,100
   40 ENVELOPE 3,1,150,200,100,20,20,45,126,0,0,-1,100,
100
   50 ON ERROR A%=ERL:REPORT:PRINT ;" at line ";ERL;:RE
PEAT:A=INKEY(0):UNTIL A=-1:END
   60 VDU 23;8202;0;0;0;
   70 DIM N$(10),SC%(10)
   80 FOR Q%=1 TO 10
   90 N$(Q%)=CHR$(RND(6)+128)+"James Mcpherson"
  100 SC%(Q%)=(11-Q%)*150
  110 NEXT
  120 DIM S%(8,5)
  130 PROCIntro
  140 PROCmc
  150 C%=0:L%=3
  160 IF A%>5 THEN A%=5
  170 TIM=(6-A%)*30
  180 X%=19:Y%=20
  190 D%=1:XB%=X%+2
  200 YB%=Y%
  210 SON%=40
  220 FOR Q%=1 TO 8
  230 FOR W%=1 TO 5
  240 S%(Q%,W%)=0
  250 NEXT
  260 NEXT
  270 SC%=C%
  280 FL%=0:PL%=3
  290 CLS
  300 LB%=3:RB%=6
  310 LC%=1:RC%=8
  320 BC%=5:BB%=11
  330 DX%=0:DY=0
  340 DF%=0:STIM=TIM/39
  350 C1$="V"
  360 C2$="V"
  370 PROCsetup
  380 PROCplay
  390 END
  400 :
  410 :
  420 DEF PROCdecide
  430 PRINT TAB(NXB%-1,YB%);"  "
  440 SOUND 1,-15,200,2
  450 FL%=0
  460 XN%=(XB%-PL%)/4+1
  470 YN%=(YB%-8PL%-3)/2+1
  480 S%(XN%,YN%)=1
  490 XB%=X%:YB%=Y%
  500 SC%=SC%+10
  510 PRINT TAB(15,0);SC%;
  520 TIM=TIM-STIM
  530 IF TIM=30.5 THEN TIM=1
  540 SON%=SON%+3
  550 SOUND 2,1,SON%,1
  560 IF (SC% MOD 400)=0 THEN C%=SC%:A%=A%+1:GOTO 170
  570 ENDPROC
  580 :
  590 :
  600 DEF PROChit
  610 NXB%=0
  620 Q%=0
  630 PRINT TAB(XB%,YB%);CHR$255
  640 IF YB%<3 THEN PRINT TAB(XB%,YB%);" ":FL%=0
  650 IF E%=86 THEN NXB%=XB%
  660 IF NXB%<>0 THEN PROCdecide
  670 ENDPROC
  680 :
  690 :
  700 DEF PROCfire
  710 PRINT TAB(XB%,YB%);" "
  720 YB1=YB1+1
  730 IF YB1>0.9 THEN YB%=YB%-1:YB1=0
  740 E%=?(HIMEM+YB%*40+XB%)
  750 PRINT TAB(XB%,YB%);CHR$255
  760 IF E%<>32 AND E%<>150 THEN PROChit
  770 IF YB%<3 THEN PRINT TAB(XB%,YB%);" ":FL%=0
  780 ENDPROC
  790 :
  800 :
  810 DEF PROCplay
  820 PROClives
  830 SOUND 2,1,40,1
  840 PRINT TAB(0,Y%);CHR$149
  850 TIME=0
  860 REPEAT
  870 IF DF%=0 THEN PROCsetd
  880 PRINT TAB(X%-3,Y%);"      "
  890 X%=X%+INKEY(-98)-INKEY(-67)+(X%>36)-(X%<4)
  900 IF INKEY(-74) AND FL%=0 THEN XB%=X%:YB%=Y%:FL%=1
  910 PRINT TAB(X%-2,Y%);CHR$149;"x/t"
  920 PROCdropb
  930 IF FL%=1 THEN PROCfire
  940 UNTIL TIME>TIM
  950 IF PL%<LB% THEN PROCdown
  960 IF PL%>RB% THEN D%=0:PROCcheck
  970 IF D%=0 THEN CALL&D00:PL%=PL%-1
  980 IF D%=1 THEN CALL&D80:PL%=PL%+1
  990 IF FL%=0 THEN 1030
 1000 E%=?(HIMEM+YB%*40+XB%)
 1010 PRINT TAB(XB%,YB%);CHR$255
 1020 IF E%=86 THEN PROChit
 1030 GOTO 850
 1040 ENDPROC
 1050 :
 1060 :
 1070 DEF PROCsetup
 1080 SPL%=0
 1090 FOR TY%=3 TO 15
 1100 PRINT TAB(0,TY%);CHR$(128+RND(7))
 1110 NEXT
```



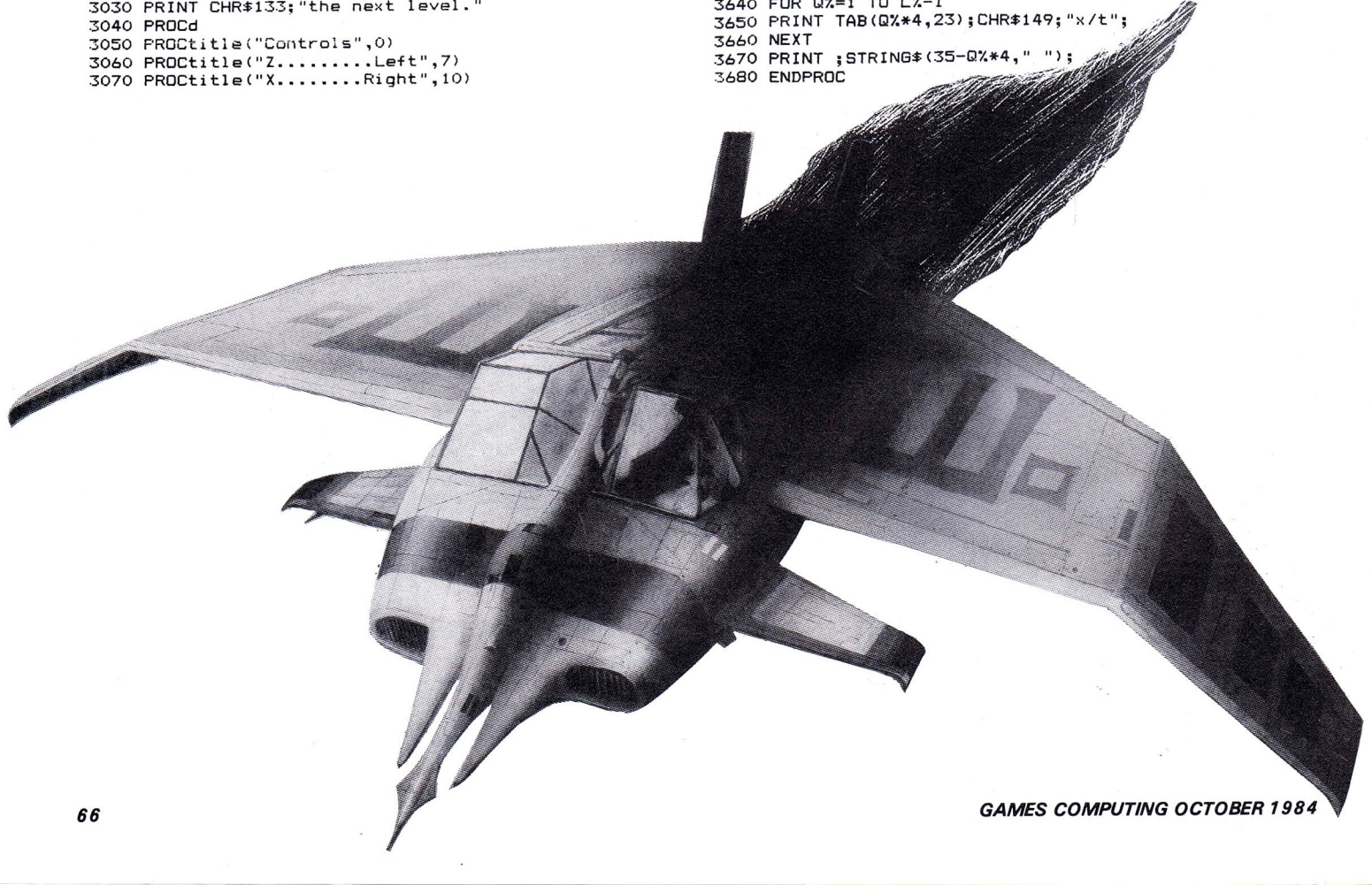
```
 1120 FOR TY%=3 TO 12 STEP 2
 1130 FOR Q%=3 TO 29 STEP 8
 1140 PRINT TAB(Q%,TY%);C1$
 1150 PRINT TAB(Q%+4,TY%);C2$
 1160 NEXT
 1170 NEXT
 1180 PRINT TAB(8,0);CHR$129;"Score-";C%
 1190 PRINT TAB(23,0);CHR$132;"Hi-score-";SC%(1)
 1200 PRINT TAB(0,1);CHR$146;STRING$(39,",")
 1210 PRINT TAB(0,22);CHR$145;STRING$(39,",");
 1220 ENDPROC
 1230 :
 1240 :
 1250 REM***   Type in the following ***
 1260 REM*** assembly language very  ***
 1270 REM*** carefully. As one error ***
 1280 REM*** could destroy the whole ***
 1290 REM*** program.                ***
 1300 :
 1310 :
 1320 DEF PROCmc
 1330 FOR Z%=0 TO 2 STEP 2
 1340 P%=&D00
 1350 [OPT Z%
 1360 .BIGLOOP LDA #&7F
```

RUNS ON BBC/B

```
1370 STA &71
1380 LDA #110
1390 STA &70
1400 LDX #0
1410 .L1 INX
1420 LDY #3
1430 .L2 LDA (&70),Y
1440 CMP #86
1450 BNE JUMP
1460 DEY
1470 STA (&70),Y
1480 INY
1490 LDA#32
1500 STA(&70),Y
1510 .JUMP INY
1520 CPY #42
1530 BNE L2
1540 LDA &70
1550 SEC
1560 SBC #40
1570 STA &70
1580 LDA &71
1590 SBC #0
1600 STA &71
1610 CPX #22
1620 BNE L1
1630 RTS:]
1640 NEXT
1650 :
1660 :
1670 FOR Z%=0 TO 2 STEP 2
1680 P%=&D80
1690 [OPT Z%
1700 LDA #&7F
1710 STA &71
1720 LDA #110
1730 STA &70
1740 LDX #0
1750 .SL1 INX
1760 LDY #42
1770 .SL2 LDA (&70),Y
1780 CMP #86
1790 BNE J2
1800 INY
1810 STA (&70),Y
1820 DEY
1830 LDA#32
1840 STA(&70),Y
1850 .J2 DEY
1860 CPY #3
1870 BNE SL2
1880 LDA &70
1890 SEC
1900 SBC #40
1910 STA &70
1920 LDA &71
1930 SBC #0
1940 STA &71
1950 CPX #22
1960 BNE SL1
1970 RTS:]
1980 NEXT
1990 ENDPROC
2000 :
2010 :
2020 DEF PROCcheck
2030 CHE1%=0
2040 CHE2%=0
2050 FOR ER%=1 TO 5
2060 IF S%(LC%,ER%)=0 THEN CHE1%=CHE1%+1
2070 IF S%(RC%,ER%)=0 THEN CHE2%=CHE2%+1
2080 NEXT
2090 IF CHE1%=0 THEN LB%=LB%-4:LC%=LC%+1:CHE1%=100
2100 IF CHE2%=0 THEN RB%=RB%+4:RC%=RC%-1:CHE1%=100
2110 IF CHE1%=100 THEN 2030
2120 CHE1%=0
2130 FOR ER%=1 TO 8
2140 IF S%(ER%,BC%)=0 THEN CHE1%=CHE1%+1
2150 NEXT
2160 IF CHE1%=0 THEN BC%=BC%-1:BB%=BB%-2:CHE1%=0:GOTO
2130
2170 IF BB%+SPL%>18 THEN PROCend
2180 ENDPROC
2190 :
2200 :
2210 DEF PROCfin
2220 *FX15,0
2230 PROChi
2240 GOTO 150
2250 ENDPROC
2260 :
2270 :
2280 DEF PROCend
2290 SOUND 3,3,0,1
2300 FOR W%=1 TO 1500
2310 NEXT
2320 PRINT TAB(XB%,YB%);" ";
2330 L%=L%-1
2340 PROClives
2350 IF L%=0 THEN PROCfin
2360 DF%=0:FL%=0
2370 ENDPROC
2380 :
2390 :
2400 DEF PROCdown
2410 PROCcheck
2420 D%=1
2430 PRINT TAB(XB%,YB%);" "
2440 SPL%=SPL%+1
2450 VDU 28,2,20,39,3
2460 VDU 30,11
2470 VDU 26
2480 ENDPROC
2490 :
2500 :
2510 DEF PROCsetd
2520 XN%=(ABS((X%-PL%)/4) MOD 8)+1
2530 FOR Q%=5 TO 1 STEP -1
2540 IF S%(XN%,Q%)=0 THEN DY=(Q%-1)*2+4+SPL%:DX%=(XN%-
1)*4+PL%:DF%=1:Q%=1
2550 NEXT
2560 IF DF%=0 THEN XN%=(XN% MOD 8)+1:GOTO 2530
2570 PRINT TAB(DX%,DY-1);"V";
2580 ENDPROC
2590 :
2600 :
2610 DEF PROCdropb
2620 PRINT TAB(DX%,DY);" ";
2630 DY=DY+0.4
2640 IF INT(DY)=20 AND DX%>X%-2 AND DX%<X%+2 THEN PROC
end
2650 IF DY>22 THEN DF%=0:GOTO 2670
2660 PRINT TAB(DX%,DY);"*";
2670 ENDPROC
2680 :
2690 :
2700 DEF PROCd
```

ALIEN INTRUDERS

```
 2710 PRINT TAB(5,23);CHR$136;CHR$134;"Press any key to
 continue";
 2720 *FX15,0
 2730 A=GET
 2740 CLS
 2750 ENDPROC
 2760 :
 2770 :
 2780 DEF PROCtitle(W$,E%)
 2790 S%=(39-LEN(W$))/2-2
 2800 FOR Q%=E% TO E%+1
 2810 PRINT TAB(S%,Q%);CHR$141;CHR$(128+RND(6));W$
 2820 NEXT
 2830 PRINT TAB(S%+1,Q%);CHR$(128+RND(6));STRING$(LEN(W
$),"_")
 2840 ENDPROC
 2850 :
 2860 :
 2870 DEF PROCIntro
 2880 PROCtitle("Alien intruders",7)
 2890 PROCtitle("Written and designed by",13)
 2900 PROCtitle("James McPherson",17)
 2910 PROCd
 2920 PROCtitle("Alien intruders",1)
 2930 PRINT TAB(0,5);CHR$132;"This is a version of the
popular arcade";
 2940 PRINT CHR$132;"game 'SPACE INVADERS'."
 2950 PRINT ''CHR$130;"You have to destroy all the alie
ns,"
 2960 PRINT CHR$130;"with your trusty cannon, before th
ey"
 2970 PRINT CHR$130;"land. Added to this you must avoid
"
 2980 PRINT CHR$130;"their lethal bombs."
 2990 PRINT ''CHR$129;"If you manage to get a high enou
gh "
 3000 PRINT CHR$129;"score, then you are placed in the
"
 3010 PRINT CHR$129;"'TOP TEN' score-board."
 3020 PRINT ''CHR$133;"If you clear the screen you move
 up to"
 3030 PRINT CHR$133;"the next level."
 3040 PROCd
 3050 PROCtitle("Controls",0)
 3060 PROCtitle("Z.........Left",7)
 3070 PROCtitle("X........Right",10)
 3080 PROCtitle("RETURN....Fire",13)
 3090 PROCtitle(CHR$136+"GOOD LUCK  ",19)
 3100 PROCd
 3110 PROCtitle("Which level do you want <1-5>",10)
 3120 PRINT TAB(15,13);
 3130 A%=GET
 3140 O%=A%-48
 3150 A%=O%
 3160 IF A%>5 OR A%<1 THEN VDU7:GOTO 3110
 3170 CLS
 3180 ENDPROC
 3190 :
 3200 :
 3210 DEF PROChi
 3220 PL%=0
 3230 IF SC%<=SC%(10) THEN 3400
 3240 SOUND 2,2,50,1
 3250 FOR Q%=1 TO 10
 3260 IF SC%>SC%(Q%) THEN PL%=Q%:Q%=10
 3270 NEXT
 3280 PROCd
 3290 PROCtitle("Hi-scores",1)
 3300 PROCtitle("Congratulations",7)
 3310 PROCtitle("You are in the TOP TEN scores",10)
 3320 PROCtitle("Please put in your name",16)
 3330 PRINT TAB(15,20);:INPUT N$
 3340 IF LEN(N$)>15 THEN VDU 7:CLS:GOTO 3320
 3350 FOR Q%=9 TO 1 STEP -1
 3360 IF SC%>SC%(Q%) THEN SC%(Q%+1)=SC%(Q%):N$(Q%+1)=N$
(Q%)
 3370 NEXT
 3380 N$(PL%)=CHR$133+N$
 3390 SC%(PL%)=SC%
 3400 PROCd
 3410 PROCtitle("Top Ten board",0)
 3420 FOR Q%=1 TO 10
 3430 PRINT TAB(1,Q%*2+2);Q%
 3440 PRINT TAB(15,Q%*2+2);N$(Q%)
 3450 PRINT TAB(5,Q%*2+2);SC%(Q%)
 3460 NEXT
 3470 PROCd
 3480 PROCask
 3490 ENDPROC
 3500 :
 3510 :
 3520 DEF PROCask
 3530 PROCtitle("Do you want another game <Y/N>",10)
 3540 PRINT TAB(15,14);
 3550 A$=GET$
 3560 IF A$="Y" THEN A%=O%:ENDPROC
 3570 IF A$<>"N" THEN VDU 7:GOTO 3530
 3580 END
 3590 ENDPROC
 3600 :
 3610 :
 3620 DEF PROClives
 3630 IF L%=1 THEN PRINT TAB(3,23);"        ";:ENDPROC
 3640 FOR Q%=1 TO L%-1
 3650 PRINT TAB(Q%*4,23);CHR$149;"x/t";
 3660 NEXT
 3670 PRINT ;STRING$(35-Q%*4," ");
 3680 ENDPROC
```



PIT STOP

In this issue we have a feature about Acorn's racing car and the man who drives it — David Hunt. Acorn are working with David to produce a motor racing game by the author of Aviator. We thought it would be a good idea to see what other racing games were on the market so here's what Mike Roberts found.

POLE POSITION

Runs on: Any Atari Home Computer
Made by: Atari
Price: £29.95 (cartridge)

This was the first really good racing game in the arcades, it was no surprise when Atari converted it for use on their home computer system. The end product is quite excellent. Very little has been lost in the conversion from arcade machine to home computer and the graphic abilities of the Atari are really used to the full. I always knew that the Atari was theoretically able to produce such displays but I had never seen anything like them before.

There is the option to select between four different race tracks of changing difficulty. The course of the race track itself does not change but the number and viciousness of the cars increases. One option is a practice lap where there are no cars at all.

Also selectable is the number of laps that you want to race from 1 to 8.

At the beginning of the game you have to do a lap of your own and complete it in a certain time. What time you get also determines where on the grid you start and how many bonus points you get — the top being 4000 points and 'pole position'.

The line up at the start is very realistic with two rows of eight cars with a starting line and traffic lights in full 3-D and perspective. The lights count down, the hooter blows, and the're off!

Then comes an exciting race around the track. Each lap must be completed in a certain time or the game ends. If the lap is completed within the time then more time is added onto the remaining time for the next lap. This is very important as a bonus of 200 points is given at the end of the game for each second that is left on the clock.

There is a bug in this though which limits the maximum amount of time that you can have on the clock. Towards the end of the race you can have a large amount of time on the clock. The bonus at this point can be an extra 60 seconds, now the time left indicator can only display two digits so that if you go over the line with 40 seconds on the clock, the clock resets to 00 that being 100 with the first digit knocked off. When the clock is 00 the game ends and you can go no further. The technique is to go across the line with 39 second on the clock so that it goes to 99 seconds left.

This is one of the most enjoyable and addictive games that I have ever come across. I played it for so long that I got good enough to win a competition held by Atari where the prize was training in real racing cars. My top score is 10B750 — beat that!

MONACO

Runs on: BBC
Made by: Alligata
Price: £7.95

Monaco is Alligata's entry into racing games for the Beeb. The game has you driving down a straight road that stretches out before you. Controls are z left, x right, and return to accelerate. That's all you can do. The other cars on the road swerve around to try and wreck your car.

An added feature is the ambulance. This is no friendly Florence Nightingale transporter, but an obstacle to avoid as it tries to run you into the ground.

When burning down the road attempting to slide your way through a pack of opposing cars, be prepared to watch your speed as there is no brake. The car slows itself down quite quickly so there shouldn't be any great problem with speed — just don't be too flashy.

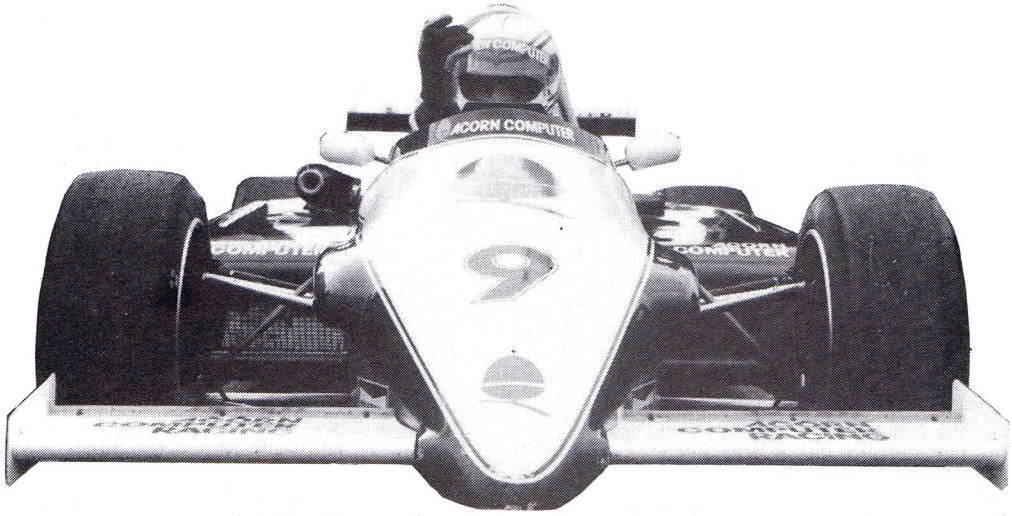
This game is good if you just want a simple racing game without too much complication and you don't want to take the Institute of Advanced Motoring test just to understand the controls.

Not as advanced as some but sweet and simple.

BUMPING BUGGIES

Runs on: Commodore 64
Made by: Bubble Bus
Price: £7.95

Bumping Buggies is a race game with a through four seasons of motoring and varying weather conditions. Your opponents on the track are very mean and seemingly limitless in numbers. Your buggy does have one small (or large) advantage over them though — it can fly.



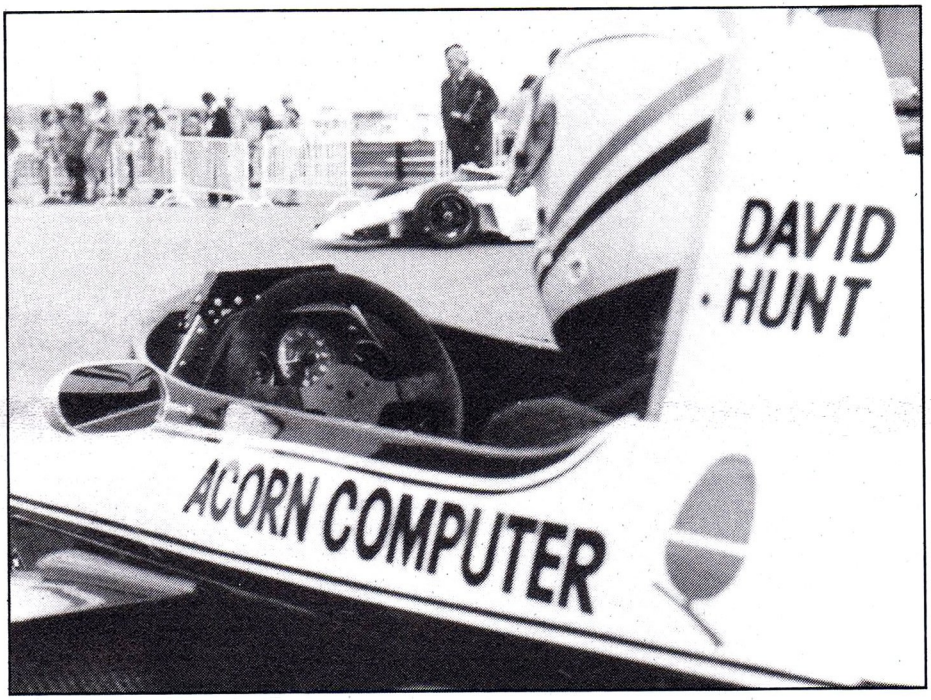
PIT STOP

Yes, your beach buggy can leap into the air over obstacles and land perfect control.

Flying through the air has numerous advantages. Firstly it is necessary for leaping over the rivers that sometimes appear in your way. Secondly it gets you points, because if you land on an opposing buggy it will either explode gaining you points or crash gaining you more points again. Finally it can get you out of the situation where a lot of enemy cars are ganging up on you and forcing you to crash.

You can only crash into the verge on this game. If you hit any of the other cars you just bounce off each other. However, in this game the verge twists and turns with chicaines and obstacles abounding.

This is a very enjoyable game with some good musical effects. Well worth getting.



CHEQUERED FLAG

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

This is one of the best Spectrum games around, it just about comes up to the standard of Atarisoft's 'Pole Position'. The option screens are fantastic. Graphical displays of the four cars that you can choose between and the five tracks.

The screen display in the actual game is very good. The picture has you in the driving seat with all the instruments and the steering wheel visible. When you turn a corner the steering wheel turns as well. This is in contrast to Pole Position where you are floating in the air behind the car.

One thing I don't like is the lack of any opposition. The game is purely a race against time — there are no competing cars to get in your way. The fight against other cars is what makes a lot of lesser racing games fun to play, it's a shame that Psion couldn't do it — mind you its amazing that they could get this much out of the Spectrum it the first place.

The graphics are quite stunning as you race around the track and this just about makes up for the lack of enemy cars. If you want a Spectrum racing game then take a look at Pole Position and Chequered Flag, both are slightly different and which is best is purely personal choice — they are both excellent games.

POLE POSITION

Runs on: C64, Spectrum, BBC B
Made by: Atarisoft
Price: £9.95 — £19.95 (C64 cartridge)

Atari has to produce games for other machines eventually. The market out there is just too big to ignore. The huge success of Pole Position on the Atari home computers was the cue to launch it on a range of other machines.

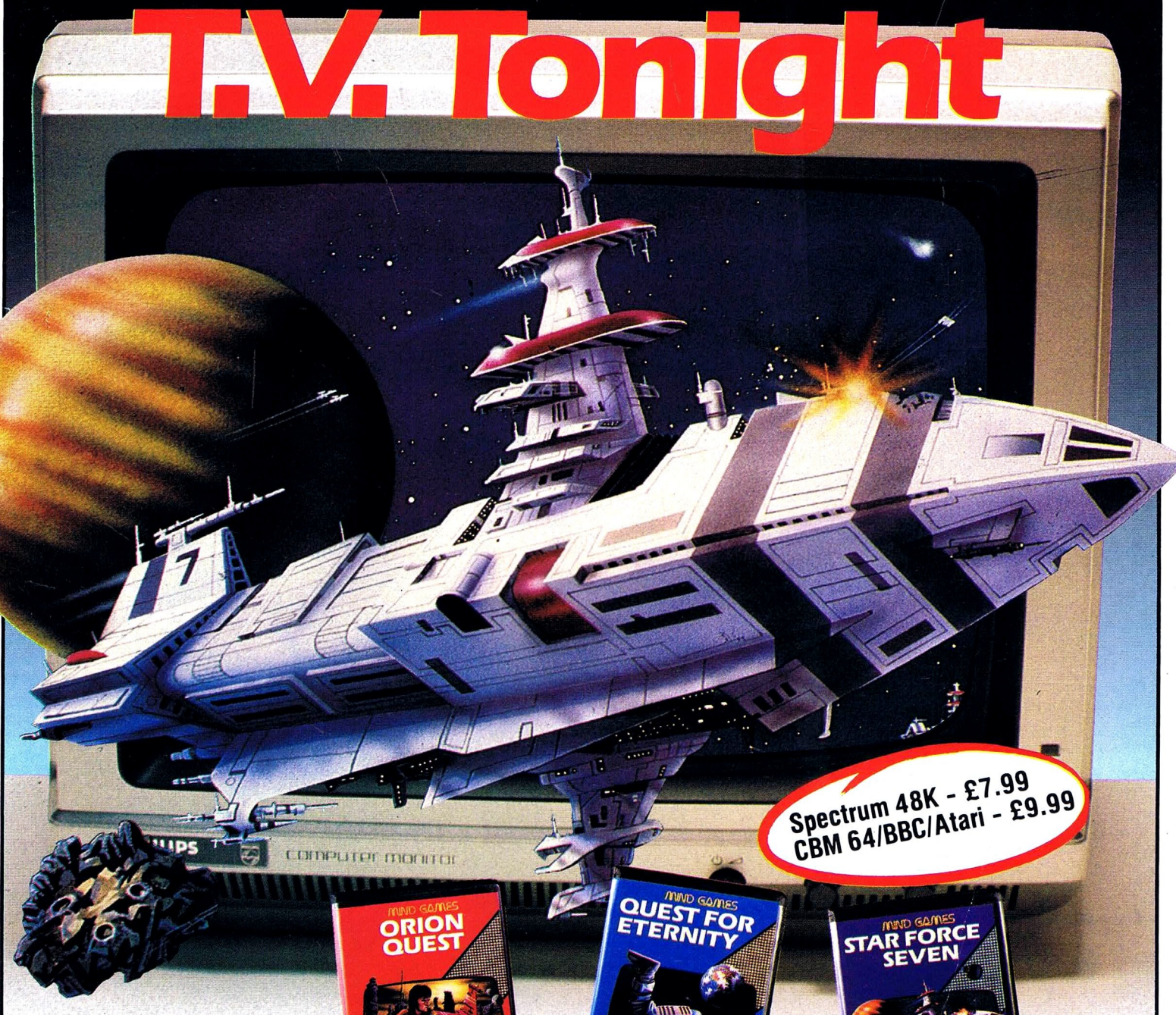
Probably the best looking version is the one on the Spectrum. Not because it is anything like the real Pole Position but because the programmer has kept the display within the restrictions caused by the Spectrum and not tried to do anything flashy.

The BBC version is a bit odd when cornering. On the Atari a standard technique to get around the corners is to skid. Skidding will reduce your speed to managable levels and point you in the right direction. Pole Position on the BBC uses MODE 2, this screen uses up 20K of memory. Scrolling the screen normally on a beeb is quite easy because the hardware does it for you, but if you want to selectivly move 20K chunks of memory around it gets a bit jerky. In fact at one point the car stopped dead and the road lept half a car width to the right — it looked a bit odd. Despite this, if you play it 'properly' and use the brake (I never do) it can be quite realistic and enjoyable. Definitley the best racing game for the Beeb on the market.

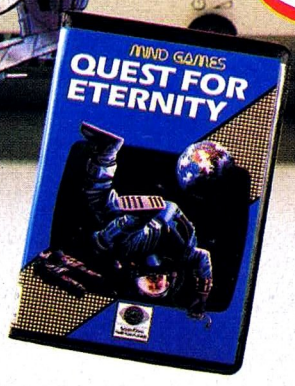
The Commodore 64 version is the best of the three mentioned here due to the colour range. The Atari and the CBM64 have a much wider range of colours than the Beeb and the Spectrum which only have eight. The addition of browns and a grey scale really make a difference. Extensive use is made of the Commodore's graphics ability although it could have been better. The sound, However, is quite bad. The C64 has the biggest and best sound chip in any home computer, it isn't being used much at all — which is a shame as it could be made a lot better. If Turbo 64 ever gets off the ground then there could be a real battle on between the two, but at the moment this is still the best racing game for the 64.

Overall there is very little on the market that comes anywhere near these games in terms of excitement or realism. Compared to the original Atari computer version they look weak but on their own they are quite good. I don't blame Atari for producing a better program for their machine than for the opposition, it would be bad business sense otherwise.

What's on Your T.V. Tonight



Spectrum 48K - £7.99
CBM 64/BBC/Atari - £9.99



MIND GAMES

Argus Press Software Group

Recommended viewing

Early Evening
6.40 pm Orion Quest

A full feature adventure starring well known nasty aliens **the Zarps**
Can you play the hero and stop their plans to blow up the earth.

Screen play N. White
Costume Design D. Jordan
Directed Martin Edwardes
Produced Argus Press Software

Available for Spectrum 48K, BBC, CBM 64.

Mid-evening
9.00 pm Quest for Eternity

Starring **The Overlords of the Universe**

The candidate (you) have to get to the Chamber of Creation. It's a laugh a minute, since it's 2000 light years away on the most horrible planet in the Universe ... and your starship doesn't work either!

Written by David Cockram
Directed Martin Edwardes
Produced Argus Press Software

Available for Atari, Spectrum 48K, CBM 64.

Midnight Movie
11.55 pm Star Force Seven

Starring **The Zurgs**

After a desperate space battle only one fleet of heroes remain to prevent the invasion of earth. The future of humanity lies with you!

Written by Ian Soutar
Special Effects Ian Soutar
Directed Martin Edwardes
Produced Argus Press Software

Available for BBC, Spectrum 48K, CBM 64.

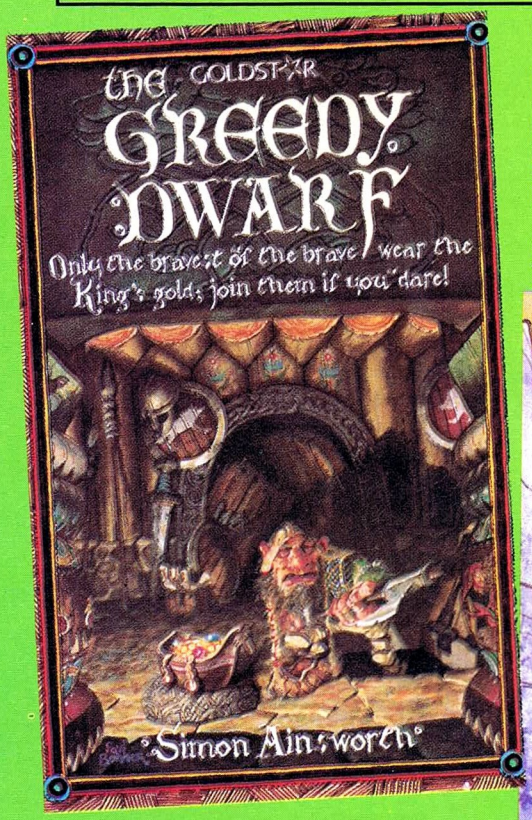
For mail order, write with cheque/ P.O./card No. to:
Mind Games, Argus Press Software Group, No. 1 Golden Square, London W1.

BrainWare

Last month you may have noticed that we started a new regular section called 'Brainware'. The format is very similar to our existing software review pages but it contains only strategy, adventure, and thinking game reviews.

Strategy and adventure games are playing a bigger and more important role in the software industry as more and more people get bored with the unoriginality of games that a lot of software houses produce, and the short length of time it takes before you get bored stiff playing them. So we decided to have a special section for all our readers that like to play strategy, adventure, or any other non-action games.

Also last month we started the first of a series about programming adventure games, it continues this month with more details on this exciting area of software development. Who knows? one day one of your programs may be reviewed on these pages!



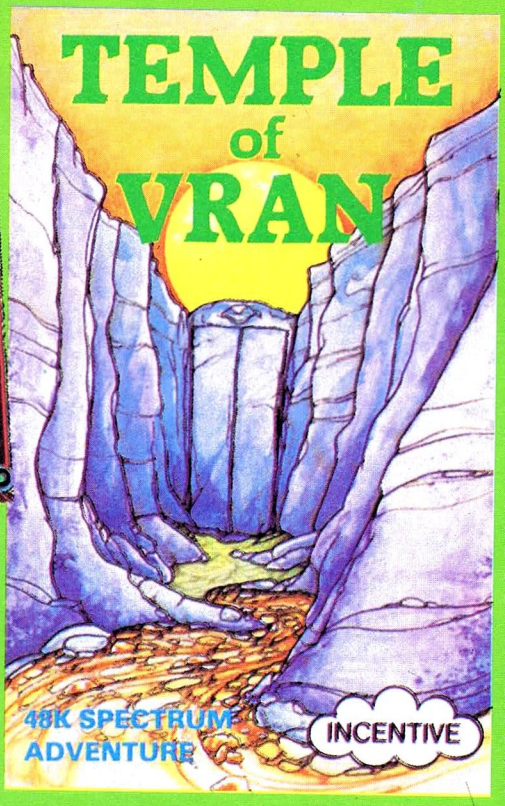
GREEDY DWARF

Runs on: BBC Model B
Made by: Goldstar
Price: £9.95

Not being a very experienced adventurer I started to explore the world of the greedy dwarf very warily. This game has done nothing but turn me even more against adventure games. You have the task of recovering three of King Ardanga's finest jewels which have just been stolen. The setting is a reasonable place, but what possesses the King to have mazes in his cellar beats me. The jewels in question did not steal themselves, but a 'greedy dwarf' named Arfa did and the King is seeking vengeance on this creature. Unable to resist the wealth that you will be rewarded, you set off after the jewels and Arfa's head. If you fail at your task, which you will, you must set out again. Also if you return back up to daylight without having completed the task, the king's guards kill you for cowardice.

You can type your commands in using full English only one verb can be used in each sentence. The game has a resonably large vocabulary so finding a permitted word is not difficult. Greedy dwarf has no graphical locations (at least none I found) which is a pity.

For keen adventurers greedy dwarf would probably be the correct medicine for boredom.



TEMPLE OF VRAN

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

Temple of Vran is a follow up in the Ket Trilogy. It is a non-graphic adventure. After waiting for what seems hours for it to load I was asked to wait yet again then told my scores (luck, stamina and prowess) before the game could be started. Break could restart the game to try and raise the scores. Having typed in your command the program takes ages to respond, whereupon you are given another place description. If an object is present it tells you which one, and next to it is a U.D.G. picture of this object. These objects may be taken or dropped. On various occasions animals, warts, or monsters may be encountered. When these are fought the game goes through a fighting routine. I have never been defeated, not even hit!

The game has a special score facility, and you can turn the keyboard beep on or off. The game may be saved at a certain point. A fair adventure but nothing more.

THE ORACLE'S CAVE

Runs on: 48k Spectrum, C64, Oric
Made by: Dorcas Software
Price: £7.95

This is a pseudo real-time D&D game where you start off the adventure at the entrance to the Oracle's Cave. There are four levels to the cave, and as well as a graphic drawing of your current position, there is a map of the Cave permanently on-screen. To succeed in the cave you need to carry out a quest, collect a certain minimum amount of treasure, and finally vanquish the Oracle before leaving the cave system. And you have to achieve all this within a particular timescale — five game ''days''.

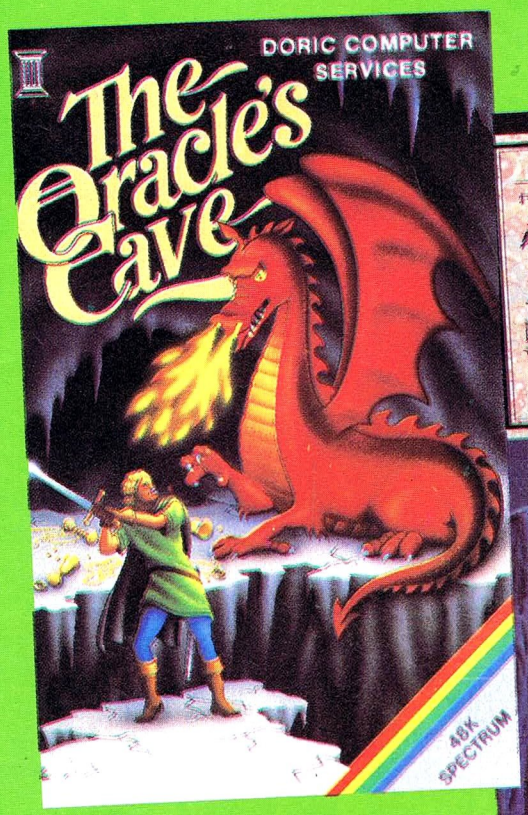
The game starts with a standard sort of message — ''Cave Design in Progress'' and then displays you, the hero. You are asked what you want to do, the maximum choices which you have at any time are: move, rest, use an article, explore, help abandon game. When you encounter a monster it is very nicely drawn and your options are to fight or move.

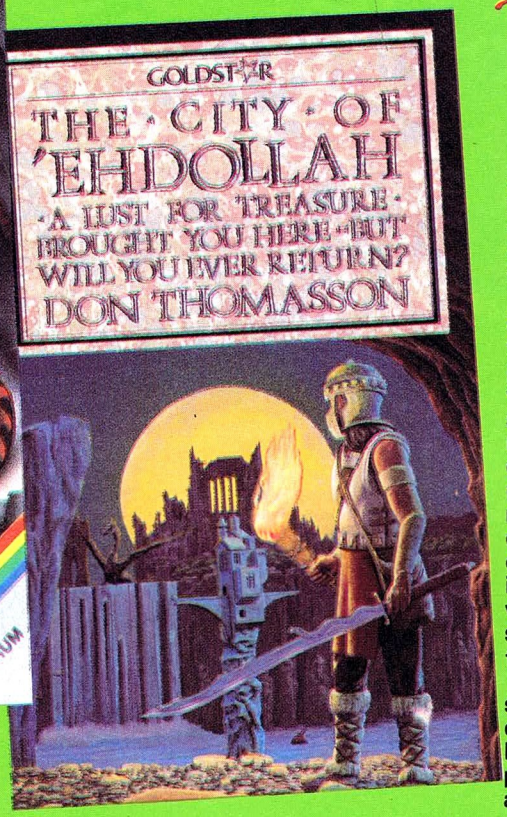
A chart shows you how you are doing — eg what your energy level is, how many wounds if any you have sustained, what objects you are carrying, et cetera. Examples of some of the objects which you will find scattered around are weaponry, food, magic rings, a cloak and of course, treasure.

The packaging states that the average playing time is forty minutes with a maximum of one hour both of which seem reasonable estimates. Unfortunately they have more to do with waiting time than with entertaining action. The graphics are interesting to begin with but soon get wearisome as you see the same old things re-drawn all the time. The program is in BASIC which obviously does not help matters, and unfortunately there are one or two bugs still present in the program, such as when I wanted to used an article I was carrying and the program asked 'What do you want to use?'', . or, '''. I typed in a comma (no, I was not actual-

BrainWare

For Thinking Players





ly carrying one) and the program happily carried on

Having made those criticisms of the game, I still think it will very much appeal to younger players both of the shortness of playing time, its simplicity of use, and the fact that it should be quite easily modified.

THE CITY OF EHDOLLAH

Runs on: Spectrum 48K
Made by: Goldstar
Price: £9.95

You have been brought to the ruined city of EHDOLLAH by a lust for treasure, but unfortunately this greed may lead not to fame and fortune but serve only to bring about your downfall. Among the ruins of this city lie many dreamed about treasures to recover, but your main aim is to find and capture the Sacred Ruby, guarded by Meglin the wizard. To accomplish this task you must kill Meglin. If you succeed you will be acclaimed throughout the known universe as 'Supreme Galactic Adventurer'.

Throughout your search you will encounter strange beasts in dark and mysterious areas, should you attack? or retreat to safety and conserve your precious energy? Combat is in real time so you must be quick to think over your next move, or else your attacker will decide for you. If you run out of stamina then the gods will claim you and you will have failed in your quest. To regain stamina you must eat, but you only have six meals with you.

If you make it alive and recover the Sacred Ruby, the hardest part is yet to come. Getting in may have proved tough but getting out is the hardest part of all.

The City of Ehdollah is an interesting new text adventure game which has over 100 words in its vocabulary. With the tape you get a booklet which gives a short history of the events surrounding the City of Ehdollah and helpful hints for novice adventurers. An enjoyable game.

THE FALL OF ROME

Runs on: Spectrum 48K
Made by: ASP Software
Price: £6.99

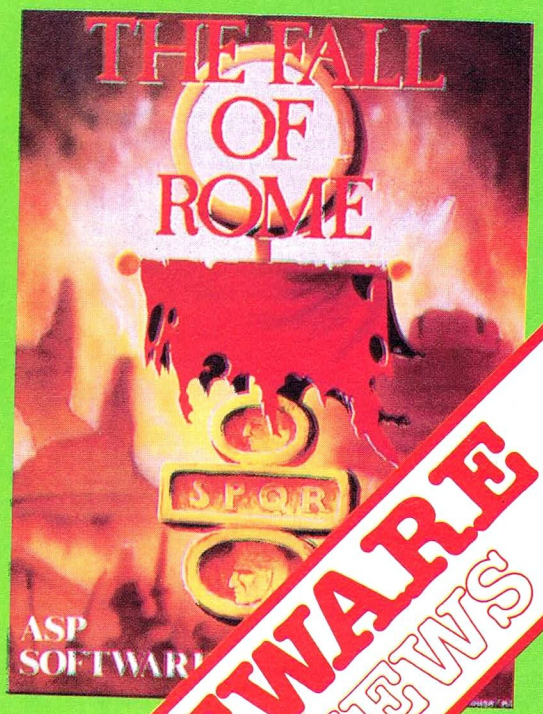
In 'The Fall of Rome' you command the resources of the Roman Empire in it's fight for survival against the eleven barbarian tribal groups of the north. You must also compete with the two empires of the east as they try to take advantage of your troubles.

The lengthy instructions provided can cause some confusion at first but commencement of the game shows that the method of play is really very simple.

You are shown a map of the area within the Roman Empire, and each province has a Roman name and it's own income, the amount of which varies from province to province. This income can be used to purchase and maintain friendly legions, auxiliaries and cavalry.

The game is divided into 12 turns, each turn covering a five year period from 395 A.D. Working through each province in turn you must distribute your forces carefully in order to recover as many provinces as possible and resurrect the Roman Empire. At the end of each turn you will be informed how many provinces are recovered and how many are still under attack. At the end of twelve turns, the computer will calculate the value of all the provinces in which you have forces. The total value calculated is your score. The scores range from under 100 (total failure to over 160 (victory).

The fall of Rome is a time consuming strategic game which is a lot of fun, especially if you succeed. It is advisable however to write down the current position of each province as you go along, in order to calculate where your main forces should be situated and which areas are most at risk. An exciting challenge.

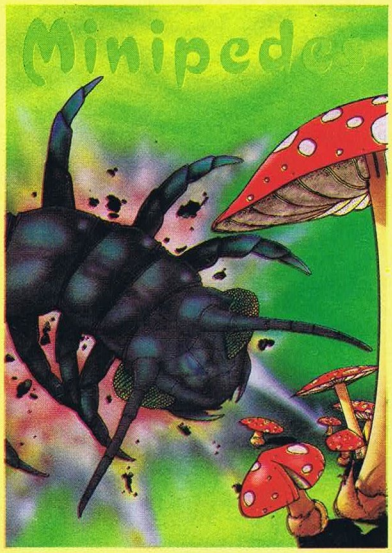


SOFTWARE REVIEWS

ANIROG

AT LAST 1 TAPE 2 MACHINES

COMMODORE 64 VIC 20

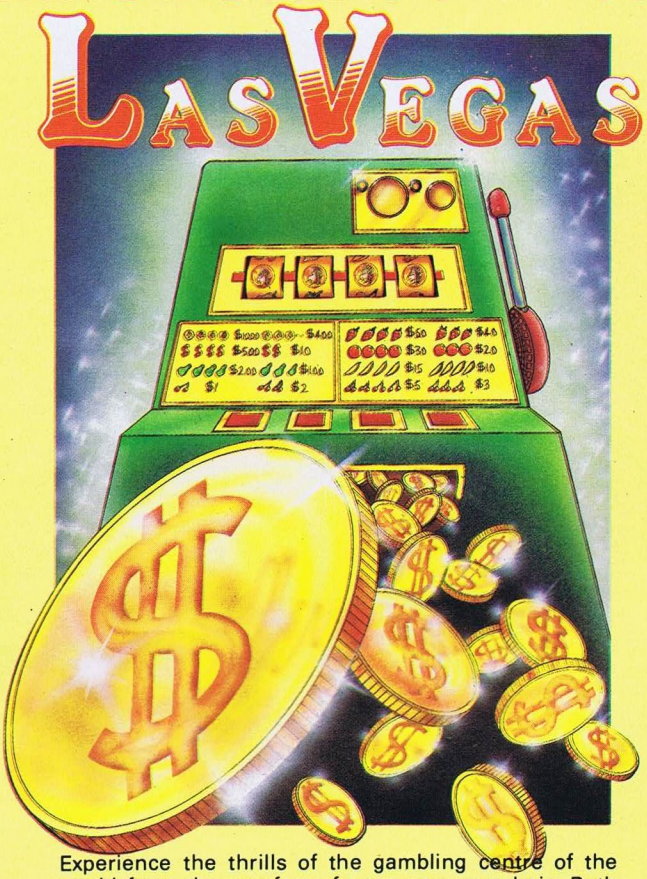


MINIPEDES

It is the height of summer and the garden is buzzing with bees and bugs. Minipede, a mutant mushroom monster advances relentlessly towards you, devouring everything in its path. 15 screens of fast and furious action make Minipedes a real challenge to the arcade enthusiasts.

Commodore 64 - VIC 20 16K

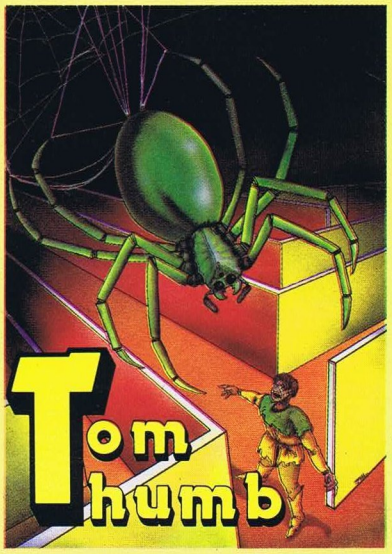
J.S. or K.B. £5.95



Experience the thrills of the gambling centre of the world from the comfort of your own armchair. Both versions include features such as spinning reels, hold, number-feature nudges, gamble/collect, spin score and hi-score. The Commodore 64 version has additional features, nudge, reward lucky 3, step-a-win and hi-score tables.

As with any arcade machine the odds are stacked against you!

Commodore 64 - VIC 20 16K **K.B. £5.95**



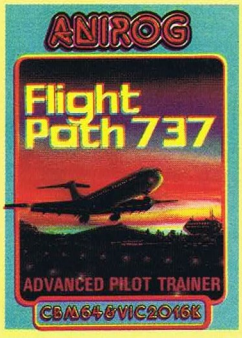
TOM THUMB

Tom is trapped in a scrolling maze populated by loathsome creatures, guardians of the lost treasures of the Magezam. Six separate screens, five levels of difficulty and four player option provide an exciting challenge for the whole family. Another stunner from the author of **BONGO!**

(1 to 4 players)

Commodore 64 - VIC 20 16K

J.S. £5.95



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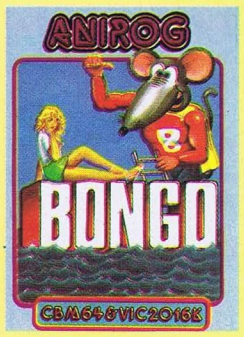

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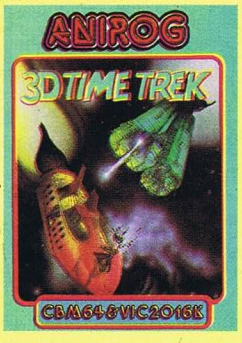

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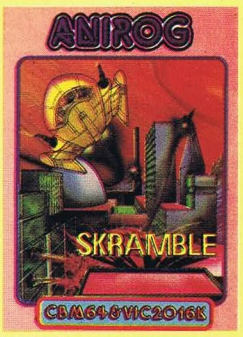

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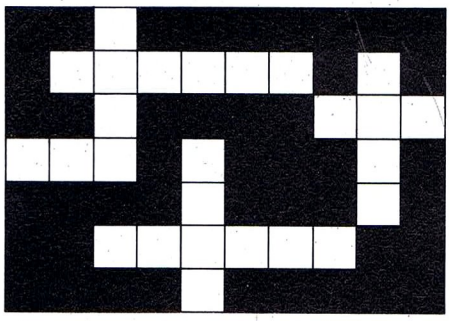
PUZZLES

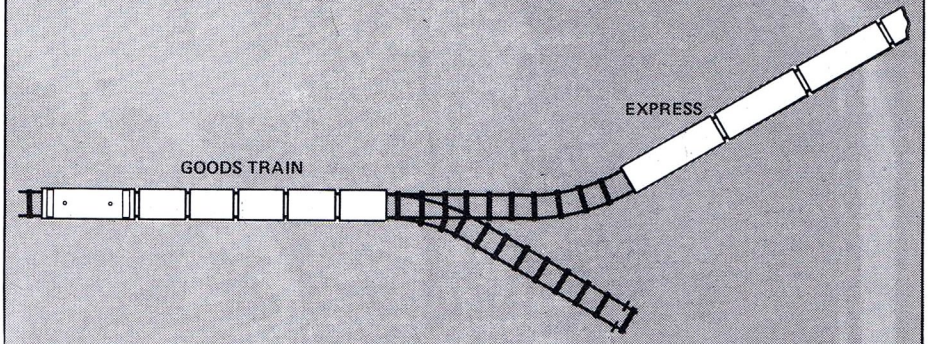
3. ABC

Here's a very simple crossword. There are 26 white squares, and 26 letters in the alphabet. Can you use each letter just once, and end up with seven words that are English and make some sense?



4. ONE HUNDRED LINES

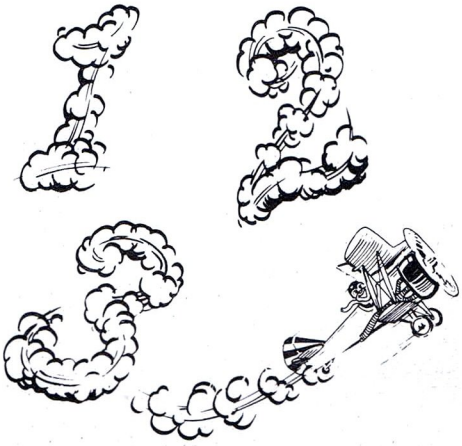
Somewhere in LNER country there is a single track railway which causes all sorts of problems. Here for instance the express wants to overtake the goods train. The siding there can take three wagons only. Is there a way for the express to get past?



5. SIMPLE ADDITION

Substitute letters for the numbers and you should be able to get from your favourite person to a feature of Roman architecture with each word making sense.

```
        8
       8 1
      1 8 3
     2 8 3 1
    3 8 2 5 1
   3 2 8 5 4 1
  4 5 3 2 8 5 1
 4 5 3 7 8 2 5 1
3 5 4 8 1 7 6 2 5
```

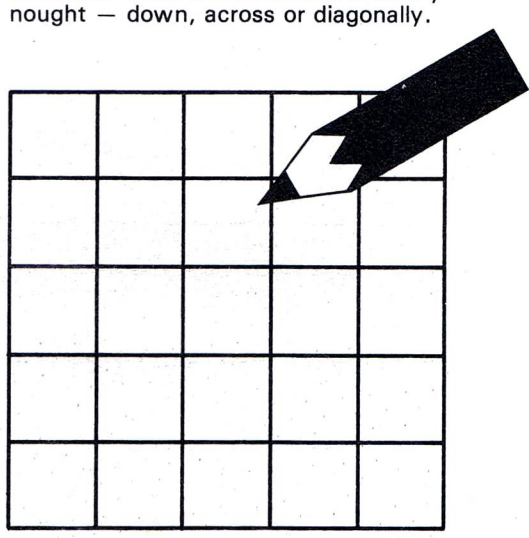


6. HISTORY LESSON

Two people once stood on a front page of a newspaper dated November 11th, 1918, facing each other, in broad daylight, yet they were unable to see each other. They had perfect eyesight — what went wrong?

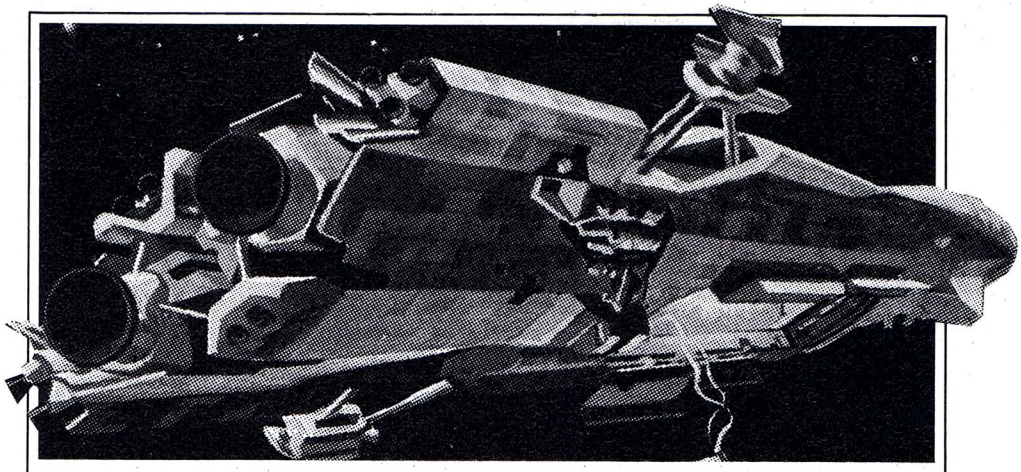
7. FULL MARKS

In this version of noughts and crosses you play yourself. All you do is put five crosses and three noughts into the grid so that no cross is in direct line with any nought — down, across or diagonally.



8. TERM TIME

Can you get from RISE to FALL in four steps, changing one letter at a time, keeping it clean and English throughtout? How about BOOT to LACE in five steps? SLOW to FAST in six steps?



9. PHYSICAL TRAINING

Imagine you are driving the interstellar space train from Zeldoth to Dartus. The train leaves Zeldoth at 18.30 (Earth Standardised Time). 3 minutes later it warps into sector Five and takes on teleported passengers at Orius, Nebolus and Kor. By 18.40 (EST) the space loco is docking alongside Ellacotus where transhipment of cargo necessitates a delay of 4 minutes.

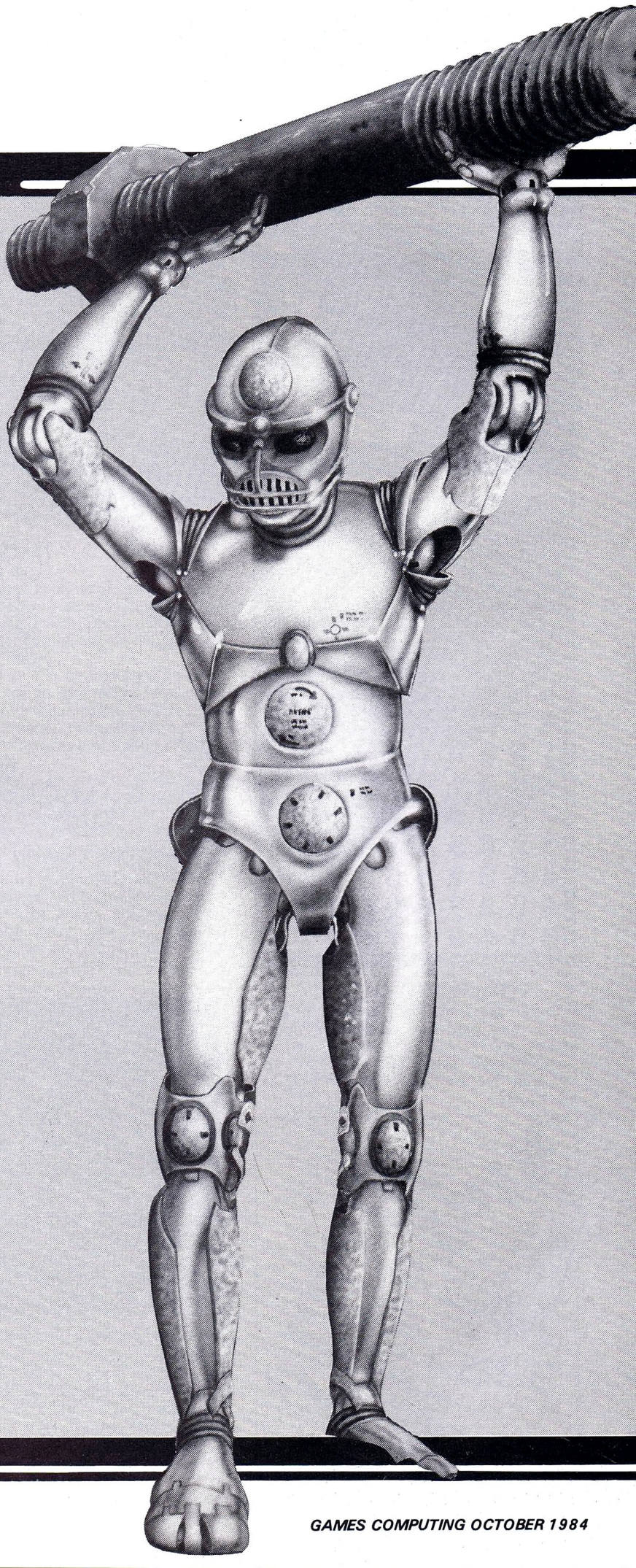
Thanks to new developments in the Geldon overdrive however, the train arrives at Dartus only one minute late — at 18.59. Can you tell us the name of the train driver though?

All was peaceful in Tin Town, the silver moon shone a blue light into the metal works. But wait!! — horror of horrors, lurking in the shadows of the metal works is none other than Tin Town's most wanted criminal, Rusty Bolt the mutant builder (so called because of the horrific injuries he received from a wet tin opener).

The mutant builder has kidnapped three creepy-crawlies and is keeping them captive in a large jam jar. Creepy-crawlies are protected by Tin Town law. The alarm is raised and mild mannered steel worker Nick. L. Alloy once again must become METAL MAN!

RUNdown

Lines	Action
40-120	Redefine characters.
130-273	Set up screen display.
275-375	Main loop. Falling routine, makes M.M. fall until he reaches the bottom of the screen, a piece of metal, a toadstool, an egg, or a spike.
576-630	Make screen flash and music play if an egg is collected.
635-695	Death routine, redefines M.M. and plays music.
695-750	Prints score and number of creepy-crawlies freed, starts or finishes the game.
775-820	Makes sure that MM doesn't go off the edge of the screen.
845-880	Check to see if an egg is in front, or behind, of MM.
885-940	Title.
945-1000	Moves the bug and Mutant builder. Plots colour, eggs and toadstools.
1001-1090	Check to see if the builder has killed you.
1135-1204	Creepy crawly type 1.
1205-1270	Creepy crawly type 2.
1280	Check if all the creepy-crawlies have been freed.
1290	Add to score and number of freed creepy-crawlies.
1291-1360	End of game when all creepy-crawlies are free. Play tune and start or finish program.



METAL MAN

RUNS ON ORIC/ATMOS

```
 1 GRAB
 5 REM  **********************
 10 REM FOR THE ORIC/ATMOS 48K
 15 REM **********************
 16 REM
 17 REM
 18 REM    ####################
 19 REM    #  MECCANO - MAN   #
 20 REM    ####################
 21 REM
 22 REM     BY G.D.MORRIS    MAY 1984
 23 REM
 24 REM
 25 SC=0:J=0: QB=0 :CLS:RESTORE
 30 L1=3:M2=27:L2=7:M1=11 :PRINTCHR$(20)
 31 REM
 35 REM/\/\/\ DEFINING GRAPHICS/\/\/\
 36 REM
 40 A1=46615:A2=46623:A3=46839:A4=46599:A5=46607:A6=464
47
 50 FORT=0TO7
 60 A1=A1+1:A2=A2+1:A3=A3+1:A4=A4+1:A5=A5+1:A6=A6+1
 70 READA:POKEA1,A:READB:POKEA2,B:READC:POKEA3,C:READD:
POKEA4,D:READE:POKEA5,E
 80 READF:POKEA6,F
 90 NEXT
 100 DATA 42,0,63,1,32,30,63,63,33,3,48,45,42,0,18,21,4
2,51,42,0,12,63,63,45
 110 DATA 42,0,18,19,50,45,21,21,33,2,16,51,42,42,63,2,
16,45,21,21,0,6,24,30
 111 B1=46711:B2=46367:B3=46415:B4=46591:B5=46383
 112 FORT=0TO7:B1=B1+1:B2=B2+1:B3=B3+1:B4=B4+1:B5=B5+1

 113 READM,N,O,P,Q:POKEB1,M:POKEB2,N:POKEB3,O:POKEB4,P:
POKEB5,Q
 114 NEXTT
 115 DATA30,33,18,0,0,63,18,12,0,12,45,30,30,12,30,63,6
3,45,30,30,63,45,45,30,63
 120 DATA63,63,30,12,12,63,18,18,0,12,30,45,0,0,63
 130 GOSUB890:GOSUB1670:GOSUB1370
 200 CLS
 205 REM /\/\/\ SET-UP SCREEN/\/\/\
 210 X=2:Y=13
 220 PLOT1,1,"....................................."
 230 FORA=1TO26:PLOT1,A,".":NEXTA:FORB=1TO36:PLOTB,26,"
.":NEXTB
 240 FORA=2TO26:PLOT37,A,".":NEXTA:FORW=1TO110
 250 E=INT(RND(1)*24)+2:F=INT(RND(1)*32)+2
 260 PLOT2,14,"____": PLOT37,24,"{}"
 270 PLOTF,E,"___":NEXTW:PLOT2,25,"CDDCDDCDDCDDCDDCDDCD
DCDDCDDCDDCDDDD"
 271 REM
 273 PLOT0,25,1
 274 REM ++++++++++++++++++++++++
 275 REM/\/\/\ MAIN - LOOP/\/\/\
 276 REM ++++++++++++++++++++++++
 278 REM
 280 A$=KEY$: IFJ>5ANDX=35ANDY=24THEN GOSUB1140
 290 IFY=24THEN300
 295 IFSCRN(X,Y+1)<>95ANDSCRN(X+1,Y+1)<>95THENGOSUB430
 300 IFA$=","THENPLOTX,Y,"  ":X=X-1
 310 IFA$="."THENPLOTX,Y,"  ":X=X+1
 320 IFA$="a"THENPLOTX,Y,"  ":Y=Y-3:SOUND1,Y*Y,0:PLAY1,
0,2,1000
 330 IFA$="z"THENPLOTX,Y,"  ":Y=Y+1:PLAY1,1,1,600
 340 IFA$=""THENGOSUB950ELSEGOSUB780
 350 GOSUB845
 360 PLOTX,Y,"AB":GOSUB950
 370 GOTO280
 375 REM
 425 REM /\/\/\ FALLING ROUTINE /\/\/\
 426 REM
 430 IFY=24THENRETURN ELSE REPEAT:PLOTX,Y,"  ":PLOTX,Y+
1,"AB"
 434 Y=Y+1
 435 TT=SCRN(X+1,Y+1):GG=SCRN(X,Y+1):SS=SCRN(X,Y-2):NN=
SCRN(X+1,Y-2)
 440 IFNN=640RSS=64THENGOSUB570:PLOTX,Y-2,"  ":PLOTX-1,
Y-2,4
 450 IFTT=67THENZAP:GOTO640
 460 IFGG=67THENZAP:GOTO640
 470 IFTT=64THENGOSUB570:PLOTX+1,Y+2," ":PLOTX,Y+2,4
 475 IFGG=64THENGOSUB570:PLOTX,Y+2," ":PLOTX-1,Y+2,4
 480 IFSS=95THENPLOTX,Y-1,"_":SC=SC+5
 490 IFGG=36THENGOTO640
 495 IFTT=36THENGOTO640
 510 SOUND1,Y*Y,0:PLAY1,0,1,1000:GOSUB950
 530 IFTT=38THENEXPLODE:WAIT90:PING:GOTO640
 535 IFGG=38THENEXPLODE:WAIT90:PING:GOTO640
 560 UNTILSCRN(X,Y+1)=95ORSCRN(X+1,Y+1)=95ORY=24
 565 RETURN
 570 REPEAT
 574 REM
 575 REM /\/\/\ GET AN EGG /\/\/\
 576 REM
 590 PAPER7 ::WAIT1 :PAPER1:U=U+1:MUSIC1,3,U,0:PLAY1,0,
1,800
 600 UNTILU=6
 610 U=0:INK4:PAPER0:SC=SC+100:J=J+1
 620 IFJ>5 THENZAP:WAIT3:PING
 625 PLOT0,25,1
 630 RETURN
 634 REM
 635 REM/\/\/\ DEATH ROUTINE /\/\/\
 637 REM
 640 FORQ=8TO1STEP-1:MUSIC1,1,Q,0:PLAY1,0,1,2000:WAIT20
:NEXTQ
 650 MUSIC1,0,4,15:VV=46599:XX=46607
 655 FORT=0TO7
 660 VV=VV+1:XX=XX+1
 670 POKEVV,0:POKEXX,0:WAIT5
 680 NEXTT
 690 MUSIC1,1,1,0:PLAY3,7,1,3000:WAIT80:CLS:PRINT:PRINT
:PRINT:PRINT:PRINT
 694 REM
 695 REM     /\/\/\ SCORE + NEW GAME ?/\/\/\
 696 REM
 697 INK0:PAPER1
 700 PRINT" you scored ";SC+QB;" points"
 705 INK7:PAPER0
 710 PRINT" and freed ";QB/10;"creepy crawly's"
 720 PRINT:PRINT" another game (y/n)?"
 730 A$=KEY$: IFA$="y"THENPRINTCHR$(17);CHR$(6): PRINTC
HR$(20):GOTO10
 740 IFA$="n"THENCLS:PRINTCHR$(17);CHR$(6):GOTO1660
 750 GOTO730
 771 REM
 775 REM /\/\/\ STAY ON SCREEN /\/\/\
 776 REM
 780 IFY>24THENY=24
 790 IFY<2THENY=2
 800 IFX>35THENX=35
 810 IFX<2THENX=2
 820 RETURN
 825 REM
 845 REM /\/\/\ EGG CHECK /\/\/\
 846 REM
 850 IFSCRN(X-1,Y)=64THENPLOTX-1,Y," ":PLOTX-2,Y,4:GOSU
B570
 860 IFSCRN(X+2,Y)=64THENPLOTX+2,Y," ":PLOTX+1,Y,4:GOSU
B570
 870 IFSCRN(X+2,Y+1)=64THENPLOTX+2,Y+1," ":PLOTX+1,Y+1,
4:GOSUB570
 875 IFSCRN(X,Y+1)=64THENPLOTX,Y+2," ":PLOTX-1,Y+2,4:GO
SUB570
 880 RETURN
 881 REM
 885 REM /\/\/\ TITLE /\/\/\
 886 REM
 890 CLS:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT:PRIN
T:PRINT:INK7:PAPER0
 900 PRINTCHR$(4);CHR$(27);"J    ________ meccano - man
```

METAL MAN

```
_____"
 910 PRINTCHR$(4);CHR$(6);CHR$(17)
 920 PRINT:PRINT:PRINT"                by G,Morris":PRINT:
PRINT:PRINT:PRINT:PRINT:P
RINT"          For Games computing"
 921 PLOT18,15,"AB"
 940 RETURN
 941 REM
 945 REM /\/\/\ MOVE BUG + BUILDER/\/\/\
 946 REM
 950 E=INT(RND(1)*8):W1=INT(RND(1)*30):PLOTL2,L1,"*"
 955 PLOTL2+1,L1,4:PLOTL2-1,L1-1,4:PLOTL2-1,L1,6
 960 PLOTL2,L1-1," "
 970 IFE=2THENPLOTL2,L1-1,"@":PLOTL2-1,L1-1,7:PLOTL2+1,
L1-1,4
 975 IFE=1ORE=8ORE=4THENPLOTL2,L1-1,"____"
 980 IFW1=2THENPLOTL2,L1-1,"&":PLOTL2-1,L1-1,2:PLOTL2+1
,L1-1,4
 990 IFL1=20THENPLOTL2,L1," ":L1=3:L2=INT(RND(1)*32)+3
 1000 PLOTM2,M1,"$":PLOTM2+1,M1,4:PLOTM2-1,M1-1,4:PLOTM
2-1,M1+1,4:PLOTM2-1,M1,5
 1001 EE=SCRN(M2,M1-1):FF=SCRN(M2-2,M1):RR=SCRN(M2+2,M1
)
 1002 PLOTM2,M1+1,"_"
 1004 IFEE=65THENPLOTX,Y,"AB":GOTO640
 1005 IFFF=65THENPLOTX,Y,"AB":GOTO640
 1006 IFRR=65THENPLOTX,Y,"AB":GOTO640
 1007 IFFF=66THENPLOTX,Y,"AB":GOTO640
 1008 IFRR=66THENPLOTX,Y,"AB":GOTO640
 1015 IFEE=66THENGOTO640
 1040 IFM1<4THENPLOTM2,M1," ":M1=20:M2=INT(RND(1)*32)+3
 1050 L1=L1+1
 1060 M1=M1-1
 1090 RETURN
 1134 REM
 1135 REM/\/\/\ CREEPY-CRAWLY/\/\/\
 1136 REM
 1137 REM/\/\/\ TYPE 1/\/\/\
 1138 REM
 1140 V=INT(RND(1)*2)+1
 1145 IFV=2THEN1210
 1150 FORG=34TO3STEP-1
 1155 IFG<19THENPLOTG+3,23,4
 1156 PLOTG-1,23,1
 1160 PLOTG,23,"/O\":WAIT2
 1170 PLOTG,23,"-O-":WAIT2
 1180 PLOTG,23,"\O/":WAIT2
 1190 PLOTG,23,"   ":SOUND1,G*G,0:PLAY1,0,4,70
 1200 NEXTG
 1204 GOTO1280
 1205 REM
 1206 REM/\/\/\ TYPE 2 /\/\/\
 1207 REM
 1210 FORL=23TO3 STEP-1
 1220 SOUND3,L*L,0:PLAY7,0,1,9000
 1225 PLOT 33,L+1,4:PLOT 36,L,4:PLOT32,L,3
 1230 PLOT33,L,"/O\":WAIT2
 1240 PLOT33,L,"-O-":WAIT2
 1250 PLOT33,L,"\O/":WAIT2
 1260 PLOT33,L,  "   "
 1270 NEXTL
 1280 IFQB=20 THENGOTO1297
 1290 SC=SC+50:QB=QB+10:J=0:PING:RETURN
 1291 REM /\/\/\ WIN GAME /\/\/\
 1295 REM
 1297 CLS: PRINT:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT
 1298 PAPER1
 1300 PRINTCHR$(4);CHR$(27);"N          congratulations
"
 1305 PRINTCHR$(4):FORY=8TO1STEP-1
 1306 FORC=100TO1STEP-15:V=INT(RND(1)*7)+1
 1307 SOUND1,C+Y*30,0:SOUND1,C+Y*5,0:SOUND1,C*Y,0:PLAY1
,0,1,1000:INKV
 1308 NEXTC
 1309 NEXTY:CLS:PRINT:PRINT:PRINT:PRINT:PRINT
 1310 PRINT:PRINT:PRINT:PRINT"   you have freed all":PR
INT
 1313 PRINT"   of the creepy crawly's'
 1315 INK7:PAPER0
 1320 PRINT:PRINT"     with a score of ";SC+QB
 1330 PRINT:PRINT" press 'z' to play or 'r' to end"
 1340 A$=KEY$:IFA$="z"THENPRINTCHR$(20);CHR$(17);CHR$(6
):GOTO10
 1350 IFA$="r"THENPRINTCHR$(6);CHR$(17):GOTO1660
 1360 GOTO1340
 1364 REM
 1365 REM /\/\/\ INSTRUCTIONS/\/\/\
 1366 REM
 1370 PRINT:PRINT:PRINT:PRINT:PRINT" in this game you
meccano-man'"
 1375 PAPER6
 1380 PRINT:PRINT" must free the creepy crawly's,"
 1390 PRINT:PRINT"from the jar down in the bottom corne
r"
 1400 PRINT:PRINT" you can only free them one at a time
"
 1410 PRINT:PRINT"  (and only when you have eaten 6 bug
 eggs)"
 1420 PRINT" You score points by eating eggs and  by fr
eeing the creepy crawly's
"
 1430 PRINT" by jumping up and touching the       mecca
no you can pull it down"
 1440 PRINT"   and score more point's"
 1450 PRINT:PRINT" but beware!! you are not alone on th
e building site"
 1460 PRINT:PRINT:PRINT"      push any key"
 1470 IFKEY$=""THEN1470 ELSESHOOT:PAPER2
 1480 CLS:PRINT:PRINT:PRINT"   a mutant builder is cons
tantly       laying mecca
no"
 1490 PRINT:PRINT"  you can stand on the meccano he lay
s"
 1500 PRINT:PRINT"   but bump into him ahd you've had i
t"
 1510 PRINT:PRINT"   a  helpful bug goes round laying
  eggs and the odd   "
 1515 PRINT"  piece of meccano now and then ,
but watch out"
 1520 PRINT:PRINT"  that you dont jump on any poisionou
s toadstools that he drop
s"
 1530 PRINT"   walking into them is quite harmless thou
gh"
 1540 PRINT"    falling from great hieghts          is
painless "
 1550 PRINT:PRINT"  so is falling onto the fence,if you
 dont hit the spikes!"
 1560 PRINT:PRINT"    press any key's for controls"
 1570 IFKEY$=""THEN 1570ELSEPING:PAPER5
 1580 CLS:PRINT:PRINT:PRINT:PRINT:PRINT"  the controls
are as follows"
 1590 PRINT:PRINT" a= jump"
 1600 PRINT:PRINT" z= dig"
 1610 PRINT:PRINT" <= left"
 1620 PRINT:PRINT" >= right"
 1630 PRINT:PRINT:PRINT:PRINT:PRINT:PRINT"     good luc
k !!!"
 1640 PRINT:PRINT"       press any key"
 1650 IFKEY$=""THEN1650 ELSEINK4:PAPER0:RETURN
 1660 PRINTCHR$(20):PING:END
 1664 REM
 1665 REM/\/\/\ TITLE MUSIC/\/\/\
 1666 REM
 1670 FORG=100TO1STEP-5
 1684 PLOT3,9,INT(RND(1)*6)+1:PLOT3,10,INT(RND(1)*6)+1
 1685 SOUND1,G,0:PLAY1,0,1,1000:SOUND1,G+20,0:SOUND1,G+
50,0
 1690 NEXT
 1694 IFN=1THENEXPLODE:CLS:INK0:RETURN
 1695 N=1:FORG=1TO100STEP5:GOTO1685
 1700 END
```

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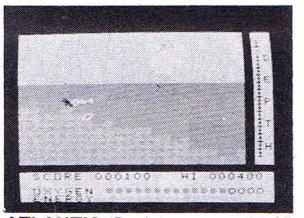

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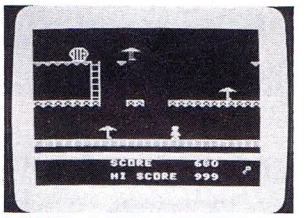

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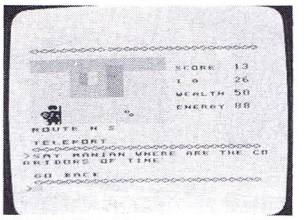

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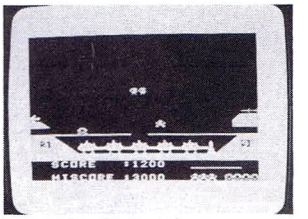

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GC

PUZZLES

ANSWERS

1. THAT'LL TEACH YOU

There is of course a logical solution. Since 1247 = 178 × 7 + 1 and if you imagine the doors in sets of 7 — first A-G then H-B, then 178 sets will finish at B. One more takes you to A. I'd better check that. 1,2,3,4,5....

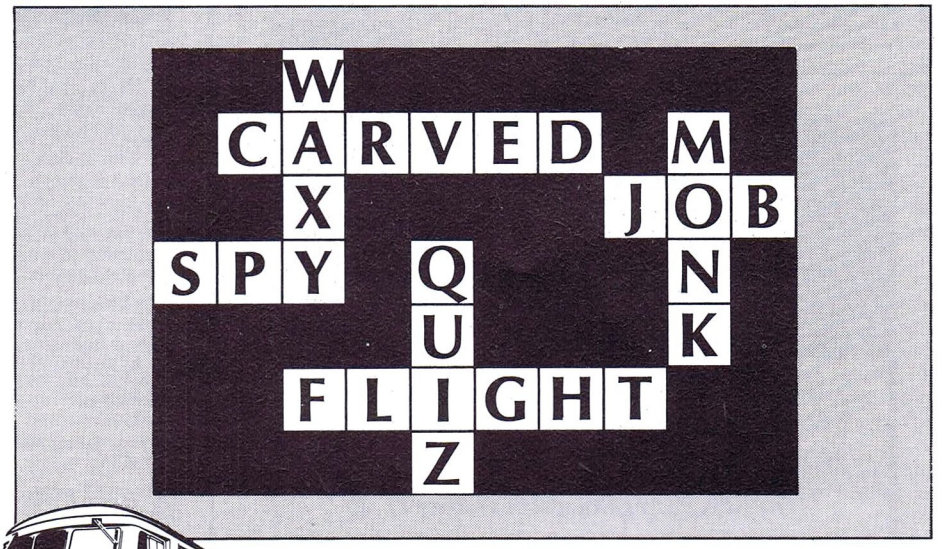
2. GUEST SPOT

The ladder does tend to rise with the ship — so 2 rungs only.

He cannot reach the button for the 14th floor — he is a midget working at the local circus. He can just reach the 7.

1.5 and 0.5

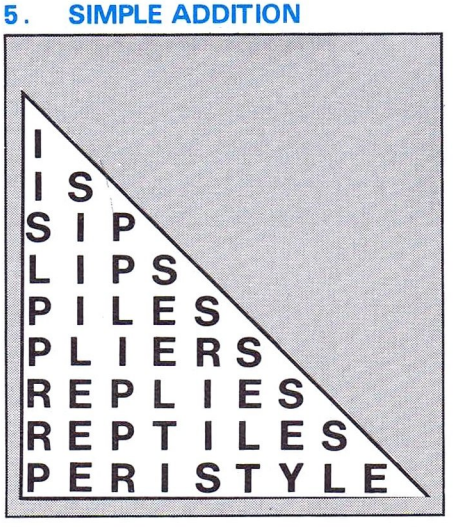
3. ABC



4. 100 LINES

The poor old goods train driver backs into the siding and unhooks 3 wagons, then moves some way down the line. The express comes along, passes the siding, backs up and picks up the 3 wagons, moves them out and backs down the line. The goods train nips into the siding. The express, now hopelessly late, unhitches the wagons and moves off. The goods train eventually emerges and goes back in search of three spare wagons back up the line somewhere. Things improved after nationalistion.

5. SIMPLE ADDITION



6. HISTORY LESSON

The newspaper was under a door with one stood each side of it. ''The things we do for Lou and Les'' said one. And the other agreed.

7. FULL MARKS

	X	X		
				O
X				
X	X			
			O	O

8. TERM TIME

RISE	BOOT	SLOW
RILE	LOOT	SLOT
FILE	LOOK	SOOT
FILL	LOCK	LOOT
FALL	LACK	LOST
	LACE	LAST
		FAST

9. PHYSICAL TRAINING

For those of you asleep at the back; try the first line again. If still in doubt, check the name tag sewn onto your school blazer.

ADVENTURE into PROGRAMMING

Here is the long awaited second part of our series on writing adventures. This month the subject is setting up the scenario.

Now that you have created the map for your game, you must decide what objects you want to find in the different locations and any responses such as 'O.K.' or 'I can't go in that direction' which might be given more than once. These will then need to be placed into DATA statements and I would recommend locating the data at the very end of the program so that it is easy to see where any mistakes occur. Listing 1 should give you the idea.

One difficulty you might find is that your descriptions may be too long to fit into DATA statements. Owners of VICs, and C64s in particular should try to keep the length of their descriptions short so that they will fit into the DATA lines. Spectrum, and BBC owners are more fortunate, although very long descriptions will eat up memory space in BBCs and VICs (unless you have managed to use a data compression technique).

Our next task is to DIMension the arrays and READ the DATA into them. Supposing the game has 30 locations, 24 objects and 40 common phrases, then listing 2 shows one method of reading this data. You will notice that I have used single letter variable names. It is possible to use meaningful names on machines like the Electron, but generally in an adventure game you are trying to fit a large volume of text into the computer and you will need to save every byte of memory. I have used integer arrays (A% rather than A) because in most machines they use much less memory and often run faster as well, if you use a machine which does not support these, just leave the % sign off.

Variables Used

A$(X)	holds the description of locations
A%(X,Y)	holds the map (as explained last month)
B$(X)	holds the description of objects
B(X)	holds the pointer to the location found
C$(X)	holds the word recognised
D$(X)	holds the phrases.

Thus going North from location 1 will take you to location 2, South to location 3, East to location 5 etc.

Listings 1 and 2 will work for the majority of computers, but Spectrum owners will need to make the following changes:

a. String variables in DATA statements MUST be included in inverted commas. Thus line 10010 will be:

```
10010 DATA ''in a graveyard'',2,3,5,7
```

b. When DIMensioning the arrays, you will need to separate the arrays with colons and in addition, string arrays will need a second number to indicate the maximum number of letters it can hold. Thus line 20 could be changed to:

```
20 DIM a$(30,100): DIM a(30,4): DIM b$(24,100): DIM.....
```

This means that each location's description can hold a maximum of 100 letters.

c. Change all capital letters from variable names into small letters.

Listing 1

```
10000 REM * * locations followed by map * *
10010 DATA in a graveyard,2,3,5,7
20000 REM * * objects found * *
20010 DATA a crucifix,4,CRUCIFIX
30000 REM * * * common phrases
30010 DATA not likely, O.K.,
```

Listing 2

```
 10 REM * READ the DATA into arrays * *
 20 DIM A$(30),A%(30,4),B$(24),B%(24),C$(24),D$(40)
 30 FOR X=1 TO 30
 40 READ A$(X)
 50 FOR Y=1 TO 4
 60 READ A%(X,Y)
 70 NEXT Y,X
 80 FOR X=1 TO 24
 90 READ B$(X),B%(X),C$(X)
100 NEXT X
110 FOR X=1 TO 40
120 READ D$(X)
130 NEXT X
```

A major problem you are likely to encounter when you first attempt to write an adventure game is that of jumping out of loops. Having been brought up with MICROSOFT basic, I found it difficult at first to convert to BBC BASIC, where only 10 nested FOR NEXT loops are permitted and I rapidly ran into problems of TOO MANY FOR'S IN LINE 1000 errors.

I would strongly advise you to plan your program structure very carefully so that if you do jump out of a loop, you jump back into it at the same point and that your subroutine does not in itself include more than 1 jump.

Oric owners have a statement available which can get them out of this difficulty. POP will remove the last pointer from the stack. It is much better, however, to write a program which is well structured as it makes debugging far easier.

Listing 3 shows one method of writing the main control loop. I have chosen to use the variable P% as a pointer to the current location, so that the program starts in location 1, although there is no reason why you can't start at any other location.

This listing shows the basic idea, but will need to be adapted for other machines. You will notice that the routine REPEATs the loop until the score is 100 percent:

```
repeat
clear the screen
print description of location
print directions you can go in
print description of objects
input your action
call procedure to split input sentence up into two words
call procedure dependent upon your first word
until score=100%
```

Machines which don't support the REPEAT UNTIL loop should delete line 160 and replace line 1000 with:

```
IF SCORE <100 THEN GOTO 170
```

You could also introduce colour into the display using for example:

```
180 PRINT CHR$(129) ''I can go'' will produce red text on BBC and ORIC, other machines should use INK, BRIGHT etc as appropriate.
```

Line 320 calls PROCobjects which I will deal with next month in detail. Most machines do not have procedures and therefore you should replace this line with GOSUB line number. In a similar way, PROCword is called from the main loop, where it splits your input into two words.

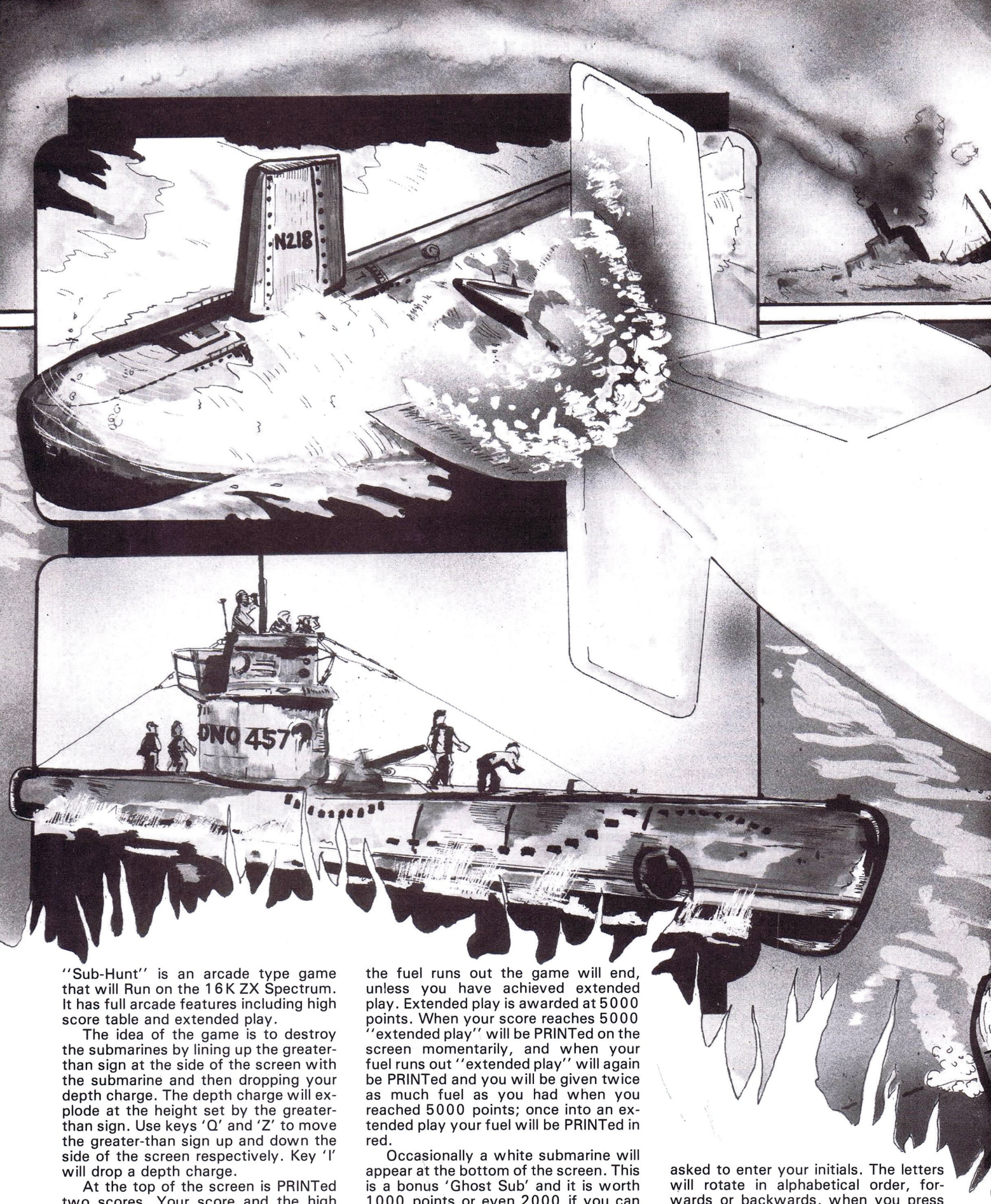
If, for example, you INPUT the response EAT FOOD when prompted 'What shall I do?', the program will send the input string F$ to the procedure (or subroutine) which will split it into two words and return the program to the following line (360). Thus the variable G$ will hold the word 'EAT' and H$ 'FOOD'.

Listing 3

```
140 REM * * Main control loop. BBC/ELECTRON version * *
150 LET P%=1
160 REPEAT
170 CLS: REM Commodore users change this line
180 PRINT '' I am '';A$(1)
190 PRINT '' I can go ''
200 LET E$=''''
210 IF A%(P,1)>0 THEN LET E$=''North''
220 IF A%(P,2)>0 THEN LET E$=E$+''South''
230 IF A%(P,3)>0 THEN LET E$=E$+''East''
300 PRINT E$ :REM print directions
310 PRINT ''I can see: ''
320 PROCobjects
330 PRINT ''What shall I do '';
340 INPUT F$
350 PROCword
360 IF G$=''N'' THEN PROC north
370 IF G$=''EAT'' THEN PROCeat
1000 UNTIL SCORE=100
1010 PROCwin
```

Next Month

Next month, I shall look at these procedures in more detail and explain how to move around the different locations.



"Sub-Hunt" is an arcade type game that will Run on the 16K ZX Spectrum. It has full arcade features including high score table and extended play.

The idea of the game is to destroy the submarines by lining up the greater-than sign at the side of the screen with the submarine and then dropping your depth charge. The depth charge will explode at the height set by the greater-than sign. Use keys 'Q' and 'Z' to move the greater-than sign up and down the side of the screen respectively. Key 'I' will drop a depth charge.

At the top of the screen is PRINTed two scores. Your score and the high score. If your score is greater than the high score, your score will go white. When you hit a submarine you will be given points; the deeper the submarine is the more points you will get. You will get double points if you hit the submarine in the centre.

At the side of the screen is a fuel scale that will gradually go down. When the fuel runs out the game will end, unless you have achieved extended play. Extended play is awarded at 5000 points. When your score reaches 5000 "extended play" will be PRINTed on the screen momentarily, and when your fuel runs out "extended play" will again be PRINTed and you will be given twice as much fuel as you had when you reached 5000 points; once into an extended play your fuel will be PRINTed in red.

Occasionally a white submarine will appear at the bottom of the screen. This is a bonus 'Ghost Sub' and it is worth 1000 points or even 2000 if you can hit it in the centre. If you press key 'M' your ship will thrust but you will use up a lot more fuel.

When the game starts, a tune will be played. A different tune will be played at the end of the game.

When the game has finished, providing your score is greater than 0 and you are in the top ten scores, you will be asked to enter your initials. The letters will rotate in alphabetical order, forwards or backwards, when you press keys 'Q' or 'I'. When the correct letter is selected, press key 'M' and go on to the next letter. When you have entered all three initials, the high score table will be displayed. The initials that you have just entered will appear on the table in white.

Another game will start after 10 seconds or when any key is pressed.

RUNS ON
SPECTRUM
16K
SUB
HUNT

SUB-SHUNT

RUNdown

Lines **Action**

Pre-game routine

130-150 Clear the screen and fill it with cyan (5) water and the blue (1) fuel scale.

170-180 Initialize all variables that require re-setting before each game. Other variables are set during the initialisation routine (line 1000 onwards).

Main game loop

190 PRINT cursor (>) at correct position and PRINT spaces above and below it to erase its last image.

200 Allow cursor's position to be altered by keys 'Q' and 'Z'. Note that whenever necessary, IN has been used instead of INKEY$ (see chapter 23 of manual) so that one or more keys can be read simultaneously.

210 PRINT boat followed by 2 spaces to erase its last image.

220 PRINT submarine followed by a space to erase its last image. If submarine is at maximum depth (20) then PRINT it in white (7).

230 If a depth charge is in the water then GOTO the relevant sub-routine (330-380, see next section). Note that this routine returns to line 250, thus not allowing two depth charges in the water at the same time.

240 Allow a new depth charge to be dropped (key 'I').

250 Increment variables 'tf' and if player wishes to abort game then GOTO 390, the after game routine.

260 If 'tf' is now greater than or equal to 3 then reset it to 0, erase the top part of the fuel scale and decrement the variable 't' (fuel remaining.)

265 If extended play has just been achieved then call routine at line 720 to indicate this to the player and LET the variable 'Z' equal the amount of fuel you have remaining (t).

270 If fuel has run out, extended play has not yet been used, and score is over or equal to 5000 points then call the routine to line 720 again and GOTO 680, which gives extended play.

275 If fuel has run out then GOTO 390, the after game routine.

280 Move submarine and boat and check if hold (key 'H') is pressed.

290 If thrust (key 'M') is pressed then move boat another step and decrease fuel by another 2 steps.

300 If the submarine has reached the far right of the screen, then erase it, reset it to the start of its path and give it a new, random height.

310 If the ship has reached the far left of the screen, then erase it, and reset it to the start of its path.

320 PRINT score and high score. If score is greater than high score, then PRINT it in white (7).

325 If this is the first time around the loop, then play introductory tune (line 560) before continuing.

327 Return to the start of the loop (line 190).

Depth charge routine

330 Set all variables used by this section.

340 Increment the variable that controls the depth of the missile. PRINT relevant character (first character of a$) below a space to erase its last image.

350 Re-shuffle the characters of a$ to bring the next character needed to the front of the string.

360 If a depth charge has reached the bottom of the screen or the height of the cursor then erase it.

370 Check for hits, award scores. BEEP, erase any sunken submarines, reset them to the far left of the screen and give them a new random height.

380 Return from routine (line 250).

After game routines

390-400 Call depressing tune (line 570) and compare last score with the 10

RUNS ON SPECTRUM 16K

held in the table in turn. If the score does not rank then GOTO 530.

410 Clear the screen.

420-422 PRINT instructions in teletype style. Note that in all such routines a key press will terminate the effect and simply PRINT (though without colour) the remaining text.

425-490 Form the arcade style entering of the initials. Line 430 PRINTs the letters, lines 440-460 alter them according to key presses, line 470 is a simple delay loop, line 480 fixes an initial, moving to the next, and line 490 returns to line 430 completing the cycle.

500 Shift all the scores in the table below the latest one down 1 position in the table, discarding the lowest score.

510-520 Place latest score and initials in the table at the correct point.

530 Tow on words 'todays greatest' behind the ship, which then chugs off.

540 PRINT scores (preceeded by 0's if necessary) and initials of top 10 players. PRINT latest score initials in white.

550 PAUSE (10 seconds), clear the screen and start a new game.

Game tunes

560 Play before game 'cheery' tune.

570 Play after game 'depressing' tune.

Instructions

580-590 Tow on words 'sub hunt' behind the submarine (line 580) which then chugs off (line 590).

620-660 PRINT the first sheet of instructions in teletype style.

670-675 Wait for a key press then PRINT the second sheet of instructions in teletype style. Wait for a key press then clear the screen and RETURN (line 1170).

Extended play routine

580-710 Decrease extremely large figure (z).

681 Increase extremely small figure (z).

685 Re-draw fuel scale to the required height.

690-700 Reset variables.

710 GOTO 280.

PRINT 'EXTENDED PLAY' routine

720 Set PAPER colour to cyan (5)

730-780 PRINT and erase the words 'EXTENDED PLAY' five times.

790 Set PAPER colour back to green (4).

800 RETURN.

Initialise

1010 Set screen colours

1020-1040 Create graphics. Note that my method of creating graphics is shorter than the usual ones used.

1050-1110 Data for U.D.G's.

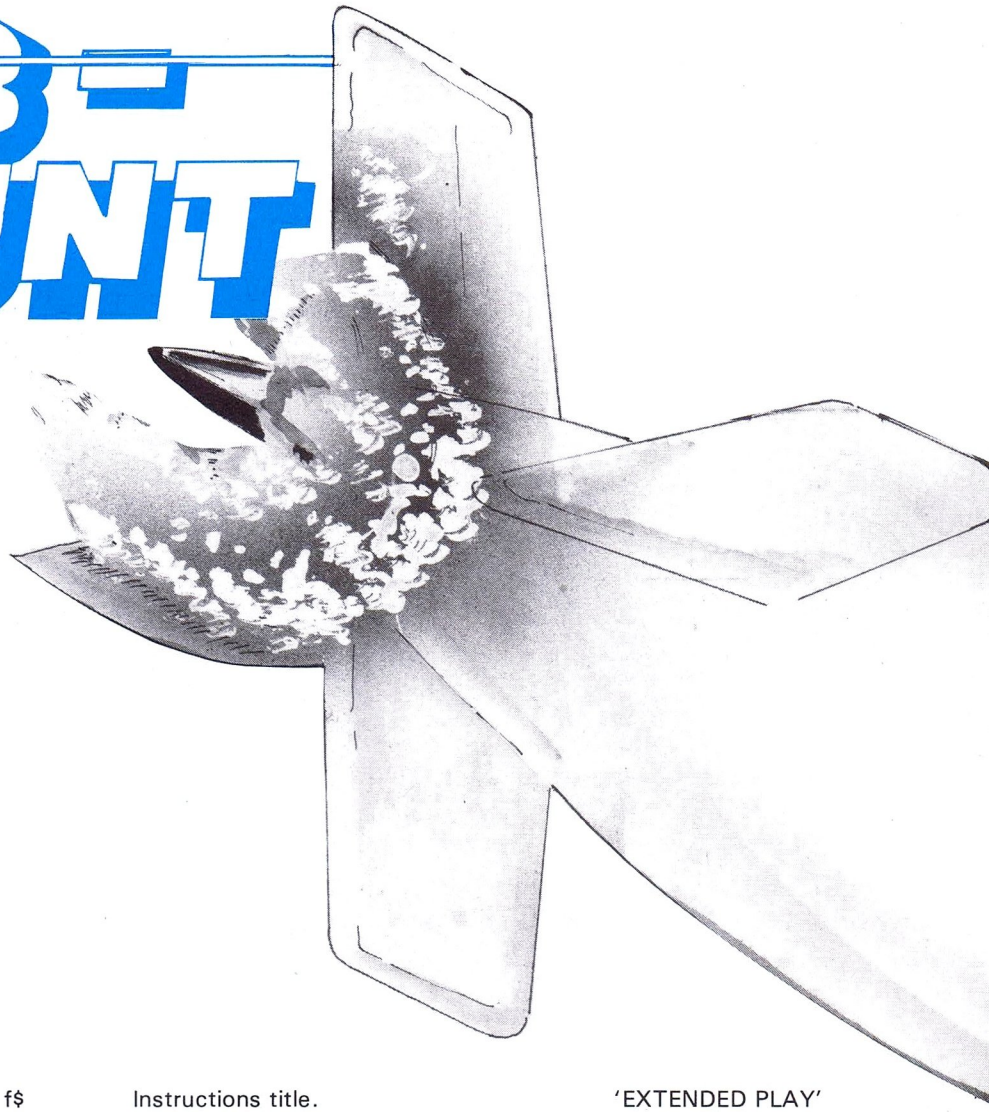
1130-1160 Initialise strings containing instructions.

1165 Initialise graphic strings and the arrays which hold the high scores and initials. If instructions are required then GOTO the subroutine at line 580.

Graphics

Lines	Graphic
130	29 inverse spaces, 1 space, 1 inverse space
210	Graphics A,B,C and 2 spaces

SUB-SHUNT



220	1 space and Graphics D,E,F
530	Graphics A,B,C and 1 space, Graphics B,C and 1 space, Graphic C and one space, 1 space
590	1 space and Graphics D,E,F, 1 space and Graphics D,E, 1 space and Graphic D, 1 space
1165	Graphics A,B,C,G and 8 spaces 12 spaces and Graphics G,D,E,F.

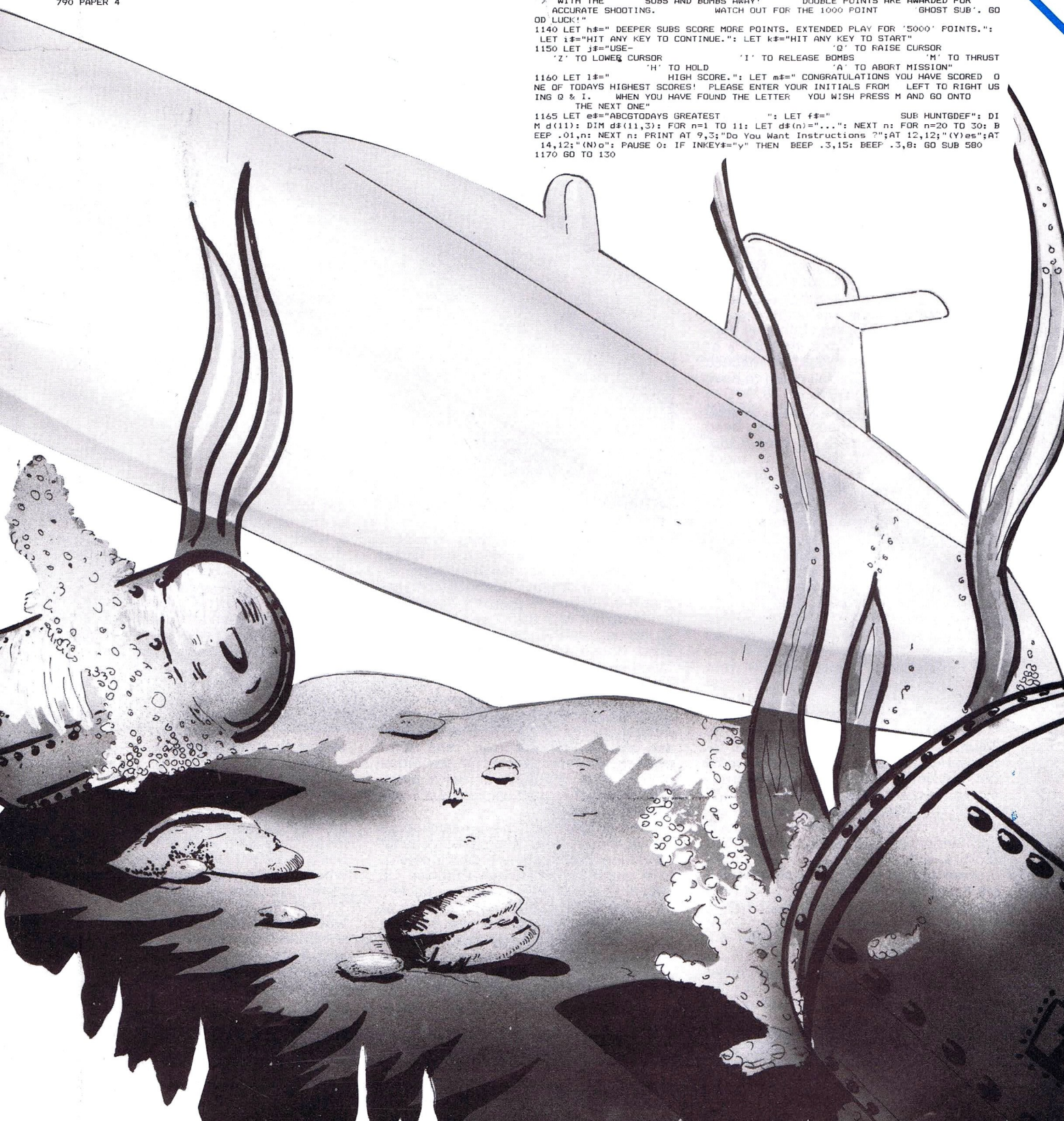
Variables Used

a	Used for defining graphics.
a$	String containing the four stages of the rotating bomb
c(x)	Three element array containing the character codes of the three letters being entered as initials minus 65
d	'x' co-ordinate of depth charge.
dc	'y' co-ordinate of depth charge.
d(x)	Eleven element array containing the 11 highest scores.
d$ (x,y)	Eleven by 3 element array containing the initials of the 11 high scorers.
ef	Flag to show if extended play has been awarded (1 = yes)
e$	High score table title
f	Flag to show if depth charge has been dropped.
f	Control variable of delay loop (independent of its other use).
f$	Instructions title.
g$	First set of instructions.
hc	Height of cursor.
hs	Height of submarine.
h$	Second set of instructions.
i$	Terminator of first screen of instructions.
j$	Second screen of instructions.
k$	Terminator of instructions.
l$	High score instructions title.
m$	High score instructions.
n	General purpose control variable.
n	Position of latest score in table.
pb	'x' co-ordinate of boat.
pf	Flag to show if 'EXTENDED PLAY' message has been shown.
ps	'x' co-ordinate of submarine.
s	Score of current player
sf	Flag to show if this is the first revolution of the main loop.
t	Fuel remaining: Also corresponds to the 'y' co-ordinate of the next points of the fuel scale to be erased.
tf	Counter of number of times the main loop has been executed: used in decreasing the players fuel.
z	Value of 't' when extended play achieved.

```
  0>REM * I&B BILLUPS 1983 *
 120 NEW
 130 CLS : FOR n=21 TO 4 STEP -1
 140 PRINT  INK 5;AT n,1;"                                                    "; INK 1;"■"
 150 NEXT n
 170 LET pf=0: LET sf=0: LET ef=0: LET tf=0: LET t=144: LET s=0: LET hc=10: LET
ps=1: LET pb=27: LET f=0: LET a$=":\G/"
 180 LET hs=INT (RND*15)+6
 190 PRINT AT hc,0;">";AT hc-1,0;" ";AT hc+1,0;" "
 200 LET hc=hc+(IN 65278=253 AND hc<20)-(IN 64510=254 AND hc>4)
 210 PRINT AT 3,pb;"ABC  "
 220 PRINT  INK (hs=20)*7; PAPER 5;AT hs,ps;" DEF"
 230 IF f=1 THEN  GO TO 340
 240 IF IN 57342=251 THEN  GO TO 330
 250 LET tf=tf+1: IF INKEY$="a" THEN  GO TO 390
 260 IF tf>=3 THEN  LET tf=0: INK 1+ef: LET t=t-1: PLOT  OVER 1;248,t: DRAW  OVE
R 1;7,0: INK 0
 265 IF s>=5000 AND pf=0 THEN  LET pf=1: GO SUB 720: LET z=t
 270 IF t=0 AND ef=0 AND s>=5000 THEN  GO SUB 720: GO TO 680
 275 IF t=0 THEN  GO TO 390
 280 LET ps=ps+1: LET pb=pb-1: IF INKEY$="h" THEN  PAUSE 10: PAUSE 0
 290 IF IN 32766=251 THEN  LET pb=pb-1: LET tf=tf+2
 300 IF ps=27 THEN  PRINT  PAPER 5;AT hs,ps;"   ": LET ps=1: LET hs=INT (RND*15)
+6
 310 IF pb<=0 THEN  PRINT AT 3,pb;"     ": LET pb=27
 320 PRINT  INK (s>d(1) AND d(1)>0)*7;AT 0,1;"SCORE ";s;AT 0,25-LEN (STR$ d(1));
 INK 0;"HIGH ";d(1)
 325 IF sf=0 THEN  GO SUB 560: LET sf=1
 327 GO TO 190
 330 LET f=1: LET d=4: LET dc=pb+1:
 340 LET d=d+1: PRINT  PAPER 5;AT d,dc;a$(1);AT d-1,dc;" "
 350 LET a$=a$(2 TO )+a$(1)
 360 IF d=hc OR d=21 THEN  LET f=0: PRINT  PAPER 5;AT d,dc;" "
 370 IF hc=hs AND hs=d AND (dc=ps+1 OR dc=ps+2 OR dc=ps+3) THEN  LET s=s+(10*hs*
(1+(dc=ps+2)))+(hs=20)*800+(hs=20 AND dc=ps+2)*800: BEEP .1,hs: PRINT  PAPER 5;A
T hs,ps;"   ": LET ps=1: LET hs=INT (RND*15)+6
 380 GO TO 250
 390 GO SUB 570: FOR p=1 TO 10: IF s>d(p) THEN  GO TO 410
 400 NEXT p: GO TO 530
 410 CLS
 420 FOR n=1 TO 21: PRINT i$(n);: BEEP .005,30-(i$(n)=" ")*30: NEXT n: PRINT '''
': BEEP .05,20: PLOT 78,167: DRAW 88,0: FOR n=1 TO 216: PRINT m$(n);: BEEP .005,
30-(m$(n)=" ")*30: IF INKEY$<>"" THEN  PRINT m$(n+1 TO ): GO TO 425
 422 NEXT n
 425 BEEP .3,15: BEEP .3,8: DIM c(3): FOR n=1 TO 3
 430 PRINT AT 18,14;CHR$ (c(1)+65);CHR$ (c(2)+65);CHR$ (c(3)+65)
 440 IF c(n)=0 AND INKEY$="q" THEN  LET c(n)=26
 450 IF c(n)=25 AND INKEY$="i" THEN  LET c(n)=-1
 460 LET c(n)=c(n)+(INKEY$="i" AND c(n)<25)-(INKEY$="q" AND c(n)>0)
 470 FOR f=1 TO 10: NEXT f
 480 IF INKEY$="m" THEN  BEEP .01,20: NEXT n: GO TO 500
 490 GO TO 430
 500 FOR n=11 TO p+1 STEP -1: LET d(n)=d(n-1): LET d$(n)=d$(n-1): NEXT n
 510 LET d$(p)=CHR$ (c(1)+65)+CHR$ (c(2)+65)+CHR$ (c(3)+65)
 520 LET d(p)=s
 530 PAUSE 25: PAUSE 25: CLS : FOR n=1 TO 25: PRINT AT 3,30-n;e$( TO n): BEEP .0
1,0: BEEP .01,1: NEXT n: FOR n=5 TO 0 STEP -1: PRINT AT 3,n;"ABC ": BEEP .01,0:
BEEP .01,1: NEXT n: PRINT AT 3,0;"BC ": BEEP .01,0: BEEP .01,1: PRINT AT 3,0;"C
": BEEP .01,0: BEEP .01,1: PRINT AT 3,0;" "
 540 PRINT ''': FOR n=1 TO 10: BEEP .01,n: PRINT TAB 11;: FOR m=1 TO 5-LEN (STR$
 d(n)): PRINT ;"0";: NEXT m: PRINT ;d(n);"   "; INK (p=n)*7;d$(n): NEXT n
 550 PAUSE 500: CLS : GO TO 130
 560 BEEP .3,7: EEP .1,9: BEEP .1,11: BEEP .1,12: BEEP .4,14: PAUSE 5: BEEP .3,1
6: BEEP .3,18: BEEP .4,19: RETURN
```

```
 570 BEEP .9,4: BEEP .9,0: BEEP 1,-3: BEEP .3,-3: BEEP .3,0: BEEP .3,-3: BEEP 1.
3,-7: RETURN
 580 CLS : FOR n=24 TO 1 STEP -1: PRINT AT 2,0;f$(n TO ): BEEP .01,10: BEEP .01,
11: NEXT n
 590 FOR n=20 TO 28: PRINT AT 2,n;" DEF": BEEP .01,10: BEEP .01,11: NEXT n: PRIN
T AT 2,29;" DE": BEEP .01,10: BEEP .01,11: PRINT AT 2,30;" D": BEEP .01,10: BEEP
 .01,11: PRINT AT 2,31;" "
 620 PLOT 96,151: DRAW 64,0: BEEP .05,20: PRINT '': FOR n=1 TO 315: PRINT  INK (
n>293 AND n<303)*7;g$(n);: BEEP .005,30-(g$(n)=" ")*30: IF INKEY$<>"" THEN  PRIN
T ;g$(n+1 TO ): GO TO 630
 625 NEXT n
 630 BEEP .3,15: BEEP .3,8
 640 PRINT '': FOR n=1 TO 64: PRINT  INK (n>51 AND n<56)*2;h$(n);: BEEP .005,30-
(h$(n)=" ")*30: IF INKEY$<>"" THEN  PRINT ;h$(n+1 TO ): GO TO 650
 645 NEXT n
 650 BEEP .3,15: BEEP .3,8
 660 PRINT '';"          ";: FOR n=1 TO 24: PRINT i$(n);: BEEP .005,30-(i$(n)=" ")
*30: NEXT n
 670 BEEP .3,15: BEEP .3,8: PAUSE 10: PAUSE 0: PAUSE 10: CLS : PRINT '''''': FOR
n=1 TO 218: PRINT j$(n);: BEEP .005,30-(j$(n)=" ")*30: IF INKEY$<>"" THEN  PRINT
 ;j$(n+1 TO ): GO TO 675
 672 NEXT n
 675 BEEP .3,15: BEEP .3,8: PRINT AT 21,10;: FOR n=1 TO 20: PRINT k$(n);: BEEP .
005,30-(k$(n)=" ")*30: NEXT n: PAUSE 0: BEEP .3,15: BEEP .3,8: CLS : RETURN
 680 IF z>70 THEN  LET z=70
 681 IF z<30 THEN  LET z=30
 685 INK 2: FOR n=0 TO 2*z: PLOT 248,n: DRAW 7,0: BEEP .01,n/3: NEXT n: INK 0
 690 LET ef=1
 700 LET t=2*z+1
 710 GO TO 280
 720 PAPER 5
 730 FOR n=1 TO 5
 740 PRINT AT 21,9;"EXTENDED PLAY"
 750 BEEP .1,20
 760 PRINT AT 21,9;"              "
 770 BEEP .1,10
 780 NEXT n
 790 PAPER 4
 800 RETURN
1000 REM *** INITIALISE ***
1010 BORDER 4: PAPER 4: CLS
1020 FOR n=0 TO 55
1030 READ a: POKE USR "a"+n,a
1040 NEXT n
1050 DATA 0,3,3,255,127,63,31,15
1060 DATA 24,255,255,255,255,255,255,255
1070 DATA 0,192,254,254,252,252,248,240
1080 DATA 0,0,63,127,255,127,63,31
1090 DATA 24,24,255,255,255,255,255,255
1100 DATA 0,0,252,254,255,254,252,248
1110 DATA 0,0,0,0,126,0,0,0
1130 LET g$="  HIT AS MANY SUBS AS POSSIBLE     BEFORE YOUR FUEL RUNS OUT.    US
E THRUST FOR EXTRA SPEED BUT       ITS COSTLY ON FUEL.        JUST LINE UP YOUR
'>' WITH THE       SUBS AND BOMBS AWAY!       DOUBLE POINTS ARE AWARDED FOR
   ACCURATE SHOOTING.          WATCH OUT FOR THE 1000 POINT       'GHOST SUB'. GO
OD LUCK!"
1140 LET h$=" DEEPER SUBS SCORE MORE POINTS. EXTENDED PLAY FOR '5000' POINTS.":
 LET i$="HIT ANY KEY TO CONTINUE.": LET k$="HIT ANY KEY TO START"
1150 LET j$="USE-                                    'Q' TO RAISE CURSOR
   'Z' TO LOWER CURSOR              'I' TO RELEASE BOMBS              'M' TO THRUST
                  'H' TO HOLD                        'A' TO ABORT MISSION"
1160 LET l$="          HIGH SCORE.": LET m$=" CONGRATULATIONS YOU HAVE SCORED  O
NE OF TODAYS HIGHEST SCORES!  PLEASE ENTER YOUR INITIALS FROM   LEFT TO RIGHT US
ING Q & I.    WHEN YOU HAVE FOUND THE LETTER   YOU WISH PRESS M AND GO ONTO
      THE NEXT ONE"
1165 LET e$="ABCGTODAYS GREATEST         ": LET f$="              SUB HUNTGDEF": DI
M d(11): DIM d$(11,3): FOR n=1 TO 11: LET d$(n)="...": NEXT n: FOR n=20 TO 30: B
EEP .01,n: NEXT n: PRINT AT 9,3;"Do You Want Instructions ?";AT 12,12;"(Y)es";AT
 14,12;"(N)o": PAUSE 0: IF INKEY$="y" THEN  BEEP .3,15: BEEP .3,8: GO SUB 580
1170 GO TO 130
```

RUNS ON SPECTRUM 16K



ROCKMAN FILES

This month Simon Rockman the hair brained hacker is at it again with the QL and a new film from Virgin featuring a 12 foot high Pac-Man!

This ''Rockman Files'' is being written on a Sinclair QL using the ''Quill'' word processor, partly to prove to myself that it works and partly to test the TYEPRO RS232 to Centronics interface.

Quill has developed a poor reputation, it isn't as bad as a lot of people have been saying. It is however very slow, so perhaps my expectations are lower than other peoples.

I have just received the first issue of QLUB news. This is the newsletter of the official QL user group. Run for Sinclair by Psion, it provides support for the bundled packages and is supposed to be an information exchange. Issue 1 is pathetic, three sheets of unfilled waffle. The big news item is that 65% of QL owners have joined QLUB. I reached for my calculator. Sinclair claim to have sold 15,000 QL's. 65% of 15,000 is 9750. Each of these members paid £35 so QLUB's income has been £341,250. The result is very disappointing and can't have taken much more than a day to prepare, let alone the six months or so since the computer was launched.

''K-OS'' at Sinclair

The newsletter is divided into many paragraph long sections. One explains that some QLs were shipped with ROM cartridges and that these would be replaced by the end of August. This is not really news, I got my ROM refit voucher the week before the newsletter arrived. There is a bit of general hype about the Psion packages and some hints on filling in the complaint form to Psion. The next page is full of hype for Sinclair and an appeal for material to fill the newsletter — they need it! There is a promise that QLUB members will hear about the new developments in advance of the public. However there is no mention of hard disks, SuperBASIC toolkits, expansion boxes, RAM packs or even add-on microdrives all of which are due to be launched. The list of third party languages does not include GST's 68K-OS. The ''technical section'' is not really technical at all, in the main it is a statement of the obvious.

The comment that files to a printer should be opened with ''ser1c'' if your printer uses CHR$(13) for end of line implies that some printers are non-standard when it is really the QL at fault. There is a section with some errata for the Archive manual. I realise that it is difficult to print a first issue of anything but with the close contact that QLUB has with Sinclair I would have at least hoped for an interview with a member of the QL development team. The Independent QL user group has produced six newsletters, with some quite useful info, the print quality is not a patch on the official version but they are free to ''Sinclair-bash'' and don't have to pretend that bugs are either unimportant, features, or don't exist. This means that they can suggest ways around the bugs.

Odd gossip that I have heard about the QL shows how much it was changed during the machine's development. It is common knowledge that the QL was supposed to have a battery backed up clock and that this was removed at the last minute. It was taken out so late that Sinclair had already bought all the batteries! Maybe they can sell them to ICL for the QL derived One-Per-Desk (OPD) computer-cum telephone.

There are very few monitors which can cope with the full size screen on the QL. This is because the QL was originally supposed to be sold with a monitor so the non-standard screen size did not matter. Judging from the number of people I have heard complaining about having to buy a monitor with an Amstrad I reckon that Sinclair was right to sell the QL on its own.

There will be a Sinclair badged monitor in the ''near'' future and an eight colour dot-matrix printer. There will also be a full set of accounting programs from Sinclair but they may be pipped to the post by a firm called Quest who are selling CP/M 68K with proper disk drives for the QL. This will open up the range of software for the QL tremendously.

There is a fair bit of CP/M 68K software around, not as much as for the other CP/M systems and it's pricey but that's better than nothing.

Virgin's Electric Dreams

It is unusual for Games Computing to get invitations to anything other than computer and games launches so when a spare ticket for the new Virgin film ''Electric Dreams'' was offered to me I jumped at the chance. If you get annoyed at people pretending that computers are magic then this is not a film for you. The abilities of the computer in the film are pure fantasy, so far beyond fifth generation they would make the Japanese wince. Suspend reality and accept what is presented as you would in a Herbie film and it is great fun. Computer graphics fans will enjoy the scenes of the hero getting chased by a twelve foot high Pac-man.

The hardened critics at the preview thought it was slushy. I enjoyed it and will go again when it is released. The music by Culture Club sounded very unlike their previous stuff and will no doubt be played to death on the radio. Being a Virgin film the computer shop where the hero buys his toy is stocked to the gills with Virgin software.

The film is set in California so I wonder how the 'Owzat' cricket game does down there! One mistake I noticed was a UK spec BBC for sale, so that scene was not shot on location. Virgin films have certainly got off to a good start.

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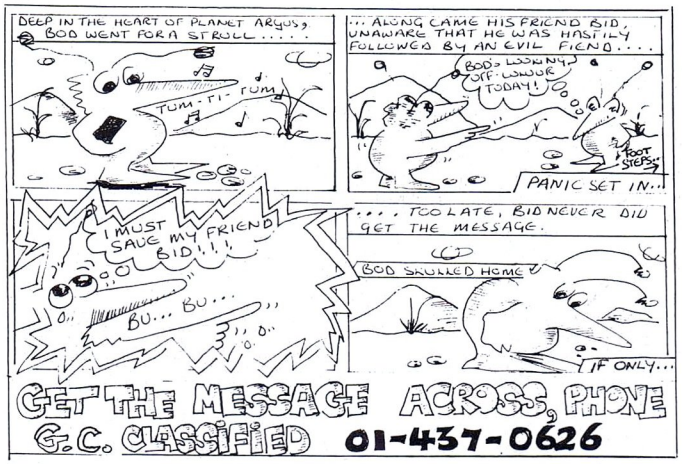

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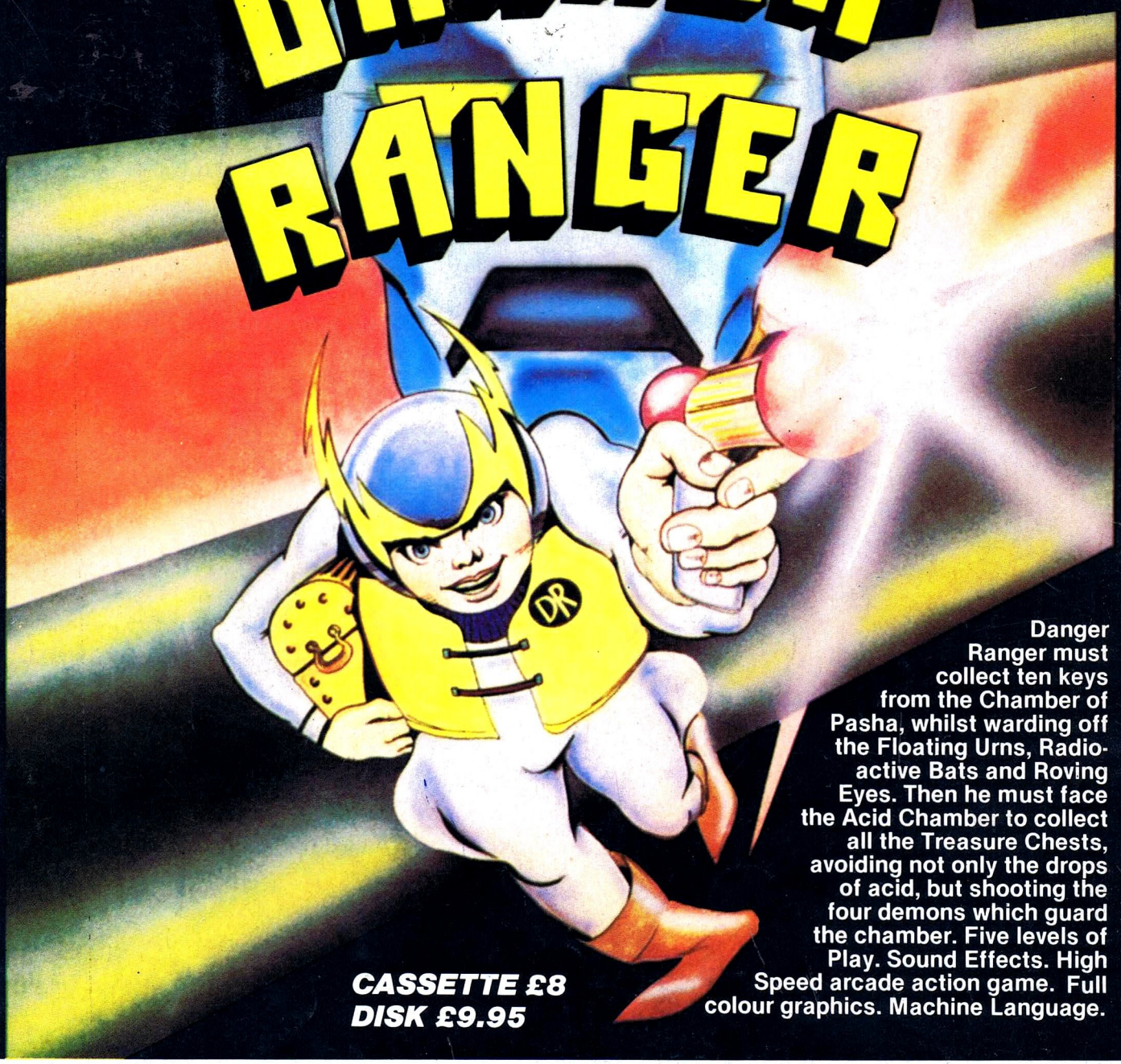

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