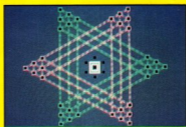
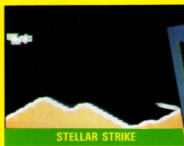


FREE



TRIADS

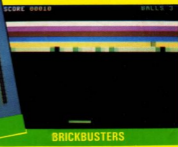
GAMES



STELLAR STRIKE



SPEEDSKI



BRICKBUSTERS

FROM THE



ATTACK OF THE SOFTWARE PIRATES



ROX DELUXE



BABY BERKS

TOP NAMES

MENU

Go on — type in a listing. You never had a greater incentive than with our *Celebrity Book of Games*. Every game in this free supplement is programmed by a top name programmer — with a chart-topping track record.

Chances are you probably already own at least one game by the programmers in this supplement. You know they are the best, and the games they have written exclusively for *Commodore User* are no exception.

We know some of you had difficulties with our last *Book of Games* so to make things easier we have introduced three new improvements:

(1) Only the very best programmers in the land have been asked to write games for our *Celebrity Book of Games*.

(2) Each game has been checked and double-checked.

(3) Helpline — for those of you who just can't get your listing to work don't despair. Friendly Ken is only a phone call away. You can call Ken every Friday afternoon after 3.00 pm to ask for help with your listing or with any other *Commodore* computing problem.
***Commodore User* — the magazine that gives you more.**



CONTENTS

ROX DELUXE	3
By Jeff Minter Jeff's first game for the 64. A collector's item and super fast game 'boot.	
STELLAR STRIKE	8
By Tony Crowther Blast them aliens with a smooth scrolling shoot 'em up from the king of the scroll.	
TRIAD	13
By Mike Singleton A game of strategy involving triangles for two players from the Lords of Midnight man.	
ATTACK OF THE SOFTWARE PIRATES	20
By Tony Gibson & Mark Harrison Transport the disks safely to their destination — dodging the software pirates if you can.	
BRICKBUSTERS	23
By Richard Leinfeller Variation on the breakout theme from the programmer who brought you <i>Cauldron</i> and the <i>Evil Dead</i> .	
BABY BERKS	26
By Jen Williams C18 owners are in for a treat with this excellent, 100% machine-code, game based on the famous <i>Berks</i> .	
SPEEDSKI	31
By Dub Scroggins We have not forgotten our loyal Vic 20 readers. This fast ski game is taken from <i>CompuTe Book 3</i> — one of the best listings books available for the Vic.	
EASY ENTER	
All the games in this supplement (except <i>Baby Berks</i>) use a unique <i>Easy-Enter</i> technique. Instructions on how to use this are on the inside back cover.	

Editor: Eugene Lacey
Technical Editor: Ken McMahon
Design/Production: Lynde Skerry
Deputy Editor: Bohdan Buciak
Chief Sub: Mike Pattenden
Layout: Jane Hindermarsh
Games: Jeff Minter, Tony Crowther, Mike Singleton, Gibbo and Mark Harrison, Richard Leinfeller, Jen Williams, Dub Scroggins.

Publisher: Rita Lewis

Typeset by: Bow-Towning

Printed by: Garrud and Lofthouse

ROX DELUXE

NAME: JEFF MINTER

GAMES: ATTACK OF THE MUTANT CAMELS, SHEEP IN SPACE, ANCIPTAL, METTAGALACTIC LLAMAS BATTLE AT THE EDGE OF TIME, HOVVER BOVVER, PSYCHEDELIA, MAMA LLAMA, MATRIX, AND GRID RUNNER (I THINK THAT'S THE LOT).

AGE: 21

OK, so you already know everything about Jeff Minter apart from what he has for breakfast. Well worry no longer for now I can exclusively reveal that Jeff "Yak" Minter has only "a cup of tea and a piece of dry bread — with maybe a glass of milk" Goat's milk? Llama's milk? "No just the stuff that comes out of a bottle".

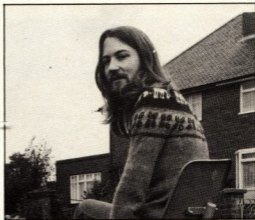
What else does he munch on in between writing games? "Junk food mostly ... but not hamburgers, I've given them up ... My favourite take away is baked potatoes from Spud-U-Like — especially the one with beans in".

Minter is a bit strange. Hard-nosed businessmen in the software market hate him because he breaks all the rules. None of his games conform to what they learned out of the text books, or practiced when they were marketing Corn Flakes or bog rolls.

But then Minter doesn't give a toss about any of that. The last thing he would want to do is launch a game based on the latest soap opera or pop group. But you can see it from their point of view as well. After all, if you had just forked out tens of thousands for the rights to Star Wars and some hi-tech hippy from Basingstoke out charts you with something like *Sheep in Space* or *Mettagalactic Llamas Battle at the Edge of Time*, then you would be a bit fed up, wouldn't you.

I asked Minter if he would ever consider a licensed game himself. "God, no" — came the instant reply. "It's just commercialism ... most of the games are re-worked arcade games tied to whatever the licence is. It's really crude and lacks originality ... I would never do it because I want to put my own ideas into the game, not somebody else's".

Minter believes the current obsession with licensed games is a strangle hold around the



necks of creativity minded programmers. "There's no style ... it's making everything look the same."

So who are the style survivors? "Taskset have a distinctive style which they can call their own. Activation as well; their games are always very simple but good fun to play."

But Minter qualified his praise for Activation. "*GhostBusters* is an example of a bad licensed game. It's brilliantly presented but the game itself is rubbish."

Surely the speech used in *Ghostbusters* and *Impossible Mission* broke new ground? "It's just digitised speech and there is nothing new about it. People were doing it years ago on the Commodore Pet. I agree it's effective in those two games, but it's still only a frill. There are two main problems with using speech in games for the 64 — it uses too much memory, and the processor can't do anything else while it is creating the speech. This is why in *Impossible Mission*, the man doesn't scream until after

he has disappeared from the screen".

What about Tony Crowther? "He writes eight games and they are all the same." So what about the new 16-bit machines — the Atari ST and the Commodore Amiga? "I don't know enough about these machines yet to say but from what I have heard it should be possible to produce some really great games." Why? "Because the processor is much faster, you have lots more memory to play with and, in the case of the ST anyway, a good screen with beautiful graphics."

To make best use of the new hardware Minter believes programmers are going to have to come up with equally fresh ideas to improve games. "We've got to get away from the left, right, jump syndrome."

Minter managed to get away from games in one of his latest programs — *Psychodelia*. Describing the game at a launch party in a West End pub, he told the assembled hacks, just turn off the lights, turn up your favourite music



MAMA LLAMA

ROX DELUXE

and do it".

Psychodelia is one of Minter's proud new achievements. "Every new machine will have a version of Psychodelia for it ... I am working on the Atari version at the moment ... it's the best one of the lot, with many additional features." And what about the new games? "I will start on my new game in two weeks time. All I can say is its going to be different ... it won't be out until the Summer though".

Minter is without doubt the best known games writer in the UK. This success has had its material benefits — though

none of the traditional trappings associated with whizz kid programmers.

There is no Ferrari outside his house — though step inside and you will find ten computers including a \$1,500 Apple Macintosh, several arcade games including a beloved Defender and a sit down Star Wars arcade console. You also won't find Minter sipping exotic cocktails on some Caribbean beach — you are more likely to spot him half way up some mountain in Peru listening to Pink Floyd on his walkman. I said he was a bit strange.

If Mike Singleton's Triad looks a bit too taxing on the brain, then *Rox 64* by hairy yak, Jeff Minter might be more in your line.

You must defend your Moonbase against incoming meteors by firing off rockets to destroy them. Let too many meteors through, and your moonbase will be reduced to dusty by an earthquake (moonquake?).

The game is in Basic and is well Remmed, so aspiring games programmers who want to learn the secrets of the stars are encouraged to pull it apart and see how it works.

Rox is the very first thing Minter ever wrote for the 64. "I had an American Machine, you couldn't get them in England, and the very first night I got it running. I sat and hacked Rox 64 to try and find out how the bloody thing worked!" History in the making eh?

Full instructions are included in the program. If you feel like a break from shooting meteors, press P to pause the game. Cheats

among you can get a premature display of the mothership docking by altering the 'IF AW < 7' in line 8050 to 'IF AW < 1'.

Rox Deluxe for the Commodore 64 By Jeff Minter



```

1 REM ****ROX-64****
2 REM BY JEFF MINTER
3 REM 16/09/1982
4 REM *****
5 REM **LLAMASOFT!**
6 REM *****
9 REM **BLACK SCREEN+ LIMIT MEMORY**
10 POKES3280,0:POKES3281,0:POKE56,48:CLR
19 REM**SPRITE BASES**
20 FORX=0TO6:S(X)=192+X:NEXT X:V=53248
25 DIMSC$(10),SC(10):FORX=1TO10:SC$(X)="**[PUR]ROX[CYN]64[YEL]****":SC(X)=0:NEXT
X
30 FORX=S(0)*64TOS(6)*64+64:POKEX,0:NEXT X
35 REM**MOTHERSHIP**
36 FORX=0TOS0:READA:POKES(1)*64+6+X,A:NEXT X:POKE2041,S(1)
37 DATA64,20,1,16,170,4,11,255,224,21,85,88,148,0,22,144,0,6,144,0,6,144,0,6
38 DATA144,0,6,144,0,6,159,255,246,4,0,16,4,0,16,16,0,4,16,0,4,64,0,1,64,0,1
39 REM**DEFINE SPRITE #0**
40 FORX=0T07:READA:POKES(0)*64+25+X*3,A:NEXT X
45 DATA24,62,124,255,254,126,94,0
49 REM**SPRITE #1**
50 FORX=0TOS6:READA:POKES(6)*64+X,A:NEXT X:POKE2046,S(6)
55 DATA0,0,0,2,0,0,2,0,0,20,0,0,16,0,20,255,0,226,0,128,4,124,64
56 DATA5,66,64,4,66,64,2,66,128,1,67,0,2,254,128,4,56,64,8,40,32,16,56,16
57 DATA16,40,16,16,56,16,56,40,56
59 REM**SPRITE #2**
60 FORX=0T07:READA:POKES(2)*64+25+X*3,A:NEXT X:POKE2042,S(2)
65 DATA192,224,118,56,24,20,2,0
67 FORX=0T09:READG(X):NEXT X:DATA160,227,247,248,98,121,111,100,32,32
69 REM**SPRITE #3**
70 FORX=0T07:READA:POKES(3)*64+25+X*3,A:NEXT X:POKE2043,S(3)
75 DATA8,20,28,28,28,28,42,0
79 REM**SPRITE #4**
80 FORX=0T07:READA:POKES(4)*64+25+X*3,A:NEXT X:POKE2044,S(4)
85 DATA3,7,14,60,24,40,64,0
86 REM**EXPLOSION SPRITE**
87 FORX=0T07:READA:POKES(5)*64+25+X*3,A:NEXT X:POKE2045,S(5)
88 DATA66,0,4,32,0,34,128,16
89 REM**SOUND REGISTERS**
90 VO=54296:WA=54276:AT=54277:H=54273:LO=54272:PH=54275:PL=54274:SU=54278
95 POKEVD,15:FI=0:A$="" :KEY=197:POKEAT+14,32:POKESU+14,255
98 FORX=WATOWA+14STEP7:POKEX,17:POKEX,0:NEXT
99 REM**PRINT UP PLANET**

```

```

100 GOSUB20000:PRINT"[CLS]";FORX=1TO18:PRINT"[CD]";NEXT
110 PRINT"[YL][G<0][G<1][G<0][G<P][G<0][G<1][G<0][G<1][G<0][G<P][G<0]
[G<P][2G<0][G<1][REV][5G<Y][OFF][G<1][G<0][2G<P][G<0][G<0][G<0][G<P][G<0][G<1]
G<0][G<P][G<0][G<0][G<P][G<0][G<P]";
120 PRINT"[REV][40SPC][OFF]";
130 PRINT"[CHM][WHT]LUNAR EVA MODULE #5... LANDING SITE SCAN";
135 FORX=0TO30:POKE1104+RND(1)*600,46:NEXT:DA=25:PA=3:NH=0:P=0
140 V=53248:CO=7:POKE2040,S(0):POKEV+16,0:POKEV+45,3:POKEV+21,127:AW=1
160 GOSUB50000:DF=5:CO=8:GOSUB75000
170 FORX=V+41TOV+43:POKEX,5:NEXT
180 POKEV+44,1
190 DF=DF+2:ROX=11:CO=CO-1
199 REM***ROCK INITIALISE***
200 SX=180:SY=180:POKEV,SX:POKEV+1,SY:POKEV+39,CO:HI=0:ROX=ROX-1:IFROX=0THEN8000
210 XO=RND(1):IFRND(1)<.5THENXO=-XO
220 YO=-.5:S=DF:IFS>20THENS=20
230 POKEWA,129:POKEH,200:POKELO,255:POKEVO,1:POKEV+30,0:POKEV+16,0
299 REM***MAIN MOTION LOOP***
300 SX=SX+XO*(S/3):SY=SY+YO*S
305 IFSX>255ANDHI=0THENHI=1:POKEV+16,PEEK(V+16)+1:SX=0
310 POKEV,SX:POKEV+1,SY:IFSY>190THEN1000
315 IFF1THENGOSUB6000:IFERTHEN7000
320 S=S+.3:IFS>20THENS=20
330 POKEVO,S/2
340 IF(PEEK(V+30)AND65)=65THEN10000
400 P=PEEK(KEY):IFP<>64THEN3000
410 IF F1THENGOSUB6000:IFERTHEN7000
500 GOTO300
999 REM***DD IMPACT SURFACE***
1000 T=SX+256*HI:SP=INT(T/8)-2:POKEV,0:POKEV+1,0:POKEV+16,0:POKEVO,15:POKEH,1
1010 POKEWA+14,0:F1=0:POKERY,0:FORZ=1TORND(1)*4:DA=DA-1:IFDA=0THEN12000
1016 GOSUB7500
1020 FORX=1TO10:POKEV+17,26:FORD=1TO10:NEXT:POKEV+17,27:POKEVO,15-(X/2)
1030 FORD=1TO10:NEXT,X
1040 O=1784+SP:P=PEEK(O):IFP=32THEND=1824+SP:P=PEEK(O):POKEWA,0
1050 GR=0:FORX=0TO9:IFP=G(X)THENGR=X:X=10
1060 NEXT X:POKEO,G(GR+1):NEXT Z
1100 GOTO200
2999 REM***ACTION FOR KEYS***
3000 IFF1THEN4000
3005 IFP<>31ANDP<>28ANDP<>39THEN4000
3010 IFP<>31THEN3100
3020 MX=164:MY=170:RX=V+4:RY=V+5:XC=-1:N=4:GOTO3500
3100 IFP<>28THEN3200
3110 MX=164:MY=170:RX=V+6:RY=V+7:XC=0:N=8:GOTO3500
3200 IFP<>39THEN4000
3210 MX=164:MY=170:RX=V+8:RY=V+9:XC=1:N=16
3500 FORX=V+4TOV+9:POKEX,0:NEXT:POKERY,MX:POKEV,MY:H2=0:N=N+1
3505 POKEWA+14,129:POKEH+14,255-MY:POKEV+16,HI
3510 F1=1:GOTO410
4000 IFP=10THEN4500
4002 IFP=41THEN4700
4005 IFP<>60ORPA=0THEN410
4006 PA=PA-1:POKEWA,19:POKEVO,15:MX=SX:MY=SY
4010 FORX=1TO30:POKE53281,3:POKEH,29:POKE53281,0:POKEH,200:NEXT:GOSUB7500
4020 GOTO7000
4499 REM***ABORT MISSION***
4500 POKEV+21,64:POKEWA,129:POKEV+7,0:POKEWA+14,0:POKEVO,0
4505 PRINT"[CHM][CL RED]***[2SPC]M I S I O N C59PC3A B O R T E D ***"
4510 FORX=1TO15STEP.3:POKEVO,X:YY=YY-.05*X:POKEV+13,YY:NEXT X
4520 POKEWA,17:POKEWA+7,17:POKEH,32:POKEH+7,33:POKELO,YY:POKELO+7,YY+10
4530 YY=YY-.75:POKEV+13,YY:POKEH,255-YY:POKEH+7,249-YY:IFY>6THEN4530
4540 GOTO11000
4699 REM***PAUSE FEATURE***
4700 PRINT"[CHM][BLK][3SPC]*** PAUSE MODE - 'P' TO RESTART ***"
4705 POKE53281,1:IFPEEK(KEY)<>64THEN4700
4710 IFPEEK(KEY)<>41THEN4710
4715 IFPEEK(KEY)<>64THEN4715
4720 POKE53281,0:PRINT"[CHM][38SPC]":GOTO410
4999 REM***LEM DISPLAY***
5000 POKEAT,32:POKESU,255:POKEAT+7,32:POKESU+7,255:POKEH,17:POKELO,3
5001 POKEVO,15:POKEWA,17:POKEWA+7,17
5002 POKEH+7,16
5005 POKELO+7,3:POKEPH,8:POKEPL,8
5010 YY=3:L=S(6)*64+13:POKEV+12,168
5020 POKEL,16:POKEL-3,16:FORX=1TO8:YY=YY+.3:POKEV+13,YY:POKELO,YY:POKELO+7,YY
5025 NEXTX

```

ROX DELUXE

```
5030 GOSUBS5500:IFYY>175THEN5060
5040 POKEL,0:POKEL-3,0:FORX=1TOB:YY=YY+.3:POKEV+13,YY:POKELO,YY:POKELO+7,YY
5050 NEXT X:GOTO5020
5060 PRINT"[HOM][79PC][L RED]RETRO THRUSTERS FIRING...[8SPC]";
5062 POKEWA,129:POKEWA+7,129:POKEH,7:FORX=15TO19STEP-.08:POKEVO,X:GOSUBS5500
5065 YY=YY+.04:POKEV+13,YY:NEXT X
5067 PRINT"[HOM][GRN][55PC]*** PLANETFALL SUCCESSFUL ***[65PC]";
5070 POKEWA,17:POKEWA+7,0
5080 POKEVO,15:FORX=1TO5:PRINT"[HOM][2CD][11CR][L RED]0":POKEH,20:FORDL=1TO100:N
EXT
5090 PRINT"[HOM][2CD][11CR][WHT]0":POKEH,0:FORDL=1TO100:NEXT:NEXT
5100 PRINT"[HOM][2CD][215PC]"
5110 FORDL=1TO1000:NEXT:PRINT"[HOM][BLK]METEOR SHOWER... MAN ALL ROCKET STATIONS
";
5115 POKEWA,17:FORX=1TO9:POKE53281,X:FORZ=0TO40STEP.5
5120 POKEH,Z:NEXT Z:NEXT X:POKE53281,0
5200 PRINT"[HOM][405PC]":RETURN
5500 PRINT"[HOM][2CD][PUR]ALTITUDE25PC[CYN]";185-INT(YY);"[CL] "
5510 RETURN
5999 REM***MOVE MY ROCKET***
6000 MX=MX+XC*8:IFMX>255THENMX=MX-255:POKEV+16,PEEK(V+16)+16
6010 MY=MY-B:IFMY<50THENPOKERY,0:FI=0:POKEWA+14,0:RETURN
6020 POKERX,MX:POKERY,MY:ER=0:POKEH+14,255-MY:POKEVO,15
6025 IF(PEEK(V+30)ANDN)=NTHEN6200
6100 RETURN
6200 ER=1:POKEWA+14,0:PT=PT+AW*100:GOTO7500
6999 REM***DO AN EXPLOSION***
7000 POKEH,6:POKEVO,15:POKEV+1,0:POKERY,0:NH=NH+1:POKEWA,129
7005 IFHI=1THENPOKEV+16,32
7010 FORX=15TO0STEP-.3:POKEV+10,SX:POKEV+11,SY:POKEVO,X:POKEV+29,32:POKEV+23,32
7020 POKEV+10,SX:POKEV+11,SY+4:POKEVO,X:POKEV+29,0:POKEV+23,0:NEXT X
7030 POKEV+11,0:FI=0:GOTO200
7499 REM***STATUS***
7500 PRINT"[HOM][21CD][PUR]SCORE:";PT;"[CL][35PC][CYN]PANICS:";PA;"[CL] ";
7505 PRINT"[25PC][PUR]HIGH:";SC(1)
7506 C#="[PUR]":IFDA<10THENC#="[L RED]"
7507 X=FRE(0):REM AVOIDS GARBAGE COLLECTION
7508 IFDA=0THENPRINT"[CD][9CR][25PC]":RETURN
7510 PRINT"[CD][VEL]%. DAMAGE:[REV]";C#;:FORX=1TODA:PRINT"[G>P]";NEXT X:PRINT"EO
FF] ";:RETURN
7999 REM***ATTACK WAVES***
8000 PRINT"[HOM][BLK][65PC]ROX ATTACK";AW;"[CL] COMPLETED!!"
8010 PRINT"[2CD][85PC]BONUS OF 100 *";AW
8020 PT=PT+AW*100:POKEVO,15:POKEWA,33:FORX=0TO10:POKE53281,RND(1)*16:FORY=0TO60
8030 POKEH,Y:NEXTY:NEXTX:POKEWA,0:POKE53281,0
8040 PRINT"[HOM][39PC]"
8045 PRINT"[2CD][255PC]":GOSUB7500
8050 AW=AW+1:IFAW<7THEN190
8060 GOTO15000
9999 REM***DO IN MOONBASE***
10000 PRINT"[HOM][WHT][55PC]*** MOON BASE DONE IN !! ***[79PC]"
10010 POKEV+21,32:POKEWA,129:POKEH,RND(1)*254:FORX=15TO0STEP-.1
10020 POKEV+10,170:POKEV+11,180:POKEV+23,0:POKEV+29,0:POKEVO,X
10030 POKEV+10,166:POKEV+11,174:POKEV+23,32:POKEV+29,32:POKEVO,0:NEXT X
10040 POKEV+21,0:POKEWA,0:BL=1
10999 REM***ENDGAME SCORING***
11000 PRINT"[CLS][WHT]YOUR SCORE WAS .. ";PT
11005 POKEWA,0:POKEWA+7,0:POKEWA+14,0
11010 PRINT"[CD]TO THIS IS ADDED A BONUS FOR YOUR";INT(NH*100/60)
11020 PRINT"[CD]PERCENT SHOOTING ACCURACY.";B1=INT((NH/60)*5000)
11030 PRINT"[CD]BONUS:";B1:PT=PT+B1
11040 IFBL=1THENBL=0:GOTO11000
```

```

11050 PRINT"[2CD]AND AN ADDITIONAL BONUS- FOR FINISHING"
11060 PRINT"[CD]WITH AN INTACT MOON BASE!!"
11070 PRINT"[CD]BONUS: 5000 PTS.":PT=PT+5000
11100 PRINT"[2CD][YEL]YOUR FINAL SCORE WAS THUS[CYN]";PT
11110 FORX=0TO20:GETA#:NEXT X:Z=0:FORX=1TO10:IFPT>SC(X)THENZ=X:X=11
11120 NEXT X:IFZ=0THEN11500
11130 PRINT"[CD]ENTER TEXT FOR SCORE TABLE:";
11140 INPUTA#:IFLEN(A#)>15THENA#=LEFT$(A#,15)
11150 IFZ=10THEN11200
11160 FOR=9TO2STEP-1:SC(X+1)=SC(X):SC$(X+1)=SC$(X):NEXT X
11200 SC(Z)=PT:SC$(Z)=A#:FI=0
11500 PRINT"[CLS][7CR][YEL]IROX-64 ALL TIME BEST"
11510 PRINT"[7CR][PUR][206<Y]"
11520 FORX=1TO10:PRINT"[CD][CYN]#";X;TAB(10);"[WHT]";SC(X);TAB(23);"[YEL]";SC$(X)
)
11530 NEXT X:X=FRE(0)
11540 PRINT"[CD][GRN][5SPC]PRESS 'SPACE' FOR A NEW GAME"
11550 P=PEEK(KEY):IFP<>60THEN11550
11560 GOTO100
11999 REM***MOONDUAKE!***
12000 PRINT"[HOM][6SPC]***EXCESS SEISMIC ACTIVITY***":GOSUB7500
12010 POKEWA,129:POKEH,5:FORX=15TO0STEP-.07:POKEV+17,26:FQRD=1TO10:NEXT
12020 POKEV+17,27:FORD=1TO10:NEXT:POKEVO,X:NEXT X:GOTO 10000
14999 REM***MOTHERSHIP PICKUP***
15000 POKEV+21,66:POKEW+28,2:POKEV+37,7:POKEV+38,2:REM ENABLE MULTICOLOUR SPRIT
15005 PRINT"[WHT][HOM]MISSION COMPLETED= MOTHERSHIP BONUS 5000"
15010 POKEV+23,2:POKEV+29,2:POKEV+40,4:POKEVO,15:POKEWA,33:POKEWA+7,33
15015 PT=PT+5000:GOSUB7500
15020 POKEH,2:POKEH+7,2:POKELO,1:POKELO+7,6:POKEV+3,70
15030 FORX=0TO156STEP.2:POKEV+2,X:CL=CL+.3:IFCL>15THENCL=0
15040 POKEV+40,CL:POKEV+37,15-CL:NEXT X
15060 POKEWA+14,129:FORX=15TO0STEP-.1:YY=YY-.05*(15-X):POKEV+13,YY:POKEV+38,X
15070 YY=YY-.75:POKEV+13,YY:POKEH+14,200-YY:IFY>77THEN15070
15080 POKEV+38,2:POKEWA+14,0
15090 FORX=156TO226STEP.2:POKEV+2,X
15095 YY=YY-.2:POKEV+13,YY:POKEV+12,X+12:CL=CL+1:IFCL>15THENCL=0
15096 POKEV+40,CL:POKEV+37,15-CL
15100 POKEV+3,227-X:NEXT X:GOTO11000
19999 REM***INTRO TITLES***
20000 PRINT"[CLS][YEL][40>0][3SPC][36>0][2SPC][6>0][3SPC][6>0][5SPC][RED][26>0][
CYN][26>0][PUR][6>0][YEL][6>0][BLU][26PC][GRN][6>0][3SPC][WHT]BY"
>0][5SPC][BLU][6>0][3SPC][RED][6>0]"
20020 PRINT"[YEL][40>0][2SPC][6>0][3SPC][6>0][3SPC][6>0][7SPC][PUR][26>0][YEL][2
6>0][BLU][6>0][GRN][26>0][RED][26>0][CYN][6>0][2SPC][WHT]JEFF"
20030 PRINT"[YEL][6>0][6>0][3SPC][6>0][2SPC][WHT]JEFF"
SPC][GRN][6>0][5SPC][PUR][6>0]"
20040 PRINT"[YEL][6>0][2SPC][6>0][3SPC][36>0][2SPC][6>0][3SPC][6>0][5SPC][BLU][2
6>0][RED][26>0][RED][6>0][5SPC][YEL][6>0][WHT]MINTER"
20050 PRINT"[CD][WHT]* AN ARCADE-STYLE GAME FOR COMMODORE-64*"
20060 PRINT"[CD]DEFEND YOUR LUNAR MODULE BY FIRING OFF"
20070 PRINT"[CD]ROCKETS TO INTERCEPT INCOMING METEORS."
20080 PRINT"[CD]TOO MANY GROUND IMPACTS RESULT IN AN"
20085 PRINT"[CD]EARTHQUAKE! SURVIVE 60 METEORS FOR BONUS"
20090 PRINT"AND RESCUE BY MOTHERSHIP!"
20100 PRINT"[CD][YEL]CONTROLS: [CYN]V,B,N [YEL]FIRE ROCKETS. [CYN]SPACE BAR"
20110 PRINT"[CD][YEL]ACTIVATES PANIC DESTRUCTOR. [CYN]A[YEL] TO ABORT!!"
20120 FORX=53246TO53248+16:POKEH,0:NEXT
20130 PRINT"PRESS [CYN]S[YEL] TO START GAME!";
20140 IFPEEK(197)<>13THEN20140
20150 RETURN

```

STELLAR STRIKE

NAME: TONY CROWTHER

GAMES: LOCO, MONTY MOLE, GRYPHON, BLACK

THUNDER, STELLAR STRIKE.

AGE: 19

Tony Crowther's first computer was an old Commodore Pet lent to him by a friend.

Three years, a Vic 20, and a 64 later, Tony Crowther is now one of the best known games programmers in the UK.

Games like *Loco*, *Killer Watt*, *Monty Mole*, *Black Thunder* and *Gryphon* need no introduction to 64 users.

At just nineteen years old, and with a shock of peroxide punk hair, Crowther is a real live teenage computer Whizz Kid.

At seventeen he wrote a quality control program for a factory. "They made bog rolls ... my program was to check that all the machines were working properly".

This early taste of professional programming was enough to whet Tony's appetite and by the time he was into his second year of his 'A' levels he was missing a lot of school working on his games. "My school started to get stroppy, eventually they said do you want these exams or not?" This was enough to get him back to Bradford Comprehensive in Sheffield more regularly until he left there with two A levels — including a grade 'A' pass in engineering drawing.

"I like engineering drawing. If I wasn't a programmer I can easily imagine being an engineer ... I'm good with my hands".

Good with his hands is something of an understatement. Among Tony's skills are woodwork, metal work, and sewing. Sewing? "Yes ... I made a dress for my girl friend once".

Crowther believes that it was the competitive drive that



made him do so well in his Engineering Drawing 'A' level. "We were constantly trying to outdo each other. We all used techniques way above the level expected for the course; in the end everyone in the class got a grade 'A' ... the master was chuffed with us".

"It's the same thing with programming really." So does he regard Jeff Minter as an arch enemy? "People like to make out that we hate each other. Jeff's criticised my games for using the same scroll routines, but I'm not going to say anything about his games ... I'm more interested in what the public think anyway".

What about other programmers? "I get on well with most of them. We bump into each other regularly. Matthew Smith (Manic Miner, Jet Set Willy) is a good lad. We got drunk together at the Quickbyte Dinner before Christmas".

Listening to Tony Crowther you get the impression that

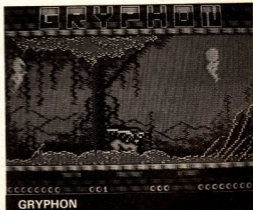
over contracts and royalty payments can make the software industry a minefield for the unsuspecting programmer. In this minefield Tony Crowther has had his fair share of hard knocks.

He has written games for four different software houses. "I now have my own company, Wizard Development. We write the games and let other people market them. This is why my last two games were put out by Quicksilva".

Tony is not saying who will get the rights to his next game, but he did let it slip that it would be a cartoon-style arcade adventure.

What about hackers — jail 'em or bail 'em? "I don't know about hackers — I'd like to be one. I think people are a bit paranoid about the whole subject. Hacking seems like a good way of finding out the power of your machine".

Could hackers start World War III? "Personally I doubt it ... if you really want to protect information you can do".



Tony Crowther should be a name well known to Commodore users throughout the land. For our games supplement, he's written *Stellar Strike*, based on the Skramble theme, which most of you will be familiar with.

Guide your interstellar spacecraft over the craggy terrain, blasting everything in your path with megapowerful photon torpedoes. Why photon torpedoes? Type in the game and you'll see what I mean.

The only other clue I'm going to give you is that you'll need a joystick plugged into port 2.

The listing is in Basic, so you shouldn't have any problems entering it. Don't forget to save the program to tape or disc before running it, otherwise you might end up with a 'crashed' 64. Not much of a laugh when you've spent the last hour typing the thing in. Before the program is run you'll need to type in these few lines of Basic:

POKE 44,60

POKE 60*256,0

NEW

This must be done every time you play the game, before you load the program.

If, having saved the program, you can't get it to run, carefully check through the data statements. If you've made a mistake it's more likely to be here than anywhere else.

One last tactical hint. If you stick to the top half of the screen you'll stand more chance of escaping the marauding aliens. But don't get complacent, in *Stellar Strike*, nothing can be taken for granted!

**Stellar
Strike
for the
Commodore
64
by Tony
Crowther**



```

1 GOSUB 1000
5 T = 1
6 FOR I =0 TO 7
7 POKE 916 +I , T
8 T = T *2
9 NEXT I
10 POKE 898 ,0 :SYS 49152
11 POKE 53272 ,29
12 GOSUB 400
13 PRINT "[HOM][RED][2SPC]SCORE[2SPC]
[BLU]000000"
18 FOR LI =0 TO 2
19 PRINT "[HOM]"TAB(25)"[GRN]
LIVES"3-LI
20 GOSUB 200
23 POKE 897 ,0
24 POKE 898 ,1
26 SYS 49941
27 REM DEATH
28 GOSUB 300
29 FOR I = 30 TO 230 STEP 4
30 POKE 908 ,I
31 POKE 909 ,I+24
32 NEXT I
33 POKE 908 ,0
34 POKE 909 ,0
35 POKE 898 ,0
36 POKE 53269 ,0
37 NEXT LI
38 GOSUB 500
39 GOSUB 550
40 GOTO 12
199 END
200 REM SET UP SPRITES
210 FOR I =0 TO 15
211 POKE 900 +I ,0

```

```

212 POKE 53248 +I ,0
213 NEXT I
214 FOR I =0 TO 7
215 POKE 53287 +I ,12
216 NEXT I
217 POKE 908 ,30
218 POKE 53249 ,100
219 POKE 909 ,54
220 POKE 53251 ,100
221 POKE 2040 ,128
222 POKE 2041 ,129
223 POKE 2042 ,130
224 POKE 2043 ,132
225 POKE 2044 ,132
226 POKE 2045 ,133
227 POKE 2046 ,131
228 POKE 2047 ,131
229 POKE 53276 ,255
230 POKE 53285 ,11
231 POKE 53286 ,15
232 POKE 53282 ,2
233 POKE 53283 ,12
234 POKE 56335 ,1
235 POKE 910 ,255
236 POKE 902 ,1
237 POKE 53253 ,150
238 POKE 911 ,200
239 POKE 903 ,1
240 POKE 53255 ,90
241 POKE 912 ,90
242 POKE 904 ,1
243 POKE 53257 ,150
244 POKE 913 ,40
245 POKE 904 ,0
246 POKE 53259 ,170
247 POKE 53292 ,6
248 POKE 53289 ,14
249 POKE 834 ,0
250 POKE 835 ,1
251 POKE 54296 ,15
259 POKE 53269 ,255
260 RETURN
300 POKE 54276 ,0
301 POKE 54273 ,4
302 POKE 54277 ,170
303 POKE 54276 ,129
304 RETURN
400 POKE 53280 ,0 :POKE 899 ,16
401 POKE 53281 ,0 :POKE 53269 ,0
402 PRINT "[CLS][CD][BLU][8SPC]
<<<<<STELLAR STRIKE
PRINT "[CD][RED][5SPC]
WRITTEN BY A.CROWTHER
404 PRINT "[5SPC]WIZARD DEVELOPMENT LTD.
405 PRINT "[CD][2SPC][CYN]HI! I'VE GOT
A JOB FOR YOU.."
406 PRINT "[CD] WHAT I WANT YOU TO DO,
IS BOLDLY GO
407 PRINT "[CD] WHERE NO MAN HAS BEEN
BEFORE. 'YOU'
408 PRINT "[CD] ARE ABOUT TO ENTER
THE INNER SPACE
409 PRINT "[CD] OF A 6502 SOLAR SYSTEM.
410 PRINT "[CD] BUT ,I MUST ADD.
411 PRINT "[CD] YOU WILL BE UNDER
ATTACK,SO KEEP ALERT!";

```

STELLAR ST

```

412 PRINT"[CD] [6SPC] USE JOYSTICK PORT 2"
413 PRINT"[CD] [6SPC] HIT SPACE TO START"
414 GET A#
415 IF A# <> " " THEN414
450 POKE 53281,9
451 PRINT "[BRN][CLS]"
452 POKE 53281,0
460 RETURN
500 B =0
501 FOR I =0 TO 5
502 A = PEEK( 1033 +I ) -48
503 B =B *10
504 B =B +A
505 NEXT I
506 RETURN
550 IF B <= HI (5) THEN 560
551 PRINT"[CLS][CR][CD][WHT]
[RED]YOU ARE ON THE HI SCORE"
552 INPUT"[CR]WHAT IS YOUR NAME";A#
553 HI# (5) =A#
554 HI (5) =B
560 FOR I =5 TO 2 STEP-1
561 FOR J =2 TO I
562 IF HI (J) < HI (J-1) THEN 566
563 T =HI (J-1) :A# =HI# (J-1)
564 HI (J-1) =HI (J) :HI# (J-1) =HI# (J)
565 HI (J) =T :HI# (J) =A#
566 NEXT J , I
570 PRINT"[CLS][11SPC][2CD]
[RED] HI SCORES
571 PRINT"[4SPC][CYN][9SPC]----
----[BLU]"
572 FORI=1705
573 PRINT TAB( 10) I; "[RED] [PUR]"
HI (I) TAB( 22) LEFT# (HI#(I),4)
"[BLU]"
574 NEXT
576 PRINT"[5CD][8SPC]PRESS SPACE
TO CONT. "
577 GET A#
578 IF A# <> " " THEN577
579 RETURN
600 DATA60,102,110,110,96,98,60,0,636
601 DATA60,102,102,126,118,118,118,0,744
602 DATA120,108,108,126,118,118,124,0,822
603 DATA60,102,96,112,118,118,126,0,732
604 DATA124,102,102,118,118,118,124,0,806
605 DATA126,96,96,120,112,112,126,0,788
606 DATA126,96,96,120,112,112,112,0,774
607 DATA60,102,96,110,118,118,126,0,730
608 DATA102,102,102,126,118,118,118,0,786
609 DATA60,24,24,28,28,28,62,0,254
610 DATA14,12,12,12,236,252,0,774
611 DATA102,102,102,124,118,118,118,0,784
612 DATA96,96,96,112,112,112,126,0,750
613 DATA119,127,107,99,115,115,115,0,797
614 DATA126,102,102,118,118,118,118,0,802
615 DATA60,102,102,118,118,118,126,0,744
616 DATA124,102,102,126,112,112,112,0,790
617 DATA60,102,102,118,118,124,14,0,638
618 DATA124,102,102,124,118,118,118,0,806
619 DATA60,98,56,12,118,118,60,0,522
620 DATA126,24,24,28,28,28,0,286
621 DATA102,102,102,118,118,118,60,0,720
622 DATA102,102,102,118,118,60,24,0,626
623 DATA99,99,99,123,127,127,119,0,793
624 DATA102,102,60,24,60,118,118,0,584
625 DATA102,102,102,60,28,28,28,0,450

```

```

626 DATA126,6,12,28,56,120,126,0,474
627 DATA60,48,48,48,48,48,60,0,360
628 DATA12,18,48,124,48,98,252,0,600
629 DATA60,12,12,12,12,12,60,0,180
630 DATA0,24,60,126,24,24,24,24,306
631 DATA0,16,48,127,127,48,16,0,382
632 DATA0,0,0,0,0,0,0,0,0
633 DATA24,24,24,24,0,0,24,0,120
634 DATA102,102,102,0,0,0,0,0,306
635 DATA102,102,255,102,255,102,102,0,1020
636 DATA24,62,96,60,6,124,24,0,396
637 DATA98,102,12,24,48,102,70,0,456
638 DATA60,102,60,56,103,102,63,0,546
639 DATA6,12,24,0,0,0,0,0,42
640 DATA12,24,48,48,48,24,12,0,216
641 DATA48,24,12,12,12,24,48,0,180
642 DATA0,102,60,255,60,102,0,0,579
643 DATA0,24,24,126,24,24,0,0,222
644 DATA0,0,0,0,24,24,48,96
645 DATA0,0,0,126,0,0,0,0,126
646 DATA0,0,0,0,24,24,0,48
647 DATA0,3,6,12,24,48,96,0,189
648 DATA60,102,102,102,102,102,60,0,630
649 DATA24,24,24,24,24,24,24,0,168
650 DATA60,102,6,12,48,96,126,0,450
651 DATA60,102,6,28,6,102,60,0,364
652 DATA14,30,54,102,127,6,6,0,339
653 DATA126,96,124,6,6,102,60,0,520
654 DATA60,102,96,124,102,102,60,0,646
655 DATA126,6,6,12,12,24,24,0,210
656 DATA60,102,102,60,102,102,60,0,588
657 DATA60,102,102,62,6,6,6,0,344
658 DATA0,0,24,0,0,24,0,0,48
659 DATA0,0,24,0,0,24,24,120
660 DATA14,24,48,96,48,24,14,0,268
661 DATA0,0,126,0,126,0,0,0,252
662 DATA112,24,12,6,12,24,112,0,302
663 DATA60,102,6,12,24,0,24,228
664 DATA85,85,85,85,85,85,85,680
665 DATA192,188,171,155,102,85,89,85,1067
666 DATA0,0,0,0,192,188,167,151,698
667 DATA0,0,0,3,14,14,249,283
668 DATA15,58,57,229,153,86,85,101,784
669 DATA195,189,169,102,85,153,149,85,1127
700 DATA0,0,0,0,0,0,0,0,0
701 DATA0,85,85,84,106,170,169,127,826
702 DATA255,245,26,170,168,5,95,128,1092
703 DATA0,6,208,0,1,181,0,21,417
704 DATA111,0,26,169,0,127,255,1,689
705 DATA85,85,0,0,0,0,0,0,170
706 DATA0,0,0,0,0,0,0,0,0
707 DATA0,0,0,0,0,0,0,0,0
708 DATA0,0,0,0,0,0,0,0,0
709 DATA0,0,0,0,0,0,0,0,0
710 DATA252,0,21,85,80,170,170,168,946
711 DATA191,255,252,231,85,64,194,245,1517
712 DATA0,128,188,0,160,0,0,128,600
713 DATA0,0,0,0,0,0,0,0,0
714 DATA0,0,0,0,0,0,0,0,0
715 DATA0,0,0,0,0,0,0,0,0
716 DATA0,0,0,0,0,0,0,192,192

```

TRIKE

717 DATA0,0,192,0,48,192,0,62,494
 718 DATA208,224,10,215,128,42,213,0,1040
 719 DATA38,85,0,165,85,64,254,85,776
 720 DATA120,149,85,64,42,93,0,43,596
 721 DATAB87,192,15,148,192,61,112,0,807
 722 DATA48,48,0,0,48,0,0,0,144
 723 DATA0,0,0,0,0,0,0,0,0
 724 DATA0,0,0,0,0,0,0,0,0
 725 DATA0,0,0,0,0,0,0,27,27
 726 DATA254,128,0,0,0,0,0,0,382
 727 DATA0,0,0,0,0,0,0,0,0
 728 DATA0,0,0,0,0,0,0,0,0
 729 DATA0,0,0,0,0,0,0,0,0
 730 DATA0,0,0,0,0,0,0,0,0
 731 DATA0,0,0,0,0,0,0,0,0
 732 DATA0,0,0,0,0,0,0,0,0
 733 DATA0,0,0,0,0,0,0,85,85
 734 DATA96,0,255,248,0,169,84,0,852
 735 DATA167,253,0,31,213,84,63,127,938
 736 DATA254,5,106,170,0,85,84,0,704
 737 DATA0,0,0,0,0,0,0,0,0
 738 DATA0,0,0,0,0,0,0,0,0
 739 DATA0,0,0,0,0,0,0,0,0
 740 DATA0,128,0,0,128,0,1,144,401
 741 DATA0,2,144,0,2,80,0,2,230
 742 DATA80,0,2,80,0,2,80,0,244
 743 DATA2,80,0,2,80,0,2,80,246
 744 DATA0,2,80,0,14,92,0,14,202
 745 DATA156,0,62,159,0,63,159,0,599
 746 DATA243,147,192,0,192,0,0,0,774
 747 DATA0,0,0,0,0,0,0,0,0
 800 DATA120,169,0,141,14,220,169,1,834
 801 DATA141,25,208,141,26,208,169,27,945
 802 DATA141,17,208,141,18,208,169,35,937
 803 DATA141,20,3,169,192,141,21,3,690
 804 DATA88,96,255,238,34,192,169,1,1073
 805 DATA141,25,208,173,34,192,208,14,995
 806 DATA169,250,141,18,208,173,131,3,1093
 807 DATA141,22,208,76,129,234,169,255,1234
 808 DATA141,34,192,169,0,141,22,208,907
 809 DATA169,194,141,18,208,162,0,160,1052
 810 DATA0,140,16,208,189,132,3,240,928
 811 DATA14,201,1,208,19,173,16,208,940
 812 DATA24,125,148,3,141,16,208,189,854
 813 DATA140,3,153,0,208,76,117,192,809
 814 DATA169,245,153,0,208,232,200,200,1407
 815 DATA224,8,208,216,173,130,3,240,1207
 816 DATA3,32,135,192,76,49,234,32,753
 817 DATA234,192,173,131,3,56,233,2,1024
 818 DATA141,131,3,201,16,176,82,169,919
 819 DATA23,141,131,3,162,0,189,249,898
 820 DATA6,157,248,6,232,224,239,208,1320
 821 DATA245,173,129,3,24,105,6,201,886
 822 DATA186,144,2,169,0,141,129,3,774
 823 DATA169,31,133,250,169,7,133,251,1143
 824 DATA169,80,133,252,169,195,133,253,1384
 825 DATA172,129,3,132,255,162,0,164,1017
 826 DATA255,177,252,160,0,145,250,165,1404
 827 DATA250,24,105,40,133,250,144,2,948
 828 DATA230,251,230,255,232,224,6,208,1636
 829 DATA230,96,162,2,189,140,3,56,878

830 DATA233,2,157,140,3,176,11,189,911
 831 DATA132,3,24,105,1,41,1,157,464
 832 DATA132,3,232,224,7,208,229,96,1131
 833 DATA173,18,208,201,60,208,249,173,1290
 834 DATA11,208,24,105,253,141,11,208,961
 835 DATA169,255,141,0,220,173,0,220,1178
 836 DATA41,1,208,19,173,1,208,201,852
 837 DATA75,144,12,206,1,208,206,1,153
 838 DATA208,206,3,208,206,3,208,173,1215
 839 DATA0,220,41,2,208,19,173,1,664
 840 DATA208,201,220,176,12,238,1,208,1264
 841 DATA238,1,208,238,3,208,238,3,1137
 842 DATA208,32,93,193,76,10,195,173,980
 843 DATA0,0,76,8,193,173,0,220,670
 844 DATA41,16,208,26,173,164,3,208,839
 845 DATA21,169,1,141,164,3,169,0,668
 846 DATA141,139,3,169,80,141,147,3,823
 847 DATA173,1,208,32,35,195,173,164,981
 848 DATA3,240,34,173,147,3,24,105,729
 849 DATA8,141,147,3,144,3,238,139,823
 850 DATA3,173,139,3,240,15,173,147,893
 851 DATA3,201,80,144,8,169,0,141,746
 852 DATA15,208,141,164,3,173,142,3,849
 853 DATA56,233,1,141,142,3,176,3,755
 854 DATA206,134,3,162,0,189,143,3,840
 855 DATA56,233,2,157,143,3,176,3,773
 856 DATA222,135,3,232,224,2,208,237,1263
 857 DATA169,0,189,132,3,41,1,157,926
 858 DATA132,3,232,224,8,208,243,173,1223
 859 DATA5,208,201,70,240,7,201,210,1142
 860 DATA240,3,76,240,193,173,165,3,1093
 861 DATA24,105,1,41,1,141,165,3,481
 862 DATA173,165,3,240,6,206,5,208,1006
 863 DATA76,254,193,238,5,208,173,7,1154
 864 DATA208,201,70,240,7,201,145,240,1312
 865 DATA3,76,23,194,173,66,3,173,562
 866 DATA105,1,41,1,141,66,3,173,531
 867 DATA9,208,201,145,240,7,201,210,1221
 868 DATA240,3,76,48,194,173,67,3,804
 869 DATA24,105,1,41,1,141,67,3,383
 870 DATA160,0,162,0,185,66,3,240,816
 871 DATA6,222,7,208,76,66,194,254,1033
 872 DATA7,208,232,232,200,192,2,208,1281
 873 DATA235,173,68,3,208,63,173,6,929
 874 DATA220,201,2,176,26,173,7,208,1013
 875 DATA141,13,208,173,143,3,56,233,970
 876 DATA24,141,146,3,173,135,3,233,858
 877 DATA0,141,138,3,76,138,194,201,891
 878 DATA253,144,26,173,9,208,141,13,967
 879 DATA208,173,144,3,56,233,24,141,982
 880 DATA146,3,173,136,3,233,0,141,835
 881 DATA138,3,238,68,3,173,68,3,694
 882 DATA240,34,173,146,3,56,233,3,888
 883 DATA141,146,3,176,3,206,138,3,816
 884 DATA173,138,3,240,15,173,146,3,891
 885 DATA201,200,144,8,169,0,141,68,931
 886 DATA3,141,13,208,173,30,208,141,917
 887 DATA69,3,173,69,3,41,128,240,726
 888 DATA28,162,2,173,69,3,61,148,646
 889 DATA3,240,13,32,69,194,169,250,1123
 890 DATA157,140,3,169,1,157,132,3,762
 891 DATA232,224,6,208,230,96,169,0,1165
 892 DATA141,64,3,141,15,208,138,72,782
 893 DATA224,1,144,27,160,5,185,8,754
 894 DATA4,24,105,1,153,8,4,201,500
 895 DATA58,144,8,169,48,153,8,4,592
 896 DATA136,208,235,202,76,232,194,76,1359
 897 DATA59,195,173,69,3,41,2,240,782
 898 DATA1,96,76,8,193,173,30,208,785

STELLAR STRIKE

```
899 DATA173,30,208,169,0,141,69,3,793
900 DATA76,8,193,141,15,208,169,0,810
901 DATA141,4,212,169,5,141,1,212,885
902 DATA169,154,141,5,212,169,129,141,1120
903 DATA4,212,96,169,185,141,5,212,944
904 DATA169,3,141,1,212,169,129,141,965
905 DATA4,212,104,170,96,0,255,255,1096
906 DATA32,65,64,64,64,64,32,66,451
907 DATA64,64,64,64,32,66,64,64,449
908 DATA64,64,32,32,66,64,64,64,450
909 DATA32,32,32,65,64,64,32,32,353
910 DATA32,66,64,64,32,32,32,32,354
911 DATA65,64,32,32,32,65,32,32,289
912 DATA32,32,32,68,32,32,32,32,292
913 DATA32,69,32,32,32,32,67,64,360
914 DATA32,32,32,68,64,32,32,32,324
915 DATA32,32,65,64,32,32,32,32,321
916 DATA68,64,32,32,67,64,64,423
917 DATA32,32,32,68,64,32,32,32,455
918 DATA67,64,64,64,32,32,68,64,483
919 DATA64,64,32,67,64,64,64,64,487
920 DATA32,68,64,64,64,64,67,64,516
921 DATA64,64,64,64,64,64,64,64,513
922 DATA64,64,65,64,64,64,64,64,513
923 DATA66,64,64,64,64,64,32,65,483
924 DATA64,64,64,64,32,66,64,64,482
925 DATA64,64,32,32,69,64,64,64,453
926 DATA32,32,69,64,64,64,32,67,424
927 DATA64,64,64,64,32,68,64,64,484
928 DATA64,64,247,0,255,0,255,0,885
929 DATA64,64,247,0,255,0,255,0,885
1000 PRINT"[CLS] PLEASE WAIT!
1001 LI =599 :FOR I =12288 TO 12840 STEPS
1002 M =0 :FOR J =I TO I+7
1003 READ A:M =M +A
1004 POKE J ,A
1005 NEXT J
1006 LI =LI +1 :READ A :IF A<M THEN PRINT "ERROR IN LINE "LI:END
1007 NEXT I
1008 LI =699 :FOR I =8192 TO 8575 STEPS
1009 M =0 :FOR J =I TO I+7
1010 READ A:M =M +A
1011 POKE J ,A
1012 NEXT J
1013 LI =LI +1 :READ A :IF A<M THEN PRINT "ERROR IN LINE "LI:END
1014 NEXT I
1015 LI =799 :FOR I =49152 TO 50191 STEPS
1016 M =0 :FOR J =I TO I+7
1017 READ A:M =M +A
1018 POKE J ,A
1019 NEXT J
1020 LI =LI +1 :READ A :IF A<M THEN PRINT "ERROR IN LINE "LI:END
1021 NEXT I
1022 RETURN
```

TRIAD

NAME: MIKE SINGLETON

GAMES: 3 DEEP SPACE, SNAKES, SHADOWFAX, THE LORDS OF MIDNIGHT, DOOMDARK'S REVENGE, QUAKE 1, AND TO BE LAUNCHED LATER THIS YEAR—THE EYE OF THE MOON

— THE CONCLUDING GAME IN THE MIDNIGHT TRILOGY.

AGE: 34

Ask Mike Singleton what his background is and you could get half a dozen answers and they would all be correct. Former English teacher, brains behind *Star Net* — a play-by-mail game with over three thousand players and well known computer games writer.

The thread running through all of these achievements is his obsession with games — and not only computer games — "I have always been games crazy ... I designed my first game when I was thirteen. It was a James Bond-style board game."

From board games Mike graduated to play-by-mail games. "I got hooked on an American game called *Star Web* in 1977. It only had fifteen players and I eventually managed to win the game two years later."

Unlike many programmers who will tell you that they will continue to write games so long as there is a market it is difficult to imagine Mike Singleton doing anything else. Ask him what his ambitions are and you get a game designer's reply: "To write a real classic game — the computer equivalent of chess — a game that people will still be playing long after I am dead and gone".

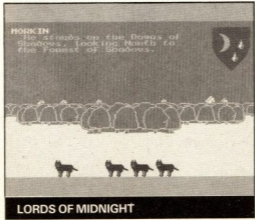
Some would say Mike has already achieved classic game status in *Lords of Midnight* and *Doomdark's Revenge* but there is plenty more on the way from him this year.

The next game from the Singleton keyboard is *Quake 1* — a game featuring an animated form of his revolutionary technique 'landscaping'. Landscaping enables the player to walk through the



playing area of the game and move and look in authentic directions. So that if you look north and see a village it gets larger as you move towards it.

Quake is being co-written by Warren Foulke — a young programmer who now works full time for Mike — helping to run *Star Net*.



The game is set in the future in the city on the floor of the ocean. The city is serviced and maintained by robots — who are also armed in the event of a terrorist attack.

But what the robots don't know is that the controlling computers have been programmed by the terrorists with a special mode called — 'Quake mode' — which will cause the whole complex to explode in twenty four hours. It's you to the rescue. You must hack into the main computer and get some of the droids on your side in an attempt to avoid disaster.

Quake 1 will be launched "in the summer" — the first time Mike has launched a game on the 64 before the Spectrum.

Running simultaneously with *Quake 1* is Mike's other main project for '85 — *The Eye of The Moon* — the final game in the Midnight trilogy.

"It's bigger and better than the first two ... the last one (*Doomdark's Revenge*) had 6,000 locations — *Eye of the Moon* will have at least 16,000".

Currently only *Lords of Midnight* is available on the 64 though *Doomdark's Revenge* will also be launched this year.

When *Eye of the Moon* is finally launched on the 64 — probably not before Spring '86 — it will have a number of other improvements, as well as sheer complexity on the first two games.

"Characterisation will be better — with close ups of the individual faces — approximately 256 of them so far ... it will also incorporate more adventure elements and it will have a two player option".

The first trilogy — which will conclude with the *Eye of the Moon* is not likely to be the end of *Midnight* — there's more to come.

Although the rules of Triad are simple enough, the strategy and tactics involved are pretty complex, so don't be in a hurry to master it.

First type in the accompanying listing and save it to tape or disc in the usual manner. Before you run it, read the following brief instructions because, believe me, you won't get very far without them.

THE BOARD

The field of play consists of a star-shaped hexagonal array of spaces or nodes. The pieces or triodes are placed on the nodes. Each of the two players start the game with eighteen triodes arranged in three groups of six occupying three of the star's six points. If that sounds complicated take a look at the illustration and you'll see what I mean — one player has red triodes, the other plays with the green.

PULSES

Triodes can either be switched on or off. A switched on triode emits pulses of its own colour in three directions — Alpha Sigma and Zeta. An easy way to visualise these is that they correspond to the three arms of the letter Y.

The pulses terminate when they reach another triode or the edge of the board. Switched off triodes emit no pulses. A triode is switched on if it receives pulses from another triode of the same colour, otherwise it is switched off. A triode cannot therefore, be switched on and off directly, but only by movement of itself or other triodes so that the pulse streams are altered to hit the switched off triode.

MOVING AROUND

A triode can move to any position on the board not

already occupied. Movement must be along the Alpha, Sigma and Zeta axes and you cannot jump over triodes of either colour blocking your path. Only switched on triodes can move.

FIRING

A switched-on triode can fire in any of the directions Alpha, Sigma or Zeta. It must fire at an enemy triode that is also switched on and there must be no triodes between the attacking triode and its target.

THE PLAY

Both players start with all their triodes switched on. The green player starts, then each player takes it

KEYBOARD CONTROLS

KEY	FUNCTION
A	Direction Alpha
S	Direction Sigma
Z	Direction Zeta
M	Move a triode
F	Fire with a triode
Return	Confirm movement or firing
Delete	Cancel movement or firing

To start a new game, press the Commodore key and N. The coloured stripe in the cursor indicates whose turn it is. Place the cursor over one of your switched on triodes and press M or F. Next, using the movement keys A, S, and Z, position the cursor on the node you wish to move

might creep in when you enter it.

It may be helpful to know what should be happening, even if it isn't, so here's what you should see when the program is run.

First the title screen should appear with the word *Triads* in large orange letters. After a minute or so delay, while the program generates the necessary data, the title screen will be replaced by the board.

WHAT YOU SEE

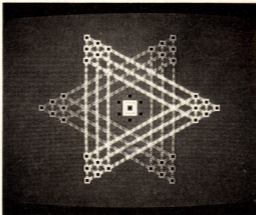
Initially, all the triodes are switched off and no pulse streams are flowing. After a short pause, the triodes are switched on, with lines of pulses drawn in to the accompaniment of beeps. When all the triodes are on, a white and green cursor appears in the middle of the screen and the pulse streams begin moving. You should then be able to move the cursor and play the game.

If you find that everything looks a complete mess when the title screen is replaced by the board, your mistake will probably be between lines 150 and 2800, where the data is generated.

If the cursor doesn't function as it should, the mistake is likely to be in lines 20 - 150. If switching does not happen according to the rules, check from line 3000 onwards.

BEFORE YOU START

One last thing: When the board is visible you won't be able to read error messages because the screen area has been relocated. The only clue you'll get is that some of the cells turn a funny colour. To read the error message press Return, type *GOTO 10000* and press Return again.



Triad By Mike Singleton for the Commodore 64

in turn to either move one of their triodes or fire at an enemy triode.

The object is to force your opponent into a position where they cannot take their turn, i.e. move or fire at one of your triodes.

This usually happens when all of their surviving triodes are switched off; in rare cases, their switched on triodes may be completely boxed in by your switched off ones.

to, or over the enemy triode you wish to fire at. Finally, press Return to execute the move or delete to cancel.

DEBUGGING

Mike Singleton has cleverly designed the program to generate most of the enormous amounts of data required. However, the program is still very long and it's possible the odd error

TRIAD

```
1 POKE52,68:POKE56,68:CLR:GOTO 150
8 REM PULSES
10 D1=01-B*INT(D1/8):D2=B+D1
11 POKECH,(PEEK(CH)AND240)ORQ2
12 Q1=Q1+2
13 RETURN
18 REM KEYSKAN
20 GOSUB 10:KY=PEEK(197):IF KY=64 THEN 20
21 IF KY=12 THEN D=0:GOSUB 40:GOTO 20
22 IF KY=13 THEN D=1:GOSUB 40:GOTO 20
23 IF KY=10 THEN D=2:GOSUB 40:GOTO 20
24 IF KY=36 THEN D=2:GOSUB 40:GOTO 20
25 IF KY=21 THEN 60
26 IF KY=39 AND PEEK(654)=2 THEN 3500
27 GOTO 20
38 REM CURSOR
40 IF LX(CU,D)=0 THEN RETURN
41 CU=LX(CU,D)
42 X=XZ(CU):XH=INT(X/256):XL=X-256*XH
43 Y=YX(CU)
44 POKE XZ,PEEK(X1):POKEY2,PEEK(Y1)
45 XD=PEEK(XZ):XB=2*(XD AND 1):POKEYZ,XD OR XB
46 POKE FL,(PEEK(FL)AND4)+2
47 POKE Y1,Y:POKEY1,XL:POKE XZ,(XL AND 254) OR XB OR XH
48 POKE FL,(PEEK(FL)AND4)+1
49 POKE XZ,(XD AND 254) OR XB OR XH
50 RETURN
58 REM MOVE
60 IF CX(CU)<>PLAYER OR SWX(CU)=0 THEN 20
61 POKE Z1,34:POKE Z2,34:POKE Z3,33
62 RX=PEEK(X1):RY=PEEK(Y1):RZ=PEEK(XZ)
63 POKE X3,RX:POKE Y3,RY:POKEYZ,5*(RZ AND 1):POKE FL,5:CZ=CU
64 GOSUB 10:KY=PEEK(197):IF KY=64 THEN 64
65 IF KY=12 THEN D=0:GOTO 70
66 IF KY=13 THEN D=1:GOTO 70
67 IF KY=10 THEN D=2:GOTO 70
68 IF KY=0 THEN POKE Z1,32:POKE Z2,32:POKE FL,1:GOTO 20
69 GOTO 64
70 IF LX(CU,D)=0 OR CX(LX(CU,D))>0 THEN 64
71 CY=KY
72 GOSUB 10:KY=PEEK(197):IF KY=64 THEN 72
73 IF KY=CY AND CX(LX(CU,D))=0 THEN GOSUB 40:GOTO 72
74 IF KY>1 THEN 72
75 IF KY=1 THEN 80
76 POKE Z1,32:POKEYZ,32:POKE FL,1
77 CU=C2:GOTO 20
78 CU=C1:GOTO 20
79 POKE X1,RX:POKEY1,Y1,RY:POKEY2,XZ,RZ
80 POKE FL,0
81 DS=D2:GOSUB3000
82 DS=CU:GOSUB3200
88 REM NEXT TURN
90 PLAYER=3-PLAYER:CU=121
91 X=XZ(CU):XH=INT(X/256):XL=X-256*XH:Y=YX(CU)
92 POKE Z1,32:POKE Z2,32
93 POKE X1,XL:POKE Y1,Y:POKEY2,XZ,XH
94 IF PLAYER=1 THEN POKE PC,10
95 IF PLAYER=2 THEN POKE PC,5
96 POKE SC,1:POKE FL,1:GOTO 20
98 REM FIRE
100 IF CX(CU)<>PLAYER OR SWX(CU)=0 THEN 20
101 POKE Z1,33:POKE Z2,33:POKE Z3,32
102 RX=PEEK(X1):RY=PEEK(Y1):RZ=PEEK(XZ)
103 POKE SC,0
104 POKE X3,RX:POKE Y3,RY:POKEYZ,5*(RZ AND 1):POKE FL,5:CZ=CU
```

TRIAD

```
105 GOSUB 10:KY=PEEK(197):IF KY=64 THEN 105
106 IF KY=12 THEN D=0:GOTO 120
107 IF KY=13 THEN D=1:GOTO 120
108 IF KY=10 THEN D=2:GOTO 120
109 IF KY=0 THEN POKE Z1,32:POKE Z2,32:POKE SC,1:POKE FL,1:GOTO 20
110 GOTO 105
120 CN=LX(CU,D):IF CN=0 THEN 130
121 IF CX(CN)=PLAYER THEN 130
122 IF CX(CN)=0 THEN GOSUB 40:GOTO 120
123 IF SWX(CN)=0 THEN 130
124 GOSUB 40
125 GOSUB 10:KY=PEEK(197):IF KY=64 THEN 125
126 IF KY=1 THEN 140
127 IF KY=0 THEN 125
130 POKE SC,1
131 POKE Z1,32:POKEZ2,32:POKE FL,1
132 POKE X1,RX:POKE Y1,RV:POKE XZ,RZ
133 CU=C2:GOTO 20
140 POKE FL,0
141 OS=CU:GOSUB 3000
142 GOTO 90
150 PRINT"[CLS]":
160 PRINT"[CLS]":
170 POKE53200,11:POKE53201,11
180 POKE53202,10:POKE53203,5
200 DIM B%(3)
210 FORK=0 TO3
220 B%(K)=24576+K*2048
230 NEXT
240 PRINT"[GRN] [3SPC]FROM THE PAGES OF COMMDORE USER..."
245 FORK=1 TO15:PRINT:NEXT
250 FOR K=1 TO 6: READ BR%(K):NEXT
260 FOR J=0 TO 3
265 READ L#
270 FOR K=0 TO 30
275 POKE 1220+J*40+K,GR%(ASC(MID$(L#,K+1,1))-64)
280 POKE 55500+J*40+K,B
285 NEXT:NEXT
290 PRINT"[WHT] [BSPC]A GAME BY MIKE SINGLETON"
300 DIM ND%(2,2,2)
310 FOR A=0 TO 2: FOR B=0 TO 2: FOR C=0 TO 2
340 ND%(A,B,C)=A+B*3+C*9
350 NEXT:NEXT:NEXT
360 DIM ILX(2,2,1)
370 FOR H=0 TO 1: FOR B=0 TO 2:FOR C=0 TO 2
385 ILX(B,C,H)=27+B*C*3+H*9
390 NEXT:NEXT:NEXT
400 FOR SET=0 TO 3
410 FOR K=0 TO 359
420 POKE B%(SET)+K,0
430 NEXT
440 FOR VEC=0 TO 2
450 V1=3-VEC:V2=2+V1
460 FOR K=0 TO 7
470 READ MASK
480 POKE B%(SET)+V1*8+K,05 AND MASK
490 POKE B%(SET)+V2*8+K,170 AND MASK
500 NEXT:NEXT
510 FOR A=0 TO 2: FOR B=0 TO 2: FOR C=0 TO 2
540 B1=B%(SET)+8*NDX(A,0,0)
550 B2=B%(SET)+8*NDX(0,0,0)
560 B3=B%(SET)+8*NDX(0,0,C)
570 B4=B%(SET)+8*NDX(A,B,C)
580 FOR K=0 TO 7
```



```

590 POKE B4+K,PEEK(B1+K)ORPEEK(B2+K)ORPEEK(B3+K)
600 NEXT:;NEXT:;NEXT:;NEXT
610 FOR H=0 TO 1:FOR B=0 TO 2:FOR C=0 TO 2
620 IF B=0 AND C=0 THEN 600
630 B1=B*(SET)+B*ILX(B,C,H)
640 B2=B*(SET)+B*NDX(B,C,H)+4*H
650 FOR K=0 TO 3
660 POKE B2+K,PEEK(B1+K)
670 NEXT
680 NEXT:;NEXT:;NEXT
690 FOR H=0 TO 1:FOR B=1 TO 2:FOR C=1 TO 2
700 B1=B*(SET)+B*ILX(B,C,H)
710 B2=B*(SET)+B*ILX(B,C,H)
720 B3=B*(SET)+B*ILX(B,C,H)
730 FOR K=0 TO 7
740 POKE B3+K,PEEK(B1+K)ORPEEK(B2+K)
750 NEXT:;NEXT:;NEXT:;NEXT:;NEXT SET
760 FOR C=45 TO 49:FOR K=0 TO 7
770 READ N
780 FOR SET=0 TO 3
790 POKE BX(SET)+C*B+K,N
800 NEXT:;NEXT:;NEXT
810 FOR K=1740 TO 1843:POKEK,0:;NEXT
820 DIM LX(121,3):DIM PX(121):DIM XZ(121)
830 DIM SX(18,2):DIM CX(121):DIM SWZ(121)
840 DIM WX(7):DIM OX(6):DIM VX(7)
850 DIM DX(6):DIM HX(6):DIM RX(6)
860 DX(0)=2:DX(1)=4:DX(2)=6:FOR K=1 TO 6
870 VX(K)=K:WX(K+1)=K
880 READ OX(K),RX(K),GX(K),HX(K)
890 NEXT
900 OX=20:OY=12
910 NX(1,2)=121
920 FOR A=1 TO 101 STEP 20
930 COL=1-COL
940 AN=A-20:IF AN=-19 THEN AN=101
950 C=A
960 FOR Y=2 TO 6
970 FOR X=2 TO 5
980 NX(X,Y)=C:C=C+1
990 NEXT:;NEXT
1000 C=AP
1010 FOR X=2 TO 6
1020 NX(X,1)=C:C=C+4
1030 NEXT
1040 C=AN
1050 FOR Y=3 TO 6
1060 NX(1,Y)=C:C=C+1
1070 NEXT
1080 NEXT
1090 FOR Y=2 TO 6:FOR X=2 TO 5
1100 PX=OX+(X-1)*OX(VX(1))+Y*OX(VX(2))
1110 PY=OY+(Y-2)*OX(VX(2))+X*OX(VX(1))
1120 N=NX(X,Y)
1130 PX(N)=1740B+PX+40*PY
1140 XZ(N)=18+B*PX:YZ(N)=44+B*PY
1150 IF X+Y>B THEN CX(N)=1+COL:OOX(1+COL)=OOX(COL+1)+1:SOX(OOX(1+COL),1+COL)=N
1160 NEXT:;NEXT
1170 FOR Y=2 TO 6:FOR X=2 TO 5:FOR D=0 TO 2
1180 V=WX(DX(D)+1)
1190 LX(NZ(X,Y),D)=NX(X+GX(V),Y+HX(V))

```

TRIAD

```
1450 NEXT: NEXT: NEXT
1500 VX(7)=VX(1): WX(1)=WX(7)
1505 FOR K=1 TO 6
1510 VX(K)=VX(K+1)
1520 WX(B-K)=WX(7-K)
1530 NEXT
1540 NEXT A
1550 FOR D=0 TO 2
1560 LX(121,D)=1+20*(DX(D)-1)
1570 NEXT
1580 PX(121)=1740B+OX+OY*40
1585 X(121)=10+B*OX: Y(121)=44+B*OY
1590 ND(0,0,0)=45
1600 FOR S=1 TO 121
1610 POKE PX(S),45+CX(S)
1620 NEXT
2000 DIM PVX(2)
2010 DIM ICX(2,2,2)
2020 DIM SCX(2,1)
2030 DIM IX(121,2)
2035 DIM OX(121,2)
2040 DIM TX(121,2)
2050 DIM OSX(50)
2060 DIM OCX(50)
2070 DIM ODX(50)
2100 FOR K=0 TO 2: FOR J=0 TO 1
2110 READ SCX(K,J)
2120 NEXT: NEXT
2200 FOR K=0 TO 2
2210 READ PVX(K)
2220 NEXT
2300 FOR C=0 TO 2: FOR K=0 TO 2: FOR J=0 TO 2
2340 READ ICX(K,J,C)
2350 NEXT: NEXT: NEXT
2355 FORK=55296+O56295: POKEK,B: NEXT
2360 POKES3270,PEEK(53270)OR16
2370 POKES6578,PEEK(56578)OR3
2380 POKES6576,(PEEK(56576)AND252)OR2
2390 POKES5272,(PEEK(53272)AND240)OR8
2390 POKES5272,(PEEK(53272)AND240)OR8
2400 SPR=72+256
2410 FOR S=0 TO 128 STEP 64: V=0
2420 READ RDX(0),RDX(1),RDX(2),R
2430 FOR K=1 TO R
2440 FOR J=0 TO 2
2450 POKE SPR+V+J,RDX(J)
2460 NEXT: V=V+3: NEXT
2470 IF V<63 THEN 2420
2480 NEXT
2490 POKES3276,255
2500 X1=53248: X2=53250: X3=53252: XZ=53264
2510 Y1=53249: Y2=53251: Y3=53253
2520 PC=53285: BC=53286: FL=53269
2550 Z1=18424: Z2=18425: Z3=18426
2560 CH=53272
2600 POKE X1,XX(121): POKE Y1,YX(121)
2610 POKE PC,5: POKE SC,1
2630 POKE Z1,32: POKE Z2,32
2700 CU=121: PLAYER=2
2710 POKE 54296,15: POKE 54277,0: POKE 54278,244
2713 POKES4272,0
2720 GATE=54276
2730 F=54273
2800 O=0: C=2: D=1: S=LX(20,D): GOSUB4100
2810 O=0: C=1: D=2: S=LX(40,D): GOSUB4100
2820 POKE FL,1: GOTO20
2998 REM REMOVE
3000 IF O2<>B THEN GOSUB 10: GOTO 3000
3001 POKE GATE,33
3002 FOR K=50 TO 5 STEP -1: POKE FO,K: NEXT
3010 FOR D=0 TO 2
3015 OX(OS,D)=IX(OS,D)+SGN(LX(OS,D))
3020 NEXT
3030 CX(OS)=0: SWX(OS)=0
3040 POKE PX(OS),NDX(IX(OS,0),IX(OS,1),IX(OS,2))
3050 POKE PX(OS)+37888,15
3060 FOR D=1 TO 2: DZ=3-D
3070 POKE PX(OS)+PVX(D),ICX(IX(OS,D),OX(OS,DZ),DZ)
3080 NEXT
3090 FOR OD=0 TO 2
3100 GOSUB 4000
```

```
3110 NEXT
3120 RETURN
3198 REM REPLACE
3200 IF O2<>B THEN GOSUB 10: GOTO 3200
3201 POKE GATE,33
3202 FOR K=-25 TO 25: POKE FO,5+ABS(K): NEXT
3210 CX(OS)=PLAYER
3215 SWX(OS)=SGN(TX(OS,CX(OS)))
3220 FOR D=0 TO 2
3230 OX(OS,D)=CX(OS)+SWX(OS)*SGN(LX(OS,D))
3240 NEXT
3250 POKEPX(OS),SCX(CX(OS),SWX(OS))
3260 POKE PX(OS)+37888,B
3270 GOTO 3000
3498 REM RESTART
3500 POKE FL,0
3505 FORK=1740B+O18431: POKEK,B: NEXT
3510 FOR S=1 TO 121
3520 POKE PX(S)+37888,B: POKE FX(S),45
3525 CX(S)=0: SWX(S)=0
3526 FOR J=0 TO 2
3527 IX(S,J)=0: OX(S,J)=0: TX(S,J)=0
3528 NEXT
3530 NEXT
3540 FOR COL=1 TO 2
```

```

3550 FOR K=1 TO 18
3560 POKE PX(SGX(K,COL)),45+COL
3570 CX(SGX(K,COL))=COL
3580 NEXT K
3590 POKECH,(PEEK(CH)AND240)OR8
3600 O1=2:GOTO 2600
3998 REM SWITCHING
4000 O=0
4010 S=LX(OS,OD)
4015 IF CX(OS)=0 THEN C=IX(OS,OD):GOTO 4030
4020 C=CX(OS)*SWX(OS)
4030 D=0
4100 IF S=0 THEN 4500
4105 POKE GATE,33:POKE FO,0
4110 I=IX(S,D)
4120 IF C=I THEN 4500
4130 TX(S,C)=TX(S,C)+1
4140 TX(S,I)=TX(S,I)-1
4150 IX(S,D)=C
4160 DZ=SGN(D)*(3-D)
4300 IF CX(S)>0 THEN 4370
4305 OX(S,D)=C+SGN(LX(S,D))
4335 POKE PX(S,0)=I+IX(S,1):I2=IX(S,2)
4336 IF D>0 THEN POKE PX(S)+PVX(D),ICX(C,OX(S,D),DZ)
4340 POKE PX(S)+NDX(I0,I1,I2):POKE FO,10
4360 LS=S:LX(S,D):GOTO 4100
4370 SW=SGN(TX(S,CX(S)))
4380 IF SW=SWX(S) THEN POKE PX(S)+PVX(D),ICX(C,OX(S,DZ),DZ):GOTO 4500
4385 SWX(S)=SW
4386 NC=CX(S)*SW
4387 FOR DD=0 TO 2:OX(S,DD)=NC+SGN(LX(S,DD)):NEXT DD
4388 IF D=0 THEN POKE PX(S)+PVX(D),ICX(C,OX(S,DZ),DZ):GOTO 4500
4389 FOR DD=1 TO 2:DZ=SGN(DD)*(3-DD)
4390 POKE PX(S)+PVX(DD),ICX(IX(S,DD),OX(S,DZ),DZ)
4391 NEXT DD
4395 SWX(S)=SW:POKEPX(S),SCX(CX(S),SW):POKE FO,5+15*SW
4400 O=0+1
4410 OX(D)=S:OX(D)=NC:OX(D)=-1
4500 IF O=0 THEN POKE GATE,0:RETURN
4520 IF OX(D)=3 THEN O=O-1:GOTO 4500
4530 C=OX(D):D=OX(D):LS=OX(D):S=LX(LS,D)
5500 DATA 32,95,105,160,223,233
5510 DATA BDDDDDDCFEAEBCAAAFEBDDDDDDCFEAA
5520 DATA AAADDAAFCBEAEFAAFCEBDDDFCAFEAA
5530 DATA AAADDAAFCBEAEFAAFCEBDDDFCAFEAA
5540 DATA AAABCFDCABDEBCFDCABDEBCFDCABDE
5620 DATA 0,0,60,60,60,60,0,0,0,12,60,60,60,60,48,0
6010 DATA 3,15,15,15,15,12,0,0,192,240,240,240,240,48,0,0
7000 DATA 60,60,0,0,0,0,60,60,3,3,3,195,195,192,192,192
8010 DATA 192,192,192,195,195,3,3,3,60,60,60,0,0,0,0
9020 DATA 0,0,60,60,240,240,240,240,192,0,0,12,15,15,15,13
9030 DATA 170,170,170,170,170,170,170,170,170,170,170
9040 DATA 85,85,125,125,125,125,85,85,85,85,85,85,85
9100 DATA 170,170,190,190,190,190,170,170
9140 DATA -2,1,1,0,2,0,1,2,1,-1,2,-1,-1,0
9370 DATA 0,-2,0,-1,-2,-1,1,-1,45,45,46,48,47,49,-40,-1,1
9440 DATA 0,0,1,1,1,2,2,2,27,37,38,30,40,41,33,43,44,27,39,42
9503 DATA 28,31,34,29,32,35,255,255,240,2,213,85,112,2,223,255,112,2
9505 DATA 213,85,112,2,223,255,112,2,213,85,112,2,255,255,240,2
9507 DATA 0,0,0,1,0,0,0,6,3,252,0,8,0,0,0,7,0,0,0,4
10000 POKES6578,(PEEK(56578)OR3)
10010 POKES6576,(PEEK(56576)AND252)OR3
10020 POKES3272,21
10025 POKES3270,200
10030 PRINT"CHWT":;

```

ATTACK OF THE SOFTWARE PIRATES

NAME: T. GIBSON & M. HARRISON

GAMES: JAMMIN', BOZO'S NIGHT OUT, SEASIDE

SPECIAL: GHETTO BLASTER AND SEVERAL ARCADE GAMES.

AGE: 37 "AM I TOO OLD FOR COMMODORE USER?"

Like many top names in the games business Tony Gibson — or 'Gibbo' as he prefers to be called — learned his trade in the arcade business, programming the

pay-per-play cabinets that have now largely disappeared from our pubs and clubs.

In those pre-micro days he rubbed shoulders with the authors of the arcade games Gyrruss and Blue Print. At that time they were working for a company called Zylec — whom they left shortly afterwards to set up their own firm — Ashby Computer Graphics. ACB are now behind the best known games company in the UK — Ultimate Play the Game.

In the meantime Tony's firm were having their own success in the arcades. They developed an arcade game called Master Blaster — which had three separate games in one cabinet. One of these was The Pit — which later turned up marketed by an American games firm called HES.

Towards the end of 1983 Tony Gibson's boss — Andy Walker — had decided to make



his own move into the booming home games market and set up Tasset. Gibbo was contracted to write three games. "I spent the first six weeks just playing around with the 64,

trying things out, finding out what it would do and what it couldn't.

"I wanted to break all the rules with my first 64 game. I was fed up with writing games



Mark Harrison



Tony Gibson

Attack of the Software Pirates — for the Commodore 64 by T Gibson & M Harrison

```

1 6PZ=10241:8=53248:POKESPZ-1,0:COL=255:POKECOL,2:0=1:LI=3:DD=0
2 FL=10368:UP=FL+3:DN=FL+6:LF=FL+9:RT=FL+12:SN=251:BX=252:O=1416
3 DEF FN A(X)=PEEK(52481)*256+PEEK(52480)-54272:SE=1177:DE=SE+79:DK=0
100 GOSUB2000:GOSUB1000
101 GOSUB3000:SYSFL:GOSUB4000:GOSUB3000:GOSUB4000:GOSUB3000:GOSUB4000
102 GOTO101
1000 PRINT"[CLS][WHT][2SPC][2SPC]ATTACK OF THE SOFTWARE PIRATES[2SPC]"
1010 A$="[REV][RED][24SPC]"
1020 B$="[REV][GRN][28PC][YEL][2SPC][RED][28PC][GRN][28PC][YEL][28PC][RED][28PC]"
1030 C$="[REV][RED][YEL][28PC][RED][28PC][GRN][28PC][YEL][28PC][RED][28PC]"
1040 D$="[REV][RED][G>J][G>I][G>U][G>I][G>U][G>I][G>U][G>I][G>U][G>I][G>U][G>I][G>U][G>I][G>U][G>I]"
1050 E$="[REV][RED][G>J][G>I][G>U][G>I][G>U][G>I][G>U][G>I][G>U][G>I][G>U][G>I][G>U][G>I]"
1060 F$="[REV][GRN][8SPC][YEL][8SPC][RED][8SPC]"
1070 PRINT"[REV][GRN][8SPC][YEL][8SPC][RED][8SPC][HOM]"
1080 FORI=0TO25:PRINT"[CR]";NEXTI:PRINT"[WHT][2CD]SCORE:000000"
    
```

to other people's specifications. Jammin' enabled me to express myself more than anything I had done before. I wanted a game that sounded good as well as one that played well."

The music for Jammin' was written by Mark Harrison. Gibbo's partner and co-author of his games. "Mark borrowed heavily from various sources to put together a really nice collection of tunes." Good sound and graphics are the hallmarks of a Gibbo-Harrison game though Tony also points out that there is also a personal trademark in all of his games.

"I put a large amount of green, red and yellow on screen... this is my trademark. It's because I am a reggae fan and the colours represent the music."

Gibbo's liking for music was how he met Mark Harrison. "I put together a computerised performance. Trouble was I drank so much lager I forgot how to operate the machine. It was very embarrassing at the time."

Mark Harrison was in the club that night — playing guitar in his own band — Generator. A conversation struck up, a relationship developed, and a partnership was born that has produced some of the most fun and interesting games yet for the 64.

The firm worked well — and Taskset were very quickly on to another hit from Gibbo-Harrison — *Bozo's Night Out*. "Young kids seem to love Bozo... I think it's the idea of a grown up stumbling, drunkenly around the screen that amuses them," says Gibson, clearly amused by the notion

himself. Mark and Tony were now working well as a partnership. Both had clear areas of expertise — Gibson the programmer, Harrison designing the graphics with the aid of a Koala Pad graphics tablet.

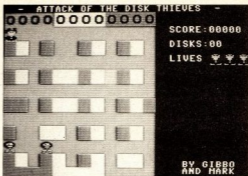
Their next project was one that appealed to them both because of their political beliefs — they are both members of the Ecology Party. It was to be a protest game about nuclear energy — inspired by the recent accident at Sellafield in which radioactive substances leaked.

Royalties were to be donated to Greenpeace, the cassette inlay was to carry a hard-hitting statement of the programmers' views about nuclear power, everything was ready to go.

But there was one hitch: Tony Gibson's relations with Taskset were already at a low ebb. He was now working at home because he found he could not work in the atmosphere at the office. "They had Radio One blaring out all day... it was driving me up the wall."

But the real disagreement was over the game itself — *Seaside Special*. Taskset were reluctant to emphasise all the controversial elements in Gibson and Harrison's game. In the end Taskset launched *Seaside Special* without any references to Greenpeace or Sellafield. Tony Gibson and Mark Harrison are now working for themselves.

The next game from this stable is called *Ghetto Blaster*. "I got the idea for the game whilst laying in the sun in Battersea Park in London when this guy walked past me with a ghetto blaster



blaring out. It made me want to rival record companies en route.

The game features a split screen with a ghetto blaster in the bottom portion with the cassette turning. The top shows the play area. The action takes place in Funkytown — where you have to collect ten demo tapes and get them safely to your record company, avoiding the nasties sent out by

Now that you've read about the authors of *Seaside Special*, *Bozo's Night Out*, and *Ghetto Blaster* play their game. Written exclusively for Commodore User — *Attack of the Software Pirates* is an all-action game for your 64. Don't just sit there — key it in now.

Attack of the Software Pirates is one of the shorter listings in the *Book of Celebrity Games*.

But don't take the brevity of the listing as an indication of something lacking in the game.

The objective is to get the disks from the top of the screen to the bottom, and deposit them in their correct colour coordinated positions.

The first row of disks you will find fairly easy. The second colour will get tougher as the software pirates are out to stop you.

If a pirate should catch you he will automatically steal your disk and place it back at the top of the screen.

You are going to enjoy playing *Attack of the Software Pirates*. Its easy to enter and not very long — so what are you waiting for.

```

1090 PRINT"[2CDJ][14CL]DISKS:00[2CDJ][BCL]LIVES"
1100 PRINT"[15CDJ][12CL]BY GIBBO[CDJ][BCL]AND MARK[HDJ]"
1998 POKES+21,231:RETURN
2000 POKES+21,0:POKES+32,0:POKES+33,0:PRINT"[CLS]":FORI=0TO11:PRINT:NEXTI
2002 FORD=1TO2:W=0:FORI=1TO16:FORP=0TO1:READA:POKESPZ+Y+W+P,A:NEXTP
2005 Y=Y+64:W=W+3:NEXTQ:M=2040
2006 POKEM,161:FORI=M+1TOM+4:POKEI,160:NEXTI:POKES,16:POKES+1,74
2009 POKEM+5,161:POKEM+6,161:POKEM+7,161:POKES+20,255:POKES+37,1:POKES+30,10
2010 POKES+10,15:POKES+11,101:POKES+12,32:POKES+13,101:POKES+15,101
2012 POKES+8,160:POKES+9,202
2020 X=52480:FORI=0TO9:READF:POKEX+I,F:NEXTI
2500 Z=10368:FORI=0TO27:READD:POKEZ+I,D:NEXTI:RETURN
3000 J=PEEK(56320):POKESX,0:POKESN,0
3020 IFJ=125THENSYSDN
3030 IFJ=126THENSYSUN
3040 IFJ=119THENSYSRT
3050 IFJ=123THENSYSLF
3055 POKES3278,255:E=PEEK(53278)AND1
3057 IFE=1ANDCAR=1THENGOSUB5000
  
```

ATTACK OF THE SOFTWARE PIRATES

```

3060 IFPEEK (FNA(X))=213ANDCAR=@ANDPEEK(53249)<>234THENCAR=1:GOSUB3900
3065 IFPEEK(53249)=234ANDCAR=1ANDPEEK(FNA(X))<>213THENCAR=@:GOSUB3950
3070 RETURN
3900 POKEFNA(X),160:POKEFNA(X)+1,160:POKEFNA(X)+40,160:POKEFNA(X)+41,160
3901 VV=FNA(X):RETURN
3950 POKEFNA(X),213:POKEFNA(X)+1,201:POKEFNA(X)+40,202:POKEFNA(X)+41,203
3960 IFPEEK(SE)=57THENPOKESE-1,PEEK(SE-1)+1:POKESE,48:GOTO3980
3970 POKESE,PEEK(SE)+1
3980 IFPEEK(DE+1)=57THENPOKEDE,PEEK(DE)+1:POKEDE+1,48:DK=DK+1:GOTO3999
3990 POKEDE+1,PEEK(DE+1)+1:DK=DK+1:IFDK=4THENGOSUB5500
3999 RETURN
4000 Q=@+1:IFQ=5THENO=1
4001 POKE53278,255:POKESN,Q:POKESX,Q*2:BX=PEEK(53248):GY=PEEK(53249)
4120 BX=PEEK(53248+(Q*2)):BY=PEEK(53249+(Q*2))
4125 IFCAR=@ANDQ<3THENGOTO4170
4126 IFCAR=1ANDQ=4THENFORGH=1TO2
4130 IFB<GXTHENSYSRT
4140 IFB>GXTHENSYSLF
4150 IFBY<GYTHENSYSDN
4160 IFBY>GYTHENSYSUP
4170 E=PEEK(53278)AND1
4180 IFE=1ANDCAR=1THENGOSUB5000
4181 IFCAR=1ANDQ=4THENNEXTGH
4999 RETURN
5000 LI=LI-1:CAR=@:POKEVV,213:POKEVV+1,201:POKEVV+40,202:POKEVV+41,203
5010 POKE53269,PEEK(53269)AND(2^(5-LI))-1:IFLI=@THEN5600
5020 RETURN
5500 DD=DD+DK:DK=@:IFDD=4THENCC=30:POKECOL,5:POKE53269,PEEK(53269)ORB
5520 IFDD=@THENCC=15B:POKECOL,7:POKE53269,PEEK(53269)OR16
5530 IFDD=12THENGOTO7000
5545 PRINT" [HOM]:A#=" [REV] [24SPC]"
5551 PRINT:PRINTCHR$(CC):FORI=1TO4:PRINTA#:PRINTA#:PRINT:PRINT:NEXTI
5571 PRINTA#:PRINTA#:PRINTA#:PRINTA#: [HOM]:RETURN
5600 FORI=@TO100:POKE53267,PEEK(53267)+IAND15:NEXTI:POKE53269,@
5601 FORI=@TO50:PRINT:NEXT
5602 PRINT" [14SPC]GAME OVER"
5603 PRINT" [11SPC]ANOTHER GAME? Y/N"
5610 FORI=1TO11:PRINT:NEXT
5620 GETA#:IFA#=""THEN5620
5630 IFA#=""THENRUN
5640 IFA#("<")N"THEN5620
5650 END
5999 RETURN
7000 FORI=@TO6:PRINT:NEXT:PRINT" [7CR]YOU WIN[HOM]"
7001 FORI=@TO30:FORFL=@TO3:POKE53288+FL,PEEK(53288+FL)+IAND15:NEXTFL:NEXTI
7002 POKE53269,@:GOTO5601
10000 DATA@,0,0,0,2,160,10,168,43,250,38,218,47,254,42,170
10010 DATA9,88,2,160,0,192,2,160,5,20,8,8,4,4,40,18
10020 DATA@,0,2,10,10,8,42,170,43,250,38,230,47,254,15,252
10030 DATA3,240,3,240,10,104,42,170,42,106,42,170,58,171,63,63
10040 REM
10050 DATA120,216,248,218,254,218,4,219,10,219
11000 DATA76,143,40,76,249,40,76,23,41,76,53,41,76,83,41,169
11010 DATA200,133,253,169,216,133,254,32,151,224,165,141,41,15,201,12
11020 DATA16,245,141,6,204,32,151,224,165,141,41,7,201,5,16,245
11030 DATA170,224,0,240,14,165,253,24,105,160,133,253,144,2,230,254
11040 DATA202,208,238,174,6,204,224,0,240,14,165,253,24,105,2,133
11050 DATA253,144,2,230,254,202,208,238,32,151,224,165,141,41,3,201
11060 DATA3,240,245,168,185,246,40,160,0,145,253,200,145,253,160,40
11070 DATA145,253,200,145,253,96,2,5,7,32,130,41,56,233,80,133
11080 DATA253,176,2,198,254,32,141,41,208,12,32,115,41,185,1,208
11090 DATA56,233,16,153,1,208,96,32,130,41,24,105,80,133,253,144
11100 DATA2,230,254,32,141,41,208,12,32,115,41,185,1,208,24,105
11110 DATA16,153,1,208,96,32,130,41,56,233,2,133,253,176,2,198
11120 DATA254,32,141,41,208,12,32,115,41,185,0,208,56,233,16,153
11130 DATA@,208,96,32,130,41,24,105,2,133,253,144,2,230,254,32
11140 DATA141,41,208,14,32,115,41,185,0,208,24,105,16,153,0,208
11150 DATA144,0,96,165,253,157,0,205,165,254,157,1,205,165,251
11160 DATA10,168,96,166,252,189,1,205,133,254,189,0,205,96,160,0,177
11170 DATA253,41,15,197,255,96

```

BRICK BUSTERS

NAME: RICHARD LEINFELLNER

GAMES: THE EVIL DEAD, CAULDRON.

AGE: 19

I first met Richard Leinfellner at the London Dungeon amid the models of horrific medieval torture. A fitting place for the launch of Richard's first game — the *Evil Dead*. But the setting was fitting in more than one way for Richard didn't look out of place himself with his black leather jacket — complete with frills and studs.

Since the launch of *Evil Dead* — not the biggest success of all time — a lot has happened to Richard. Not least he has changed his image. With cropped hair, and heavy Austrian accent, he now looks more like a respectable professor — rather than the leathery biker of his *Evil Dead* days — "I still have the motorbike though," he is quick to point out.

Evil Dead did not repeat the cult success of the film on which it was based. "It was my first game," says Leinfellner, with a completely disarming frankness. "Although it may not be the best game of all time it is quite advanced technically."

The criticism of *Evil Dead* becomes completely insignificant when you play Richard's new game — *Cauldron*. Palace spent a long time perfecting this one — and it shows. The arcade adventure in which you are a witch seeking a golden broom-stick is one of the guaranteed smash hits of '85.

So what caused the turnaround? "We now work in a team, the graphics are designed by our full time artist Steve, and the game play is worked out in a team. Every single part of the play has been discussed in great detail to give the best possible game play".

When I went to see Richard at Palace's dingy offices — in

an old cinema near King's Cross Station, he was still working on *Cauldron*. "See that — a green key by the green door ... I specified that no keys were to be left by the doors of the same colour," he said, interrupting our conversation, to tick off a fellow programmer.

I immediately got the impression that the attention to detail in *Cauldron* was painstaking. And talking of pains, playing the game is pretty painful too. It is difficult — after a whole Easter weekend playing the game with a friend we still only managed to get one of the ingredients for the spell into the witches cauldron.

Richard makes no apologies for the toughness of *Cauldron*. "Let's face it, games players have had a lot of practice over the last couple of years. New games need to be tough and challenging if they are to hold interest. *Cauldron* is difficult but it is also fun to play and you can enjoy it even if you don't master it after your first few goes. We want people to be still enjoying the game after a year, or even after two".

Richard Leinfellner's first computer experience was at Heathlands Comprehensive in Hounslow, London. "We had a terminal which plugged us into a mainframe. It was infuriating because it was constantly ordering you to log off in five minutes ... I lost so many programs that way."

When Heathlands got their own computer — a 3802 — Richard was given the job of setting it up, organising interfaces for printers, and teaching the teachers how to use it.

Like so many top games writers Richard is critical of computer studies at school. "I



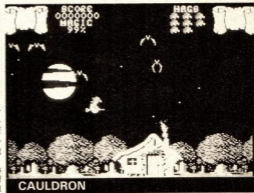
did the 'O' level but my school did not do the 'A' level ... it's useless anyway".

By the time Richard left Heathlands — with 'A' levels in Physics, Chemistry, Maths, and German — he was already a competent machine-code programmer.

The German 'A' level was an easy way of gaining a fourth GCE for Richard, who was born in Vienna, and speaks German fluently.

So what happens after *Cauldron*? "A holiday ... I'm going to Austria to see my family. We have at least a dozen ideas for another game, but nothing has been finalised yet".

And what advice does Richard Leinfellner have for budding computer whizz kids? "Practice ... you just have to keep at it to learn all about you machine and get the most out of it".



Brickbusters is a new variation on that old favourite Breakout. Breakout is a bit of a geriatric on the games scene these days, so Richard Leinfellner has souped it up and given it some added vitality.

Arcade addicts will know that the best way to beat Breakout is to knock a hole in the wall so that the ball can break through and devastate the top row of bricks! You'll have to devise some other method to crack Brickbusters, because the wall keeps rearranging itself!

First type in and save the *Boot Loader* program in the first listing. If you are using the Datasette, save the program at the beginning of a cassette — you'll see why later. When you've saved *Boot Loader*, get rid of it by typing NEW/RETURN or switching off the computer.

Next, type in and run the *Boot Maker* program in the second listing. An error statement will be generated if you have made any errors typing in the data. If this happens, Check the data statements through carefully and make any necessary corrections.

When you've got it right you will be given the option to save to tape or disc. Tape users should save the code on the tape after the *Boot Loader* program. Now, switch off the computer again (or type NEW) and load the *Boot Loader* program you saved earlier. When run it will load the program code and execute it, presenting you with the Brickbusters screen. Nothing left to do now but plug a joystick into port 2 and bust those bricks!

Brickbusters — for the Commodore 64 by Richard Leinfellner

Boot Loader

```
10 IF A=1 THEN 70
20 N=1
30 PRINT"(CLS)BRICKBUSTERS LOADER"
40 INPUT"TAPE/D=DISC":A$
50 IF A$="D" THEN N=8
60 A=1:LOAD"BRUSTERS",N,1
70 SYS 12*4096
```

Boot Maker

```
10 PRINT"(CLS)BRICK BUSTERS TAPE/DISC MAKER"
20 N=12*4096
30 READ A
40 IF A=-1 THEN GOTO 90
50 POKE N,A
60 N=N+1
70 P=P+A
80 GOTO 30
90 IF P<>19B124 THEN GOTO 140
100 INPUT"TAPE OR D=DISC":A$
110 IF A$="D" THEN POKE 50764,0:POKE 50766,0
120 SYS 50763
130 END
140 PRINT"CHECKSUM ERROR IN DATA STATEMENT"
150 PRINT"PLEASE CHECK DATA LINES"
160 STOP
```

```
200 DATA 120,169,0,141,14,198,169,6
210 DATA 141,32,208,169,0,141,35,208
220 DATA 141,0,212,141,202,197,169,15
230 DATA 141,24,212,169,84,141,20,3
240 DATA 169,196,141,21,5,169,254,141
250 DATA 24,3,169,196,141,25,3,173
260 DATA 14,220,41,254,141,14,220,169
270 DATA 1,141,26,208,169,251,141,18
280 DATA 208,175,17,208,41,127,141,17
290 DATA 208,169,9,141,245,197,32,78
300 DATA 197,32,104,197,32,203,196,162
310 DATA 5,169,0,157,209,197,157,226
320 DATA 197,202,208,247,32,163,197,32
330 DATA 188,197,169,18,141,49,197,32
340 DATA 64,196,32,246,197,169,58,141
350 DATA 68,197,169,3,141,69,197,88
360 DATA 162,240,160,0,189,119,4,201
370 DATA 32,240,24,202,208,246,238,64
380 DATA 197,175,14,198,240,234,173,0
390 DATA 220,41,16,208,227,76,0,192
400 DATA 76,128,192,208,192,239,208,227
410 DATA 32,203,196,169,50,141,68,197
420 DATA 76,128,192,173,120,4,72,173
430 DATA 208,4,72,173,24,5,72,162
440 DATA 8,189,121,4,201,160,240,2
450 DATA 169,32,157,120,4,189,201,4
460 DATA 201,160,240,2,169,32,157,200
470 DATA 4,189,25,5,201,160,240,2
480 DATA 169,32,157,24,5,232,224,39
490 DATA 208,215,104,201,160,240,2,169
500 DATA 32,141,65,5,104,201,160,240
510 DATA 2,169,32,141,239,4,104,201
520 DATA 160,240,2,169,32,141,159,4
530 DATA 173,199,4,72,173,23,5,72
540 DATA 173,103,5,72,162,38,189,168
550 DATA 4,201,160,240,2,169,32,157
560 DATA 161,4,189,240,4,201,160,240
570 DATA 2,169,32,157,241,4,189,64
580 DATA 5,201,160,240,2,169,32,157
590 DATA 65,5,202,16,217,104,201,160
600 DATA 240,2,169,32,141,64,5,104
610 DATA 201,160,240,2,169,32,141,240
620 DATA 4,104,201,160,240,2,169,32
630 DATA 141,160,4,162,39,160,0,185
640 DATA 215,197,157,120,216,200,185,215
650 DATA 197,157,160,216,200,185,215,197
660 DATA 157,200,216,200,185,215,197,157
670 DATA 240,216,200,185,215,197,157,24
680 DATA 217,200,185,215,197,157,64,217
690 DATA 202,16,210,96,173,14,198,240
700 DATA 1,96,173,202,197,240,1,96
710 DATA 169,10,141,65,197,173,65,197
720 DATA 240,94,206,65,197,173,57,197
730 DATA 141,59,197,173,59,197,240,30
740 DATA 173,51,197,41,1,201,1,280
750 DATA 3,76,1,194,173,51,197,41
760 DATA 2,201,2,200,3,76,47,194
770 DATA 206,59,197,76,171,193,173,65
780 DATA 197,240,45,206,65,197,173,58
790 DATA 197,141,60,197,173,60,197,240
800 DATA 38,173,51,197,41,4,201,4
810 DATA 208,3,76,196,194,173,51,197
820 DATA 41,0,201,8,208,3,76,229
830 DATA 194,206,60,197,76,220,193,96
840 DATA 96,173,54,197,56,233,1,201
850 DATA 1,144,14,141,56,197,32,8
860 DATA 195,208,17,32,166,195,76,188
870 DATA 193,173,64,197,41,1,24,185
880 DATA 1,141,58,197,173,51,197,73
890 DATA 3,141,51,197,76,157,193,173
900 DATA 54,197,24,185,1,201,25,176
910 DATA 14,141,56,197,32,8,195,200
920 DATA 120,32,166,195,76,200,193,173
930 DATA 245,197,56,233,1,176,54,162
```


940 DATA 9,189,14,198,157,222,6,169
 950 DATA 7,157,222,218,202,208,242,162
 960 DATA 18,189,24,198,157,2,7,169
 970 DATA 1,157,2,219,202,208,242,162
 980 DATA 29,189,43,198,157,229,5,169
 990 DATA 15,157,229,217,202,208,242,169
 1000 DATA 1,141,14,198,96,141,245,197
 1010 DATA 32,188,197,173,68,197,201,10
 1020 DATA 144,6,56,233,5,141,68,197
 1030 DATA 173,54,197,10,170,189,259,196
 1040 DATA 133,251,189,0,197,133,252,172
 1050 DATA 53,197,169,32,145,251,32,246
 1060 DATA 197,169,150,141,202,197,76,140
 1070 DATA 193,173,51,197,73,3,141,51
 1080 DATA 197,76,157,193,173,53,197,56
 1090 DATA 233,1,144,14,141,55,197,32
 1100 DATA 8,195,208,6,32,166,195,76
 1110 DATA 237,193,173,51,197,73,12,141
 1120 DATA 51,197,76,249,193,173,53,197
 1130 DATA 24,105,1,201,40,176,14,141
 1140 DATA 55,197,32,8,195,208,6,32
 1150 DATA 166,197,76,249,193,173,51,197
 1160 DATA 73,12,141,51,197,76,206,193
 1170 DATA 173,56,197,10,170,172,55,197
 1180 DATA 189,259,196,133,251,189,0,197
 1190 DATA 133,252,177,251,201,32,240,11
 1200 DATA 201,81,240,7,201,168,240,67
 1210 DATA 76,44,195,96,152,56,237,49
 1220 DATA 197,176,4,105,255,73,255,240
 1230 DATA 24,201,1,240,30,201,2,240
 1240 DATA 34,169,10,141,1,212,169,17
 1250 DATA 141,4,212,169,5,141,74,198
 1260 DATA 96,169,0,141,58,197,169,1
 1270 DATA 76,65,195,169,1,141,58,197
 1280 DATA 76,65,195,169,2,141,58,197
 1290 DATA 76,65,195,169,3,145,251,173
 1300 DATA 64,197,41,1,24,105,1,141
 1310 DATA 58,197,169,10,56,237,56,197
 1320 DATA 170,189,231,197,141,214,197,32
 1330 DATA 163,197,169,1,169,25,141,1
 1340 DATA 212,169,0,141,5,212,169,243
 1350 DATA 141,6,212,169,17,141,4,212
 1360 DATA 169,5,141,74,198,96,173,54
 1370 DATA 197,10,170,189,259,196,133,251
 1380 DATA 189,0,197,133,252,172,53,197
 1390 DATA 177,251,201,81,208,4,169,32
 1400 DATA 145,251,173,56,197,141,54,197
 1410 DATA 10,170,189,259,196,133,251,189
 1420 DATA 0,197,133,252,172,55,197,140
 1430 DATA 53,197,177,251,201,81,240,4
 1440 DATA 201,32,208,15,169,81,145,251
 1450 DATA 165,252,24,105,212,133,252,169
 1460 DATA 2,145,251,96,173,0,220,73
 1470 DATA 255,41,12,201,8,240,5,201
 1480 DATA 4,240,31,96,173,49,197,24
 1490 DATA 185,1,201,38,176,17,141,49
 1500 DATA 197,32,64,196,174,49,197,202
 1510 DATA 202,202,169,32,157,152,7,76
 1520 DATA 3,196,173,49,197,56,233,1

1530 DATA 201,2,144,17,141,49,197,32
 1540 DATA 64,196,174,49,197,232,232,232
 1550 DATA 169,32,157,152,7,76,3,196
 1560 DATA 170,202,202,160,4,169,226,157
 1570 DATA 152,7,169,5,157,152,219,232
 1580 DATA 136,16,242,96,173,17,208,48
 1590 DATA 31,173,18,208,201,251,176,24
 1600 DATA 169,251,141,18,208,173,17,208
 1610 DATA 41,1,207,141,17,208,169,1,141
 1620 DATA 25,208,104,168,104,170,104,64
 1630 DATA 173,74,198,240,6,206,74,198
 1640 DATA 76,136,196,169,16,141,4,212
 1650 DATA 169,49,141,18,208,173,17,208
 1660 DATA 41,127,141,17,208,173,66,197
 1670 DATA 240,6,206,66,197,76,169,196
 1680 DATA 173,68,197,141,66,197,32,179
 1690 DATA 192,32,244,195,173,61,197,240
 1700 DATA 6,206,61,197,76,192,196,173
 1710 DATA 69,197,141,61,197,32,140,193
 1720 DATA 173,202,197,240,3,206,202,197
 1730 DATA 76,109,196,169,0,141,63,197
 1740 DATA 168,185,221,197,141,67,237,238
 1750 DATA 63,197,162,240,160,40,169,160
 1760 DATA 157,119,4,173,67,197,157,119
 1770 DATA 216,136,208,14,172,63,197,185
 1780 DATA 221,197,141,67,197,160,40,238
 1790 DATA 63,197,202,208,225,96,64,0
 1800 DATA 4,40,4,80,4,120,4,160
 1810 DATA 4,200,4,240,4,24,5,24
 1820 DATA 5,104,5,144,5,184,5,664
 1830 DATA 5,8,6,48,6,88,6,128
 1840 DATA 6,168,6,208,6,248,6,32
 1850 DATA 7,72,7,112,7,152,7,192
 1860 DATA 7,18,22,6,8,20,20,20
 1870 DATA 20,1,1,1,0,0,0,0
 1880 DATA 0,0,0,0,0,0,0,0
 1890 DATA 169,32,157,0,4,157,0,5
 1900 DATA 157,0,6,157,232,6,169,0
 1910 DATA 157,0,216,157,0,217,157,0
 1920 DATA 218,157,232,218,202,208,225,96
 1930 DATA 162,6,189,202,197,157,255,3
 1940 DATA 169,1,157,255,215,202,208,242
 1950 DATA 162,5,189,238,197,157,30,4
 1960 DATA 169,5,157,30,216,202,208,242
 1970 DATA 96,76,254,196,162,5,189,226
 1980 DATA 197,201,10,176,244,9,40,157
 1990 DATA 5,4,169,7,157,5,216,202
 2000 DATA 208,236,96,162,5,24,189,226
 2010 DATA 197,125,209,197,201,10,144,2
 2020 DATA 233,10,157,226,197,202,208,238
 2030 DATA 32,140,197,96,173,245,197,9
 2040 DATA 48,141,37,4,169,5,141,37
 2050 DATA 216,96,0,19,3,15,18,18
 2060 DATA 32,0,0,0,0,0,0,1
 2070 DATA 4,9,6,1,13,13,7,6
 2080 DATA 9,4,1,0,0,0,0,0
 2090 DATA 0,1,2,3,4,5,6,2
 2100 DATA 1,12,12,19,0,0,169,1
 2110 DATA 141,58,197,141,57,197,169,5
 2120 DATA 141,51,197,169,22,141,54,197
 2130 DATA 169,20,141,53,197,96,0,7
 2140 DATA 1,13,5,32,15,22,5,18
 2150 DATA 0,16,18,5,19,19,32,6
 2160 DATA 9,18,5,32,20,15,32,16
 2170 DATA 12,1,25,0,2,18,9,3
 2180 DATA 11,2,21,19,20,5,18,19
 2190 DATA 32,2,25,32,18,32,12,5
 2200 DATA 9,14,6,5,12,12,14,5
 2210 DATA 18,0,0,169,1,162,1,160
 2220 DATA 155,32,186,255,169,7,162
 2230 DATA 111,160,198,32,189,255
 2240 DATA 169,0,133,253,169,192,133
 2250 DATA 254,162,74,160,198,169,253
 2260 DATA 32,216,255,96,66,65,63,94
 2270 DATA 69,82,63,0,169,-1

BABY BERKS

NAME: JOHN WILLIAMS

GAMES: BERKS I, II, AND III, JET BOOT JACK.

AGE: 37

I've come across some pretty silly names for computer games in my time. The likes of *Attack of the Killer Tomatoes*, *Communist Mutants from Outer Space*, even *Sheep In Space* — but nothing quite as hilarious as the idiot simplicity of *Berks*.

"Where did you get that name?" I ask, hoping for a serious reply but knowing I wasn't going to get one.

"We ring each other up (the other is Ian Ellery — CRL's resident artist and game namer) and have fairly inane (it means daft) conversations. We sort of bounce ideas off each other... *Berks* came about as a result of one of those conversations."

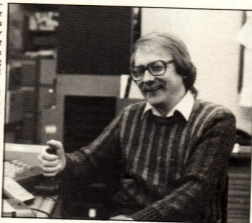
Jon Williams is a bespectacled 37 year old with a compulsive giggle. I don't know if he's like that all the time, or whether it was just the alcohol consumed at lunch with his pal Ian Ellery, but he seemed to find all of my questions highly amusing.

"You want me to have really weird hobbies like keeping a pet lion in my garden... well I don't, but you'll probably say I do anyway."

Talking of pets Jon's first computer was one — of the Commodore variety. "It was an obvious purchase for me... I'd bought programmable calculators before that so a computer seemed like a good idea."

"It was not easy buying a computer in those days. I had to drive up to Canterbury to get it. I learned Basic on the Pet and then machine code... I wrote an *Invaders* and a *Break out*."

Jon joined the local computer club — SUPA — the Southern Pet Users Associa-



tion. Despite these efforts he was not happy with the Pet and ditched it for his trusty Atari — for which he wrote his first commercial piece of software. "It was called ACE — Atari Cassette Enhancer — a toolkit-type program. It was marketed by English Software, and I am told that they are still selling

Jon's relationship with English Software led to him writing his best known game for the Manchester firm; *Jet Boot Jack*. The musical platform game took six months of hard slog to write. "When I am working on a program it's seven days a week — ten hour days".

The long-haul 64 programming is in stark contrast with the time spent on the *Berks* trilogy. "*Berks* I was written in four weeks... and the first two weeks were just playing around with the C16 to see what it could do. I also had to write an interface program to

get the program from my Atari into the C16".

Since that first *Berks* game Jon's productivity rate has increased: there are now three *Berks* games on sale — plus the completely free game listed on these pages.

Jon's home is well equipped

to help him earn his living as a full time computer games programmer. One storey of his terraced home in Littleworth is given over to computers. There are three computers in all — a C16, C64, and the Atari.

Jon does not share the view that the C16 is a hopeless machine. "It could easily have been better but it does have its good points." Such as? "The Basic is excellent, very sophisticated and easier to use... if the 64 had that it would be brilliant."

Berks III completes Jon's work on the C16 "I expect my next project will be for the 64 but nothing has been confirmed yet. I am hoping the new Atari computer takes off... I'd love to write a game for that".

And what does Williams think of hackers — jail 'em or bail 'em? A serious look crept over Jon's face — the first time that afternoon, "I don't think the problem is as serious as everyone seems to think. Personally, I think hacking is pointless".



Baby Berks is a fast action, hundred per cent machine-code arcade game. We've decided to take advantage of the C16's inbuilt monitor, TEDMON, to enter it. If you haven't used the monitor before be sure to read the instructions for entering carefully.

The game listing is in the form of a 'hex dump' — simply a listing of the contents of the C16's memory locations. The address is given on the left-hand side followed by the eight bytes of code which occupy the next eight memory locations.

The numbers are not decimal, but are represented in hexadecimal (base sixteen). If you understand the hexadecimal system so much the better, it's not important if you don't, just enter the numbers exactly as you find them in the listing.

First enter the monitor by typing MONITOR/RETURN. The screen display should now show the contents of the C16's internal registers. Next type F 1400 2BFF 0/RETURN.

This instruction tells TEDMON to fill the block of memory we are going to use with zeros. This is not essential as you'll be overwriting these locations when you type in the program. It's just that when you switch on the computer the memory is full of garbage and this can make program entry confusing.

Now to start entering the program. The code starts at location \$1400 (the \$ stands for hex). Type in M 1400/RETURN. The display will now show twelve lines of data, each containing eight bytes of memory, with the address on the left-hand side — the same format as in our listing. Ignore the characters on the far right of the screen.

To enter the code, just position the cursor over a line of information and enter the values from the listing. When you have entered all eight bytes, press RETURN and continue with the next line. When you have entered all twelve lines, press M/RETURN.

Another twelve lines will now appear on the screen. You will notice that the first of these is the last one you entered on the previous screen. Enter the next eleven lines of data and continue in this manner until the whole listing is entered.

If you make a mistake, move the cursor to the bottom of the screen, type M, the address of the line where the mistake occurred and RETURN.

Of course, you don't have to enter the whole thing in one go. To save what you've typed in so far, type S "DATA1",01,1400,1800.

Where:

S is the command for save.

DATA1 can be any file name.

01 is the device number (change to 08 for disc).

1400 is the start address.

1800 is the end address and will obviously vary, depending on how much code you have entered.

To reload the data type L "DATA1",01, (08 for disc). When you have typed in the whole listing save it by typing S "FINAL",01,1400,2BFF (again, disc users change the 01 to 08).

ERROR CHECKING

This's the hard graft out of the way. To exit the monitor type X/RETURN and you will be returned to Basic. Now type NEW/RETURN and enter and run the Check Sum Basic listing.

This program will check for any errors in the machine-code you have just entered. All being well, the program should return the message "checksum o.k.". If there are any errors the checksum program will tell you in which 512 byte block of memory they occur.

Then it's simply a matter of re-entering the monitor and examining the code (using M) until you find the mistakes. The checksum program will still be in memory, so run it again to see if you have eliminated all of the errors.

When all the checksums are o.k., type NEW/RETURN. You are now ready to enter the final piece of code which runs the program:

```
1000 00 21 10 0A 00 9E 20 36
1008 31 34 34 34 8F 20 2A 2A
1018 2A 20 42 41 42 59 20 42
1018 45 52 48 53 20 2A 2A 2A
1020 00 00 00 00 00 00 00 00
```

Do this in the same way you entered the main code, i.e., using the monitor, type M 1000/RETURN and modify the displayed code. The whole program must now be saved. Type in S "BABY BERKS", 01, 1000, 2BFF/ RETURN (change the 01 to 08 for disc).

Just to be on the safe side, take two copies. To load the program from 'cold' type in LOAD "BABY BERKS" in the usual way.

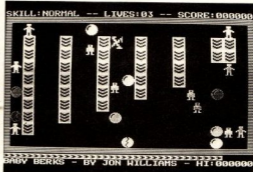
GAME INSTRUCTIONS

The game can be played either using the keyboard or a joystick plugged into port 2. The keyboard controls are: Left = A, Right = S, Up = Return, Down = Shift and Fire = Space.

To fire, you must press a direction key at the same time as the space-bar.

The object of the game is to destroy the Baby Berks as they hatch from their eggs. Watch out for the Big Berks, who will home in on your tank and try to destroy it. You can stun the Big Berks for a while by firing at them.

In all, there are sixteen screens of action — enough to keep you occupied for many hours of Berk-zapping fun. And well worth the effort of typing all that code!



Baby Berks
— for the Commodore 64
by Jon Williams

1400 00 00 00 00 00 00 00 00	140E 00 00 00 00 00 00 00 00
1408 00 00 00 FF FF 00 00 00	1414 00 00 00 FF FF 00 00 00
1410 18 18 18 18 18 18 18 18	1416 00 00 00 FF FF 00 00 00
1418 03 07 0E 1C 30 70 50 C0	1418 00 00 00 3F 3F 3A 3A
1420 C0 E0 70 50 1C 0E 07 03	1420 00 00 00 00 C0 C0 C0 C0
1422 00 00 00 00 0F 0F 0E 0E	1422 00 00 00 3F 3F 00 00
1424 00 00 00 00 F0 F0 B0 B0	1424 00 00 00 C0 C0 00 00
1426 0E 0E 0F 0F 00 00 00 00	1426 00 C0 C0 C0 C0 00 00 00
1428 B0 B0 F0 F0 00 00 00 00	1428 00 00 00 00 00 00 03 03
142A 00 00 0F 0E 0E 0E 0E 0E	142A 00 00 00 00 00 00 FC FC
142C 00 00 F0 F0 B0 B0 00 00	142C 03 03 03 03 03 03 03 00
142E 0F 0F 00 00 00 00 00 00	142E AC AC AC AC FC FC 00 00
1430 F0 F0 00 00 00 00 00 00	1430 00 00 3F 3F 3A 3A 3A 3A
1432 0F 0F 0E 0E 0E 0E 0F 0F	1432 00 00 C0 C0 C0 C0 C0 C0
1434 00 00 00 00 00 0F 0F	1434 00 00 00 00 00 00 00 00
1436 0E 0E 0E 0E 0F 0F 00 00	1436 00 00 3F 3F 00 00 32 32
1438 F0 F0 00 00 0E 0E 0F 0F	1438 00 00 CC CC 3C 3C 3C 3C
143A 00 00 00 00 00 00 00 00	143A 3E 3E 3C 3C 33 33 00 00
143C 00 00 00 00 00 00 00 00	143C BC BC F0 F0 FC FC 00 00
143E F0 F0 B0 B0 F0 F0 F0 F0	143E 00 FF FF 3C 3C 05 32 3C
1440 00 00 00 00 00 0F 0F	1440 00 00 00 00 00 00 00 00
1442 0E 0E 0E 0E 0F 0F 00 00	1442 00 00 00 00 00 00 00 00
1444 00 00 B0 B0 F0 F0 00 00	1444 3E 3E 3C 3C 33 33 00 00
1446 F0 F0 B0 B0 00 0F 0F	1446 BC BC F0 F0 FC FC 00 00
1448 00 00 00 00 00 0F 0F	1448 00 FF FF 3C 3C 05 32 3C
144A 0E 0E 0E 0E 0F 0F 00 00	144A 00 00 00 00 00 C0 C0 C0
144C 00 00 00 00 00 00 00 00	144C 3A 3A 3A 3A 3F 3F 00 00
144E 00 00 FC FC AC AC AC AC	144E C0 C0 C0 C0 C0 C0 00 00
1450 03 03 00 00 00 00 00 00	1450 00 00 03 03 03 03 03 03
1452 FC FC 00 00 00 00 00 00	1452 00 3E 3E 3C 3C 3C 03 00
1454 FF FF EB EB EB EB FF FF	1454 BC BC 50 F0 FC FC FC FC
1456 00 00 00 00 00 3F 3F	1456 FF FF 3C 3C 05 05 02 02
1458 00 00 00 00 00 C0 C0	1458 03 03 0F 0F 1F 1F 93 93
145A 3A 3A 3A 3A 3F 3F 00 00	145A C6 C6 F4 F4 F0 F0 C0 C0
145C C0 C0 C0 C0 C0 C0 00 00	
145E 00 00 00 00 03 03 03 03	

15CB 00 00 50 50 3C 3C FF FF
 15DD 55 55 6F 6F 7A 7E 6F 6B
 15DE 55 55 5F 5F 6B 7A 6F 6B
 15E0 7A 7E 6F 6B 7A 7E 55 55
 15E5 AD 8D 5F 9D AD 8D 55 55
 15F0 FF 00 00 00 00 00 00
 15FB 00 30 30 00 30 30 00 00
 1600 00 00 00 7E 00 00 00 00
 1605 38 6C C6 FE C6 C6 C6 00
 1610 FC C6 C6 C6 C6 C6 C6 00
 1616 7C C6 C6 C0 C0 C6 7C 00
 1620 FC C6 C6 C6 C6 C6 FC 00
 1626 FE C6 C6 C0 FB C6 FE 00
 1630 FE C0 C0 FB C6 C0 00
 1636 7C C6 C0 C0 CE C6 7C 00
 1640 C6 C6 C6 FE C6 C6 C6 00
 1646 7E 1B 1B 1B 1B 7E 00
 1650 7E 0C 0C 0C 1C 8C 70 00
 1656 63 66 6C 7B 6C 66 63 00
 1660 E0 C0 C0 C0 C6 FE C6 FE 00
 1666 C6 EE FE D6 C6 C6 C6 00
 1670 C6 E6 F6 D6 C6 C6 C6 00
 1676 7C C6 C6 C6 C6 C6 7C 00
 1680 FC C6 C6 C6 C6 C6 00
 1686 7C C6 C6 C6 C6 C6 7A 00
 1690 FC C6 C6 C6 C6 C6 00
 1696 7C C6 C6 7C 0C C6 7C 00
 16A0 FF 1B 1B 1B 1B 1B 3C 00
 16A6 C6 C6 C6 C6 C6 C6 7C 00
 16B0 C6 C6 C6 C6 EE 7C 3B 00
 16B6 C6 C6 C6 D6 FE EE C6 00
 16C0 C3 66 3C 1B 3C 66 C3 00
 16C6 C6 C6 C6 7C 3B 3B 00
 16D0 FE C6 C6 1B 3B 66 FE 00
 16D6 00 07 1F 31 67 4F DF DF
 16E0 00 E0 FB FC FE FE FF FF
 16E6 FF FF 7F 7F 3F 1F 07 00
 16F0 FF FF FE FE FC FB E0 00
 16F6 00 06 1F 3F 7E FD FE
 1700 00 E0 7B 8C 7E FE FF FF
 1706 FF FE 7D 7B FE 1E 07 00
 1710 7F FF FE FC FB E0 00
 1716 00 00 00 7C FE FC FC 00
 1720 00 00 1B 3C 1E 0E 1F 3F
 1726 FB 8C 7C 7C 3C 1E 06 00
 1730 FF 7F 3E 7C FC 0F 00 00
 1736 00 00 20 20 47 66 F7 F1
 1740 00 00 00 00 E6 6E E7 B3
 1746 EA D5 6A 7D 3A 1D 06 00
 1750 AF 5F 9E 5E 8C 7B 4A 00
 1756 00 00 00 0C 8F 0F 35 00
 1760 00 00 C0 C0 C0 C0 70 00
 1766 30 3F 3A 1B 0C 0E 04 14
 1770 F0 FB 80 0D C0 C0 40 50
 1776 00 0F 0D 0F 03 0F 3E FF
 1780 00 C0 C0 C0 C0 C0 C0 FC
 1786 4E 0F 05 0F 0C 0C 04 14
 1790 CA C0 40 C0 C0 C0 40 50
 1796 00 55 FA BE BE FA 55 00
 17A0 00 00 00 00 00 00 00 00
 17A6 00 00 00 00 00 00 00 00
 17B0 7C C6 C6 7B 6C 7C 00
 17B6 1B 3B 7B 1B 1B 7E 00
 17C0 3C 66 06 0C 1B 3B 7E 00
 17C6 7E 0C 1B 0C 06 66 3C 00
 17D0 0C 1C 3C 6C 7C 0E 1E 00
 17D6 7E 66 60 7C 66 66 3C 00
 17E0 3C 66 60 7C 66 66 3C 00
 17E6 7E 66 0C 1B 3B 30 30 00
 17F0 3C 66 66 3C 66 66 3C 00
 17F6 C6 66 66 3E 06 0C 3B 00
 1800 A9 00 85 37 00 06 FF 7B
 1806 A9 6E 8D 14 03 A9 1B 8D
 1810 15 03 A9 02 8D 0A FF 8D
 1816 C8 8D 0F 5F AD 12 FF
 1820 29 FB 8D 12 FF AD 13 FF
 1826 29 03 09 1A 8D 13 FF AD
 1830 07 FF 09 10 8D 07 FF A9
 1836 09 26 8A 9D 27 8A 8D
 1840 20 04 0E 82 95 3A 20 32
 1846 1C 20 9F 1A 20 FF 22 A9
 1850 00 8D 15 FF 8D 23 8A 8D
 1856 24 04 8D 25 04 A9 85 8D
 1860 2A 04 85 4F A9 11 A9 07
 1866 10 1F 4C F0 1B 8D 09
 1870 FF 8D 0F 9F A9 01 85 21
 1876 E6 22 A9 8D 00 85 42 85
 1880 8D FB 8D 8D 8D FF AD 08
 1886 FF 35 3F C9 4B 8D 02 85

BABY BERKS

1890 43 A9 FF 8D 30 FD A9 FD
 1896 8D 0B FF AD 00 FF 85 1B
 18A0 A5 3F C9 FF F0 30 C5 1B
 18A6 F0 2C 29 04 85 42 A5 3F
 18B0 29 20 4A 4A 02 42 85 42
 18B6 A5 3F 29 02 4A 85 42 85
 18C0 42 45 3F 1B 0A 45 42 85
 18C6 02 85 42 A5 3F 29 1B 0A
 18D0 0A 0A 05 42 85 1B EA A5
 18D6 1B 48 29 0F 85 1B C8 29
 18E0 00 49 80 85 1A A9 C8 8D
 18E6 00 FF 6B 6B 6A 6B 68 4D
 18F0 20 DA 22 20 3C 1C 29 0F
 18F6 AA 8D 2C 04 F0 1A CA 10
 1900 FB A2 0F 80 2C 04 8F 0F
 1906 CA 10 FB A2 0F A9 30 7D
 1910 2C 84 CA 1B FA 3B DC 96
 1916 37 A9 FF 9D 2C 04 A6 36
 1920 8D FC 2B 85 1D 85 C 49
 1926 2B 85 1E A6 7A 8D 8C 2B
 1930 85 3A 40 13 B9 A1 2B 38
 1936 FD 85 2B 99 6F 03 8B 10
 1940 F3 2D 06 25 A9 00 85 27
 1946 85 23 85 45 85 2B 85 1A
 1950 A0 89 99 50 00 8B 10 FA
 1956 2B 9B 22 20 7F 1A A9 61
 1960 8D 1A FF A9 57 8D 17 FF
 1966 A9 85 8D 11 FF AD 12 FF
 1970 29 FC 09 03 8D 12 FF AD
 1976 10 FF 29 FC 09 03 8D 10
 1980 FF 20 E9 19 20 39 1A A9
 1986 1B 8D 06 FF 20 46 1A A9
 1990 00 85 21 A5 21 F0 FC A9
 1996 00 85 21 20 F6 25 20 4F
 19A0 1A 00 07 A9 81 8D 2A 04
 19A6 1B 11 2B 6C 1C 05 47 0D
 19B0 03 4C D2 23 0A 1E A5 00
 19B6 45 F0 03 4C 81 24 4C 93
 19C0 19 FB 1B 6D 24 04 4C DE
 19C6 19 FB 1B 6D 23 04 4C E6
 19D0 19 FB 1B 6D 25 04 4C 8D
 19D6 04 AD 24 04 69 00 8D 24
 19E0 04 AD 23 04 69 00 8D 23
 19E6 8A D8 AD 23 04 2B 29 1A
 19F0 8D 22 0C 8E 23 0C AD 24
 1A00 25 8C AD 25 04 2B 29 1A
 1A06 8D 26 0C 8E 27 0C A5 4F
 1A10 CD 23 04 D0 13 FB 1B 69
 1A16 85 85 4F AD 2A 04 1B 8D
 1A20 81 8D 2A 8A D0 20 39 1A
 1A26 6B 49 4F 1B 69 76 AA
 1A30 6B 49 4A 4A 4A 1B 69 76
 1A36 6B 4D 2A 8A 2B 29 1A 8D
 1A40 1A 0C 8E 17 8C 6A 85 8D
 1A46 85 21 A5 21 F0 FC 6D A4
 1A50 1D 8B 6A 1D F0 1B A5 1C
 1A56 85 1D 4A 1E F0 8B 8B 8A
 1A60 1E A9 00 99 9F 8A 1E
 1A66 6B 85 10 A9 02 85 12 A9
 1A70 80 85 13 A9 51 85 02 A9
 1A76 8C 85 85 A5 10 F0 1B C9
 1A80 15 9B 11 5B 99 13 85 10
 1A86 A9 58 20 8A 1E 6A 12 EA
 1A90 12 4C 7B 1A 0A 85 13 2D
 1A96 8A 1C E6 13 4C 43 1E A9
 1AA0 3A 85 20 2D E6 1B 8D 27
 1AA6 89 C2 26 99 80 0C 89 EA
 1AB0 26 99 00 8B 89 12 27 99
 1AB6 C0 0F 9B 27 99 C0 8E
 1AC0 7B 8D 99 8B 8E A9 56 99
 1AC6 7B 8D 99 8B 8E 8D 3E 99
 1AD0 7B 8D 99 8B 8E 8D 3E 99
 1AD6 A4 1E 8B 8D 8E A9 73 99
 1AE0 9B 8D 8B 10 FA 20 8E 27
 1AE6 2D AD 23 A9 5A 85 02 A9
 1AF0 8C 85 03 20 43 1E A9 13
 1AF6 85 11 A0 00 A9 3E 91 82
 1B00 AD 27 91 04 A9 56 91 82
 1B06 AD 00 91 04 A9 2B 0A 8A

1B10 1C A9 2B 20 1B 1C C6 11
 1B16 10 E0 A9 04 85 25 A9 13
 1B20 85 24 A0 8D 20 DB 1D A6
 1B26 37 A9 3B 85 86 A9 29 85
 1B30 07 8A F0 14 00 81 06
 1B36 C9 FF F0 8E 2D 24 1C 4C
 1B40 34 1B 20 24 1C CA D0 8E
 1B46 AD 8D 81 86 C9 FF F0 1F
 1B50 2D 69 1A 8D 91 69 2A 91
 1B56 02 C8 A9 3D 91 02 8D 2B
 1B60 A9 3C 91 02 8D 8C 91
 1B66 02 20 24 1C CA 85 1B A2
 1B70 13 86 40 A9 85 85 11 A6
 1B76 40 8D C9 2B 85 20 A6 11
 1B80 8D E5 2B 20 69 1A A2 6F
 1B86 2D 5C 21 C6 40 C6 11 10
 1B90 E6 A0 8D 84 40 A4 40 19
 1B96 8F 8C C9 FF F0 43 A9 00
 1BA0 8D 6B 1C A4 40 85 C9 2B
 1BA6 A9 27 85 20 20 3C 1C C9
 1BB0 E0 8E 82 85 11 20 69 1A
 1BB6 A0 8D 81 82 F0 14 C6 11
 1BC0 A5 11 C9 FF 8D EF AD 6B
 1BC6 1C D0 1A EE 6B 1C A9 8D
 1BD0 8D E1 A6 40 1E 12 9D A6
 1BD6 85 A5 13 9D 97 03 20 29
 1BE0 21 C6 40 10 8D 6D A0 8D
 1BE6 A9 8D 99 8D 8C 99 8D 00
 1BF0 99 8D 8E 99 F0 8E 85 20
 1BF6 99 8D 8E 99 8E 99 8D 00
 1C00 8A 99 8D 8E 8D 8E 81 60
 1C06 A9 01 1B 65 02 85 02 A5
 1C10 83 69 8D 85 83 6A 8D A9
 1C16 1B 65 84 85 04 A5 05 69
 1C20 80 85 65 8D 84 81 1B 65
 1C26 86 85 65 8D 84 81 1B 65
 1C30 87 6A AD 1E FB 8E 84 81
 1C36 73 CA 10 A9 A9 8E 25 77
 1C40 89 20 85 77 1B AD 04 85
 1C46 73 75 73 95 6A CA 10 F7
 1C50 1B A2 04 85 73 75 6E 65
 1C56 73 CA 10 F7 1B AD 02 85
 1C60 73 75 70 95 73 CA 10 F7
 1C66 A5 73 60 8D A4 2F 10 8D
 1C70 30 16 A5 22 29 81 D0 8D
 1C76 9B 8A 84 8B 4C 8D 1C C8
 1C80 8A 2B 2D 8D 1D 4C DF 1C
 1C86 A6 27 8D 3D C0 8D D0 8A
 1C90 A0 81 D0 8E 8C 83 D0 A4
 1C96 CA 86 27 E0 81 D0 8E 20
 1CA0 6E 1E A5 47 D0 81 60 A6
 1CA6 27 2D E3 1D A6 27 D0 2F
 1CB0 A5 1A F0 86 A9 83 85 2B
 1CB6 D0 25 A6 1B 8D 8F FA
 1CC0 A9 84 A5 27 66 2A 4C DF
 1CC6 1C A5 1A F0 8E 2B 8D 1D
 1CD0 4C DF 1C A6 1B 8D 8F 0F
 1CD6 8A 99 8D 85 2B 30 E1 A0
 1CE0 86 86 50 F0 54 84 17 8D
 1CE6 BB 27 F0 06 A5 22 29 81
 1CF0 A5 45 20 4F 1E A0 8D 01
 1CF6 82 C9 85 80 83 9B 91 82
 1D00 44 17 89 5A 8D 1B 7D 8B
 1D06 27 99 8D 8E 8D 2F C8 1B
 1D10 8D 2B 6A 8D 8E 1B 7D 99
 1D16 27 99 6A 8D 30 1F C9 2B
 1D20 1B 1B 20 4F 1E 20 43 1E
 1D26 A0 8D 81 82 D0 12 8D CA
 1D30 27 91 82 A9 61 91 84 A4
 1D36 17 8B 10 A5 60 4C 8D 1D
 1D40 C9 8E 90 49 C9 73 8D 85
 1D46 C9 6B 90 41 4B 81 04 29
 1D50 77 85 20 A2 13 8D C9 2B
 1D56 29 77 C5 20 FB 87 CA 18
 1D60 FA 68 4C 8D 1D 8D 0F 05
 1D66 D0 F7 6B 8C 6F 90 10 A5
 1D70 34 9D 0F A9 81 20 C1 A9
 1D76 19 A9 14 85 4A D0 8E 91
 1D80 2D 9D 8F A9 85 20 C1
 1D86 19 A9 8F 85 A9 85 20 C1

KS

1D90 17 99 58 00 4C 39 1D 60
 1D91 A4 23 F8 04 C6 23 D0 0E
 1D40 A9 B6 A5 23 00 B6 59 50
 1D46 00 F0 04 00 10 F8 00 A5
 1D60 1B 0E 00 00 06 A9 00 06
 1D80 23 F0 F3 BA 99 50 00 A5
 1DB0 24 18 7D DA 27 99 64 00
 1DCB A5 25 18 7D EA 27 99 5A
 1DD0 00 A9 14 85 48 60 A0 03
 1DD6 9B 29 07 0A 0A 09 6B 07
 1DE0 4C F6 1D A4 26 89 6B 2A
 1DE8 A6 27 F8 EA CA F8 06 18
 1DF0 A9 20 CA 00 FA A0 20 40
 1DF8 1E A0 00 D0 16 26 91 02
 1E00 A9 38 91 04 CB EB D0 16
 1E0B 28 91 02 A9 38 91 04 EB
 1E10 A0 20 8D 16 28 91 02 A9
 1E11 38 91 04 CB EB D0 16 28
 1E20 91 02 A9 38 91 04 EB D0
 1E28 00 85 02 A9 0C 85 03 A4
 1E30 F0 0E 00 A9 28 0A 1C
 1E38 B8 D0 FB A5 24 4C 0A 1C
 1E40 20 27 1E A5 03 3E 59 04
 1E48 B5 05 A5 02 85 04 60 A9
 1E50 00 85 02 A9 0C 85 03 86
 1E58 16 B6 5A F0 08 A9 26 20
 1E60 0A 1C CA D0 FB 89 A4 00
 1E68 20 0A 1C A6 16 60 8A 16
 1E70 20 40 1E A6 16 A5 24 4B
 1E78 A5 25 4B A6 28 18 7D 00
 1E80 27 85 25 A5 24 18 7D 9H
 1E88 27 85 24 20 27 1E A0 00
 1E90 20 A5 1E A0 01 20 A5 1E
 1E98 A0 28 20 A5 1E A0 29 20
 1EA0 A5 1E 68 68 60 B1 02 F0
 1EA8 04 C9 3A 80 01 60 C9 3F
 1EB0 90 00 C9 68 90 A9 AF F0
 1EB8 05 45 D8 F1 C2 B6 1E A5
 1ECC AB 32 0A 02 8A 05 24 49
 1ECD 68 68 A5 25 28 68 24 A9
 1ED0 00 85 27 68 20 D0 1E 20
 1ED8 2E 1F 60 A5 22 29 01 10
 1EE0 3D A0 07 15 48 A0 DF 15
 1EE8 4B A0 E5 15 48 A0 ED 15
 1EF0 4B A0 05 89 D1 15 99 D2
 1EF8 15 89 D9 15 99 DA 15 89
 1F00 DF 15 99 0E 15 89 07 15
 1F08 99 EB 15 88 10 EB 68 8D
 1F10 DA 15 68 8D 10 15 68 8D
 1F18 EB 15 68 8D 10 15 A5 22
 1F20 29 10 D0 4A 89 C0 D0 4E
 1F28 A9 00 8D 7A 17 60 A4 4E
 1F30 C6 C0 03 90 02 80 00 84
 1F38 4E B9 86 28 85 8B 89 89
 1F40 2B 85 A0 29 80 05 2F 85
 1F48 30 85 2D A5 32 A4 A0 8E
 1F50 BF 03 0E FF D0 03 4C 1F
 1F58 21 8E F5 03 F0 03 4C 17
 1F60 21 8E BF 04 F0 1C CA BA
 1F68 99 0F 04 F0 03 4C 1C 21
 1F70 BF 0F 03 30 FB A9 FF 99
 1F78 BF 03 C6 47 20 1F 22 4C
 1F80 1F 21 8E 5B 03 CA BA 99
 1F88 5B 03 D0 F3 69 6F 03 99
 1F90 5B 03 20 1F 22 A4 0A 8E
 1F98 BF 03 10 03 4C 9F 1F 8E
 1FA0 47 03 CA BA 49 47 03 D0
 1FA8 BF 06 33 03 84 A1 89
 1FB0 1F BE 33 03 86 A1 20 82
 1FB8 21 F0 3A 20 3C 1C 29 82
 1FC0 18 69 01 18 79 33 03 29
 1FC8 83 99 33 03 03 49 01 99
 1FD0 F0 19 89 33 03 49 01 99
 1FD8 33 03 A4 20 82 21 F0 80
 1FE0 A5 41 49 01 99 33 03 A4
 1FE8 20 82 21 20 3C 1C 29 87
 1FF0 29 07 99 47 03 4C 17
 1FF8 A5 24 29 07 03 F0 08 80
 2000 04 E6 2F D0 02 C6 2F A5
 2008 25 D9 AB 03 F0 08 80 04

2010 E6 30 D0 02 C6 30 A5 2F
 2018 F0 14 78 20 A5 38 D0 04
 2020 A0 86 D0 26 84 A9 0A
 2028 D0 22 A9 89 D0 1E A5 30
 2030 F0 1C 30 04 A9 0E D0 14
 2038 A9 0D D0 10 A5 30 F0 04
 2040 10 04 A9 05 D0 06 A9 06
 2048 D0 02 A9 07 85 2D A6 20
 2050 A4 40 B9 AB 03 85 17 89
 2058 97 03 85 16 18 7D 9B 27
 2060 99 97 83 1F C9 27 80
 2068 1B 89 AB 03 18 7D 8B 27
 2070 99 AB 03 30 0F C9 15 80
 2078 0B 20 F7 21 20 32 22 D0
 2080 03 4C 1C 21 A4 40 A5 16
 2088 99 97 03 A5 17 99 AB 03
 2090 A5 32 F0 16 A6 2D E0 0F
 2098 90 03 4C 1C 21 85 20 A9
 20A0 0F 85 32 4C 2E 20 A9 0F
 20A8 00 F3 A5 24 09 97 03 FB
 20B0 F5 90 06 F9 97 83 4C FB
 20C0 20 89 97 83 38 E5 24 85
 20C8 16 A5 25 D9 AB 03 F0 DE
 20D0 90 06 F9 AB 03 4C D6 20
 20D8 B9 AB 03 38 E5 25 85 17
 20E0 C5 16 90 1F A5 30 3A 04
 20E8 A9 0E D0 82 A9 8D 85 20
 20F0 A5 2F D0 A9 0F D0 80
 20F8 30 04 A9 0E D0 82 A9 87
 20FF 4C 17 21 A5 28 04 A9
 2100 05 D0 0A 99 87 85 20 A5
 2108 30 D0 0A 99 0F D0 80 30
 2110 04 A9 0E D0 82 A9 80 85
 2118 32 4C 4E 20 20 29 21 C6
 2120 40 C6 38 30 03 45 1F
 2128 60 A4 40 BE FB 03 F0 0C
 2130 D0 F7 2B AA 89 C9 28 29
 2138 77 00 21 89 BF 03 30
 2140 8A 82 68 80 82 A9 8F 89
 2148 C9 20 80 20 89 0F 04 89
 2150 91 F0 06 A5 20 29 1F 85
 2158 20 20 F7 21 A0 00 8A 91
 2160 02 A5 20 91 04 EB C8 84
 2168 91 02 A5 20 91 04 EB A0
 2170 28 BA 91 02 A5 20 91 04
 2178 CB EB 8A 91 02 A5 20 91
 2180 84 60 A4 40 89 03 85
 2188 17 89 97 83 85 16 18 7D
 2190 D0 26 99 97 83 10 C9
 2198 27 80 18 89 AB 03 18 7D
 21A0 E1 28 99 AB 03 38 0C C9
 21A8 17 80 08 20 F7 21 20 32
 21B0 22 F0 0F A4 40 A5 16 99
 21B8 97 03 A5 17 99 AB 03 A9
 21C0 01 60 A4 40 A9 00 60 8E
 21C8 03 C0 CA BA 99 03 03 D0
 21D0 1B BE E7 03 F0 07 CA BA
 21D8 99 07 03 D0 03 FE 83 C3
 21E0 CA BA 99 FB 03 06 A9
 21E8 10 99 03 83 4C 1C 21 A9
 21F0 18 99 5B 83 4C 1C 21 20
 21FD F0 21 4C 43 1E BA 4A 49
 2200 00 85 02 A9 0C 85 03 A4
 2208 0A BE AB 03 F0 08 A9 20
 2210 20 0A 1C CA D0 FB 89 97
 2218 83 20 8A 1C 68 AA 60 D0
 2220 F7 21 A0 00 9B 91 02 CB
 2228 91 82 A0 28 91 82 CB 91
 2230 82 60 A0 00 81 82 D0 11
 2238 CB B1 02 D0 80 0C 2B B1
 2240 82 D0 06 CB B1 82 D0 81
 2248 60 C9 05 90 10 C9 3A 80
 2250 0C 20 60 22 D0 F2 A9 FF
 2258 B5 45 A9 80 60 A9 01 60
 2260 29 20 80 31 C0 80 00 D0
 2268 CB B1 82 F0 03 C9 05 90
 2270 27 C9 3A 80 23 C0 81 80
 2278 8E A0 28 B1 82 F0 08 C9
 2280 05 90 15 C9 3A 80 11 A0
 2288 29 B1 82 F0 06 C9 05 90

2290 07 C9 3A 80 03 A9 80 68
 2298 80 01 A0 05 89 EB 28
 22A0 99 89 03 89 F1 20 99 A5
 22A8 83 A9 80 99 C0 83 A9 40
 22B0 99 1D 04 A9 10 99 69 03
 22B8 A9 00 99 89 04 99 E1 03
 22C0 99 F5 03 88 10 D7 A0 0D
 22C8 A9 00 85 4E A9 18 99 5B
 22D0 03 A9 81 99 47 83 88 10
 22D8 EF 60 A0 8D A9 04 99 FB
 22E0 03 A9 80 00 89 00 84 99 29
 22E8 03 20 3C 1C 99 03 83 BF
 22F0 01 18 69 81 89 87 03 8B
 22F8 1A E2 A9 0E 85 47 60 A9
 2300 8D 8D 15 FF 85 40 A9 21
 2308 8D 19 FF 20 D6 25 A9 61
 2310 8D 16 FF A9 57 8D 17 FF
 2318 A0 27 FA 23 89 63 27 99
 2320 9B 0F A9 51 99 9B 0B 8E
 2328 18 F2 80 A9 89 02 20 88 23
 2330 20 A4 1A A9 18 8D 06 FF
 2338 20 46 1A 20 D8 1E A5 22
 2340 29 07 C9 87 D0 18 A0 98
 2348 0E 01 18 69 81 C9 08
 2350 98 02 A9 01 09 50 A0 27
 2358 99 98 0B 88 10 FA A5 1A
 2360 FB 03 4C 88 23 A4 23 F0
 2368 85 88 84 23 D0 CA A5 1B
 2370 BF 27 84 A4 3A 36 80
 2378 85 88 02 A0 00 84 24 20
 2380 99 23 A9 18 85 23 D0 80
 2388 AA 3A 89 9C 80 85 36 20
 2390 46 1A 20 46 1A A9 80 8D
 2398 86 FF 60 A4 3A 8E 18 29
 23A0 A0 85 8D 1D 29 99 86 0C
 23A8 CA 88 10 F6 60 A0 26 04
 23B0 20 29 1A 8D E2 0F 80
 23B8 8F AD 27 84 20 29 1A 8D
 23C0 EA 8F 8E 85 0F AD 28 04
 23C8 20 29 1A 8D E6 0F 8E E7
 23D0 0F 60 20 D6 25 A2 20 20
 23D8 46 1A CA 18 FA A9 80 8D
 23E0 86 FF A2 20 20 46 1A CA
 23E8 10 FA A5 49 A9 01 85 40
 23F0 D0 89 A6 3A 8E 80 10 80
 23F8 82 86 36 4C F0 18 4C 28
 2400 25 85 80 8D 85 FB 85 35
 2408 AD 86 9A 80 80 88 10 FB
 2410 A0 87 8E 8A 28 20 8B 1D
 2418 88 18 F7 A9 64 85 11 A9
 2420 A0 85 12 A9 80 85 21 A5
 2428 21 F0 FC A9 80 85 21 A4
 2430 12 F0 18 88 8A 12 D0 06
 2438 20 66 25 4C 4E 2A 9B 0A
 2440 0A 8D 0F FF A4 4A 4A 4A
 2448 4A 89 40 8D 11 FF A5 22
 2450 25 0A F0 8E 82 60 20 F6
 2458 1D 20 3C 1C 20 1F 25 4C
 2460 64 24 A0 07 EA 20 32 25
 2468 C6 11 F0 03 4C 27 24 20
 2470 06 25 A9 3B 20 1F 25 A2
 2478 0A 20 46 1A CA D0 FA 8E
 2480 06 FF A9 96 85 20 A2 0A
 2488 20 46 1A CA 18 FA AD 2A
 2490 04 38 FB 09 01 8D 2A 04
 2498 D0 F0 03 4C FE 23 20 3E
 24A0 25 85 80 8D 85 FB 85 35
 24A8 99 9E 89 00 8E 8D 89 03
 24B0 29 99 CA 8D A9 57 99 9E
 24B8 09 99 EE 89 88 10 E7 6D
 24C0 C6 89 8D D1 89 20 46 1A
 24C8 A9 18 8D 06 FF A9 96 85
 24D0 4B AD 12 FF 29 FC 8D 12
 24D8 FF A9 B4 85 11 A0 89 A5
 24E0 22 29 07 89 51 99 C7 09
 24E8 88 10 FA 20 46 1A 44 48
 24F0 F0 16 8B 8A 40 FB 0E 96
 24F8 8D 0E 0F 8D 8F 8E 8E 8E
 2500 4A 4A 89 80 8E 8C 11 FF
 2508 C6 11 D0 D1 20 D6 25 A9
 2510 00 8D 06 FF A2 06 20 46
 2518 1A CA 10 FA 4C 48 18 29
 2520 7F 89 06 A0 80 91 04 CB
 2528 91 84 A0 2B 91 04 CB 91
 2530 84 80 A0 87 89 50 80 D0
 2538 88 88 10 F6 60 A0 87 86
 2540 50 29 5A 80 20 8F 8E
 2548 A0 80 81 82 C9 05 80 80
 2550 98 91 82 A4 17 89 5A 00

BABY BERKS

2556 18 7D 8B 27 99 5A 00 30
 2560 25 09 18 8B 21 89 64 00
 2568 18 7D 7B 27 99 64 00 30
 2570 15 09 2B 80 11 20 4F 1E
 2578 A0 00 61 02 F0 11 C9 13
 2590 90 19 C9 19 80 15 64 17
 2598 A9 00 99 50 00 F0 0C A4
 2599 17 BE 0A 26 8D FA 27 A0
 2998 00 91 02 A4 17 6B 18 9F
 2999 60 40 23 0A CD 26 84 F0
 29A0 00 60 10 FF 48 00 26
 29B0 04 AD 24 04 80 27 0A AD
 29C0 25 04 8D 2B 04 60 AD 24
 29C0 04 CD 27 04 F0 04 90 F5
 29C8 00 E1 AD 25 04 C0 26 04
 29D0 F8 EB 80 D7 90 E7 A9 00
 29D8 85 48 85 49 85 4A 8D 11
 29E0 FF AD 12 FF 29 FC 89 03
 29E8 80 12 FF 10 FF 29 FC
 29F0 89 03 60 10 FF 48 00 26
 29F8 FB 2A 38 13 8B 94 AD D0
 2A00 00 AD 11 FF 29 EF AC 31
 2A08 26 89 77 26 4C 29 26 8E
 2A10 84 48 30 04 C0 90 F0 E5
 2A18 C0 BF F0 F8 C0 94 90 07
 2A20 20 3C 1C 09 80 D0 02 A9
 2A28 FF 8D 0E FF AD 11 FF 09
 2A30 10 8D 11 FF AD 11 FF F8 26
 2A38 BB 84 49 D8 0E A9 00 85
 2A40 49 85 4A 44 11 FF 29 9F
 2A48 4C 58 26 89 80 26 8D 0F
 2A50 FF AD 11 FF 29 DF 89 40
 2A58 8D 11 FF 4C 76 26 4A 4A
 2A60 F0 14 8B 84 4A F0 D6 89
 2A68 97 26 89 00 8D 0F FF AD
 2A70 11 FF 89 20 D8 E2 60 00
 2A78 80 10 18 68 2B 30 36 40
 2A80 4B 5B 5B 68 6B 7B 7B 80
 2A88 8B 9B 9B AD 80 80 80 80
 2A90 CB D0 D8 0E EB F0 FB FF
 2A98 FC FB F4 F0 EC EB EA E0
 2A00 DC D8 D4 00 CC CB C4 C0
 2A08 BC 8B 84 80 AC AB A4 A0
 2A10 FF FF FF FF CF BF AF 9F
 2A88 BF 7F 6F 5F 4F 3F 2F 1F
 2A08 0F 00 55 48 49 4C 4C 3F
 2A08 4E 4F 52 40 41 4C 00 40
 2A00 40 00 42 49 56 45 53 5F
 2A08 76 70 00 48 40 00 53 45
 2A0E 4F 52 45 3F 76 76 76 76
 2A0E 76 76 57 57 57 57 57 57
 2A0F 57 57 57 57 57 57 57 61
 2A0F 61 54 54 54 54 54 54 54
 2700 54 54 54 61 61 62 62 62
 2708 62 62 62 62 62 62 62 62
 2710 62 62 62 41 42 59 00 42
 2718 62 53 42 49 48 48 42
 2720 59 00 46 4F 4E 80 57 49
 2728 4C 4C 49 41 4D 53 00 40
 2730 00 48 49 3F 76 76 76 76
 2738 76 76 00 62 62 62 62 62
 2740 62 62 62 62 62 62 61 61
 2748 67 67 67 67 67 67 67 67
 2750 67 67 67 67 67 67 67 61
 2758 61 66 66 66 66 66 66 66
 2768 66 66 66 52 45 53 53
 2768 55 58 41 45 48 42
 2778 41 52 00 4F 52 00 54 52
 2778 49 47 47 45 52 00 54 4F
 2780 00 53 54 41 52 54 00 47
 2780 41 4D 45 00 00 00 00 00
 2790 01 FF 00 00 01 FF 00 00
 2790 01 FF 00 00 00 00 00 00
 27A0 01 01 01 00 FF FF FF 00
 27B0 00 00 00 00 00 00 00 00
 27B0 02 04 00 00 14 1B 00 00
 27B8 10 00 00 00 00 00 00 00
 27C0 FF FF 00 00 FF FF 00 00
 27C8 00 00 00 00 00 00 00 04
 27D0 03 01 00 03 04 01 00 02
 27D8 02 00 00 00 00 00 00 01
 27E0 01 01 00 00 00 00 00 01
 27E8 00 00 00 00 00 00 00 01

27F0 00 00 00 01 00 01 00 01
 27F8 00 00 00 03 00 00 00 03
 2800 04 02 00 84 03 05 00 03
 2808 01 00 05 06 07 09 0A 0B
 2810 0D 0E 00 01 2A 29 0F 10
 2818 11 12 18 19 1A 1B 22 23
 2820 24 25 2A 2B 2C 2D 29 0A
 2828 0E 0C 13 14 15 16 1C 1D
 2830 1E 1F 26 27 28 29 8D 0E
 2838 00 00 00 17 00 00 00 20
 2840 00 21 00 00 17 00 00 00
 2848 00 00 00 17 00 00 00 0A
 2850 21 00 17 00 00 00 89 0A
 2858 0B 0C 13 14 15 16 1C 1D
 2860 1E 1F 26 27 28 29 8F 0F
 2868 11 12 18 19 1A 1B 22 23
 2870 24 25 2A 2B 2C 2D 36 37
 2878 38 39 32 33 34 35 2E 2F
 2880 30 31 05 06 07 08 07 07
 2888 05 06 00 13 40 3E 3C 3A
 2890 38 3A 34 32 30 2E 2C 2A
 2898 28 26 24 20 00 82 84 8A
 28A0 0D 1E 1E 1D 1D 1C 1C 1B
 28A8 1B 1A 1A 1B 18 14 14 12
 28B0 12 10 0F 0C 0C 00 00 01
 28B8 01 01 02 02 02 02 04 04
 28C0 04 04 06 06 06 06 0B 0B
 28C8 06 49 4A 4B 4C 4D 4E 4F
 28D0 59 5A 5B 5C 5D 5E 5F 6A
 28D8 68 6C 6D 6E 6F 81 00 FF
 28E0 80 80 01 00 F0 00 12 A8
 28E8 6D 4C 5E 82 82 14 1A 0A
 28F0 0A 01 25 01 25 01 25 00
 28F8 67 63 5F 5B 6B 6B 6B 6B
 2900 66 66 66 66 64 64 64 62
 2908 62 60 60 60 3E 47 41 4D
 2910 45 40 40 4F 56 45 52 3E
 2918 85 08 11 17 10 44 55 46
 2920 46 45 52 4E 4F 56 49 43
 2928 45 4E 4F 52 40 41 4C 45
 2930 58 58 45 52 5A 4D 11 53
 2938 54 45 52 86 19 8C 1F 51
 2940 53 55 57 59 85 86 87 88
 2948 61 36 37 38 49 0C FF 28
 2950 29 38 35 3A 49 2D 2E 2F
 2958 30 31 44 57 6A 7D 90 91
 2960 92 93 94 88 89 8A 8B 8C
 2968 40 53 66 79 FF 2B 2C 3E
 2970 2F 32 33 45 46 3B 4E 61
 2978 68 49 5C 6F 7B 8B 8C 8D
 2980 8E 8F 90 91 7E FF 26 27
 2988 28 29 2A 2B 2C 2D 2E 35
 2990 36 49 49 55 68 74 75 87
 2998 8B 90 91 92 93 94 95 96
 29A0 FF 15 28 19 2C 1F 32 23
 29A8 36 50 63 55 6B 5A 6D 87
 29B0 9A 8B 9E 91 64 95 AB FF
 29B8 89 8A 8E 29 2A 2B 33 34
 29C0 53 36 3E 61 74 80 8B
 29C8 89 8A 52 53 69 6A 49 5C
 29D0 6F 82 92 93 94 95 FF 07
 29D8 2A 3D 4D 4E 4F 50 1A 2D
 29E0 40 53 66 79 86 87 8B 89
 29E8 BA 8B 8C 31 32 33 34 35
 29F0 36 37 44 57 6A 7D 90 6F
 29F8 6D 6E 6F 70 80 93 A6 FF
 2A00 14 21 3A 4D 6D 73 86 99
 2A08 89 76 63 58 3D 2A 17 1A
 2A10 2D 4D 53 66 79 69 5E 6C
 2A18 3D 10 20 33 46 59 23 24
 2A20 36 37 FF 14 3C 64 8C 84
 2A28 98 6C 4B 24 42 55 FF 27
 2A30 2B 3A 4D 6D 73 86 87 2C
 2A38 2D 3F 31 32 45 7B 8B 8C
 2A48 7E 91 98 36 37 4A 5D 70
 2A50 93 9F 9E 95 FF 2B 28 15
 2A58 36 37 6D 61 62 63 61 63
 2A60 2E 2B 18 2D 33 46 59 23
 2A68 6D 6E 6F 70 23 36 37 9F
 2A70 16 17 18 2B 3E 51 64 77
 2A78 BA 99 9A 9B 9C 9D 5A 55
 2A86 56 67 68 69 70 21 22 23
 2A88 24 33 46 59 6C 72 92 A5

2A90 A6 A7 AB AF FF 14 15 16
 2A98 27 3A 22 23 24 37 4A 73
 2A08 86 9A 9B 9F AB 89 83
 2A08 76 86 93 40 41 42 43 44
 2A08 74 84 91 42 43 44 45 46
 2A08 27 3A 4D 2B 3E 51 64 77
 2A08 8A 20 21 22 23 24 37 44
 2A08 5D 33 46 59 6C 7F 92 FF
 2A08 28 29 2A 2B 2C 2D 2E 2F
 2A08 30 31 32 35 68 8B 8C 8D
 2A08 BE 8F 90 91 92 93 94 95
 2A08 36 49 5C 6F 82 3E 4E 61
 2A0F 74 87 FF 3A 3B 3C 3D 2A
 2A0F 4D 68 73 74 75 76 89 2D
 2A00 40 53 36 79 8C 8D 8E 8F
 2A08 90 70 6A 57 44 31 34 47
 2A10 48 49 4A 5D 70 83 82 81
 2A10 85 93 9F 00 AF 9F 85 FE
 2A20 FF 7A 8E 6B 79 71 7B 75
 2B28 79 71 76 72 74 7B 78 50
 2B30 77 DA 83 8D E5 BF FF 4F
 2B38 FA BA 83 EE A9 43 EE E3
 2B40 00 00 00 00 00 00 01 0B
 2B48 0C 00 00 00 04 00 00 00
 2B50 FF 7E FF F3 77 FF FF
 2B58 FF FF FF FF FF FF 7F 7F
 2B60 00 02 00 06 00 00 01 01
 2B68 00 06 00 00 00 01 01 AF
 2B70 70 FB F3 FF FF FF FF FF
 2B78 7B FF F3 FF FF FF FF FF
 2B80 EA 10 72 61 42 70 60 72
 2B88 60 74 60 72 62 60 60 2B
 2B90 A1 AF 6F CF 43 AF AF 4D
 2B98 E3 EF AF C7 87 87 8E ED
 2BA0 01 31 70 7A 92 7B 60 68
 2BA8 75 42 73 72 73 76 76 40
 2BB0 EE AF 8E EE E2 A5 A9 AE
 2BB8 F7 A9 A5 BE 81 A6 EE 2B
 2BC0 21 80 25 20 00 00 04 00
 2BC8 84 00 04 00 06 00 8B 00
 2BD0 FF F7 FF FF F7 FF FF FF
 2BD8 F7 F7 FF F7 F7 FF FF FF
 2BE8 80 80 80 80 80 81 80 8B
 2BF0 0E A1 80 82 00 84 8D 87
 2BF8 D0 F7 F5 FF F3 FF F7 F7
 2BF8 F7 FF FF FF F7 F7 F3 4D

CHECK SUM PROGRAM

```

10 BERR=0:RESTORE:PRINTCHR#
(147)
100 SUM=0
110 READ START$,FINISH$,CHECK
120 IF FINISH$="LAST"
    THEN LOGO
130 FOR I=DEC(START$)
    TO DEC(FINISH$)
140 SUM=SUM+ASC(I):NEXT I
150 IF SUM=CHECK THEN PRINT
    "BLOCK #":START$: TO
    #":FINISH$: O.K.":
    GOTD100
160 PRINT"CHECKSUM ERROR IN
    BLOCK #":START$: TO #":
    FINISH$
170 BERR=BERR+1:GOTO100
1800 IF BERR=0 THEN 2000
1810 PRINT:PRINT"CHECKSUM
    ERRORS IN ":BERR":
    BLOCK$":END
2000 PRINT"*** CHECKSUM O.K.
    ***":END
5000 DATA 1400,1600,39666
5010 DATA 1600,1800,59173
5020 DATA 1800,1400,50292
5030 DATA 1400,1000,48144
5040 DATA 1000,1000,51984
5050 DATA 1800,2000,49753
5060 DATA 2000,2000,51395
5070 DATA 2200,2400,51735
5080 DATA 2400,2400,51313
5090 DATA 2600,2800,44161
5100 DATA 2800,2400,31873
5110 DATA 2400,2600,58466
5120 DATA LAST,LAST,3333

```

SPEEDSKI

NAME: DUB SCROGGIN

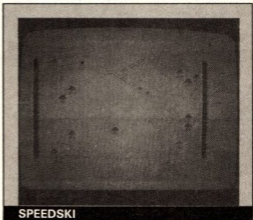
Dub Scroggin is a name for you could be forgiven for not knowing. We'd never heard of him at Commodore User, until we discovered his excellent game, *Speedski*, in Computel's Third Book of Games for Commodore computers.

Speedski is a worthy inclusion in our 'Top Games' selection, because it runs in Basic on an unexpanded Vic-20, yet features the speed and excitement of many machine-code games found on larger machines.

As I said, the program is totally Basic so you should have no problem entering it, especially with Commodore User's 'Easy Enter' system. There are only two keyboard controls, '<' to move the skier left and '>' to move him right. Simplicity itself.

The object of the game is to guide your skier from top to bottom of the slalom course in the shortest possible time. Bonus points are gained for passing through the gates, and you can gain extra time by hitting the jumps dotted around the course. You will be penalised if you hit a tree, or crash into the fence (if you're lucky, you can get away with hitting the occasional tree!).

Up to four players can participate, so there's no excuse for not inviting your friends round for an afternoon on the piste!



SPEEDSKI

```
10 PRINT"[CLS][9CD][6SPC]SPEEDSKI":PRINT"[9CD]"
20 POKE56,28:POKE55,250:POKE52,28:POKE51,250:POKE56879,25
30 READX:IFX=0THEN70
40 FORI=XTDX+7:READY:POKEI,Y:NEXTI:GOTO30
50 DATA7672,16,56,56,124,124,254,254,16
51 DATA7664,0,0,15,32,64,128,0,0
52 DATA7656,0,0,240,4,2,1,0,0
53 DATA7648,40,40,40,40,104,56,44,40
54 DATA7640,32,16,136,68,34,17,8,4
55 DATA7632,4,8,17,34,68,136,16,32
56 DATA7624,16,28,30,28,16,16,16,56
57 DATA7616,0,0,0,0,255,85,170,255
58 DATA7608,16,24,126,24,26,44,72,16
59 DATA7424,0,0,0,0,0,0,0,0
60 DATA7592,8,24,126,24,88,52,18,8
61 DATA7584,0,0,0,0,0,0,255,0
62 DATA7576,8,8,28,8,62,8,127,8
63 DATA7568,8,8,62,8,8,8,0,0
70 PRINT"[CLS][BLK][6SPC]SPEEDSKI":PRINT"[22G<T]"
80 PRINT"[CU][BLU]YOUR SCORE IS ELAPSED TIME + 5 FOR EACH GATEMISSED.[2SPC]LOWES
T SCORE WINS."
90 PRINT"[CD]PRESS[REV]<[OFF]TO GO LEFT[4SPC]AND [REV]>[OFF]TO GO RIGHT."
100 INPUT"[CD]NO. PLAYERS (1-4)":NP:IFNP<1ORNP>4THEN70
110 INPUT"[CD]NO. ROUNDS[2SPC](1-5)":NR:IFNR<1ORNR>5THEN70
120 R=1:P=1
130 PRINT"[CD][REV][CYN]SKIER #:";P;PRINT"[CD][BLU]SLOPE DESIRED":PRINT"1=BEGINNE
R":PRINT"2=INTERMEDIATE"
```

Speedski
— for the
Vic-20
(unexpanded)
by Dub
Scroggin

Careful!

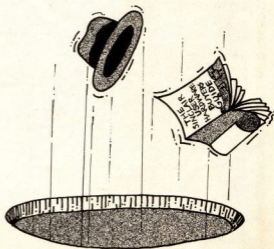
Sinclair User is giving away a FREE 24-page booklet on the front of the June issue. It's crammed with information, prices, features, suppliers and star ratings of all the available Spectrum and QL add-ons. So you'll never again buy an overpriced joystick or non-compatible printer.

Plus there is an exclusive review of the 'Fourth Protocol' a revolutionary new game based on Frederick Forsyth's latest novel.

Not to be missed. On sale May 18th.

SINCLAIR USER is at all good newsagents price 95p.

**sinclair
user**



COMPUTER AND VIDEO GAMES

The Fun computer magazine.

On sale at all good newsagents on the 16th of every month.



GET YOURS BEFORE SOMEONE ELSE DOES.

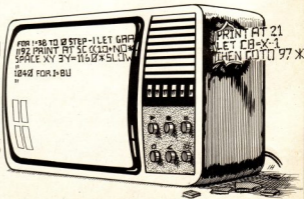
ENOUGH TO BLOW ANYONE'S FUSE.

Every month, SINCLAIR PROGRAMS features extensive listings for the Sinclair Spectrum and ZX81, as well as graphics instructions, letters, 'game of the month', and even a special section for beginners. See you in a month's time!

If it's games you want, you'll find plenty in Sinclair Programs

Available from your newsagents, only 95p

Sinclair Programs



EASY ENTER

HOW TO USE EASY ENTER

COLOUR CODES

[BLK] — press CTRL and 1
 [WHT] — press CTRL and 2
 [RED] — press CTRL and 3
 [CYN] — press CTRL and 4
 [GRN] — press CTRL and 5
 [BLU] — press CTRL and 6
 [YEL] — press CTRL and 7

[ORG] — press CBM key and 1
 [BRN] — press CBM key and 2
 [L RED] — press CBM key and 3
 [GR1] — press CBM key and 4
 [GR2] — press CBM key and 5
 [L GRN] — press CBM key and 6
 [L BLU] — press CBM key and 7
 [GR3] — press CBM key and 8

COMMODORE GRAPHIC CHARACTERS

PRINT WHITE
 CURSOR DOWN
 REVERSE FIELD ON
 HOME

PRINT RED
 CURSOR RIGHT
 PRINT GREEN
 PRINT BLUE

FUNCTION KEY F1
 FUNCTION KEY F3
 FUNCTION KEY F5
 FUNCTION KEY F7

FUNCTION KEY F2
 FUNCTION KEY F4
 FUNCTION KEY F6
 FUNCTION KEY F8
 PRINT BLACK
 CURSOR UP
 REVERSE FIELD OFF
 CLEAR
 INSERT
 PRINT PURPLE
 CURSOR LEFT
 PRINT YELLOW
 PRINT CYAN

OTHER CODES

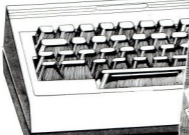
[CU] — press 'cursor up' key
 [CD] — press 'cursor down' key
 [CL] — press 'cursor left' key
 [CR] — press 'cursor right' key
 [HOM] — press HOME key
 [CLS] — press INST key (insert)
 [DEF] — press RVS ON key (CTRL and 9)
 [REV] — press RVS OFF key (CTRL and 0)
 [OFF] — press spacebar
 [SPC] — press CBM key with specified key
 [G < key] — press SHIFT key with specified key
 [G > key]

EXAMPLES:

[3SPC] — press spacebar three times
 [5CD] — press 'cursor down' key five times
 [G > F] — press SHIFT key with 'F'

A PERFECT COUPLE

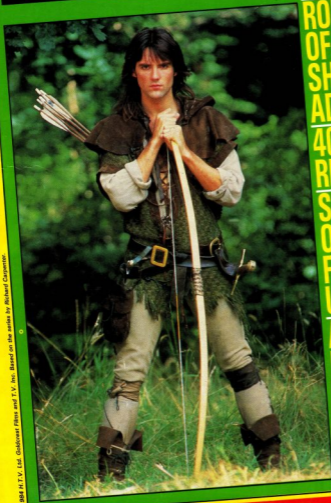
Just like ham and eggs and peaches and cream, Commodore User is the perfect companion for your 64 or Vic 20. Every month Commodore User is packed full of the latest new games reviews, special projects and business computing, plus the latest software charts, Tommy's Tips for your tricky computer problems, and much much more. Commodore User, the perfect magazine for Commodore owners, at your newsagent on the first of every month. All for only 95p.



COMMODORE
User

NEXT MONTH

COMMODORE USER



© 1984 N.T.V. Ltd. Guinness Films and T.V. Inc. Based on the series by Richard Carpenter

**ROBIN
OF
SHERWOOD
ADVENTURE**
**40 GAME
REVIEWS**
**SECRETS
OF
FORTRESS
ULTIMATE**
**AMIGA
LATEST
NEWS**
**WIN
A C-128**

ON SALE JUNE 26th