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Feb 12-18, 1985
No. 99
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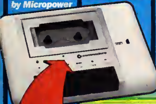
HOME Computing WEEKLY

Pre-release review

Castle Quest by Micropower



Oric up for grabs

Oric [illegible] with [illegible] see [illegible] salvaged from the company.

Oric [illegible] in difficulties for some [illegible] but this was [illegible] A spokesman [illegible] the receivers Mr J D Crowshaw and Myhill, commented: "The [illegible] starter in [illegible] the pipeline are [illegible] of the company [illegible]" [illegible] "There [illegible] which we should [illegible] within two weeks [illegible]

Acorn shares suspended

[illegible] weeks after denial [illegible] having trading difficulties [illegible] dealings in the company shares were suspended [illegible] the Stock Exchange [illegible] Wednesday.

Poor sales of the Electron [illegible] 25 [illegible] down [illegible] prompted the company [illegible] price cut price with [illegible] Spectrum Plus in a head-to-head fight.

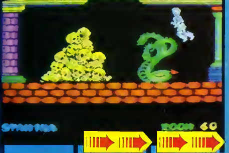
[illegible] Thursday Acorn was said to [illegible] reorganising its affairs [illegible] appointed new finance [illegible]

[illegible] the demise of Oric [illegible] widespread [illegible] the computer industry.

Exclusive! C64 users A LOAD off your mind

Grafpad BBC peripheral review

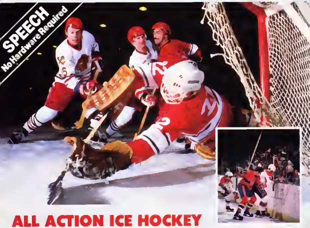
Ocean competition Will the gods smile on you?



FAST AND FURIOUS

SLAPSHOT

ANIROG



ALL ACTION ICE HOCKEY

SLAPSHOT from Anirog is a two player, fast action, ice hockey program Also in this thrilling game there is included a smoothly running speech synthesis system of the very highest quality Before the actual game starts each player must select an international hockey team to represent After doing this you must quickly and skilfully manoeuvre your man across the glistening ice whilst your other team-mates move automatically around the rink waiting for you to pass the puck to them If you do manage to race past the opposing defence then you have a chance to shoot for goal and score However you still have the goalie to beat who is able to dive in all directions Also included in this amazingly quick and totally original game is the ability to actually physically bodycheck your opponents Never the less, do not be too aggressive otherwise you could incur a 'roughing penalty' resulting in a faceoff in your own end, giving the opposing side an easy chance of scoring Also other extra features available include Pause mode, and three levels of play ranging from fast to slow as well as a re-start option Slapshot from Anirog is a totally original two player game with lightning fast action never seen before on the Commodore 64.

Two J.S. Commodore 64 Cassette £8.95 Disk £10 95

Trade Enquiries ANIROG SOFTWARE LTD UNIT 10 VICTORIA IND PARK VICTORIA ROAD DARTFORD KENT (0322)92513/6
Mail Order 8 HIGH STREET HORLEY SURREY 24 HOUR CREDIT SALES HORLEY 02934 6083

Home Computing WEEKLY

REGULARS

SOFTWARE REVIEWS

HOME COMPUTING WEEKLY
BRITAIN'S BRIGHTEST

SPECIALS

PROGRAMS

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TOP 20 Compiled by Gallup Software

Week Ending January 30, 1985

LAST WEEK	MOVE	THIS WEEK	TITLE	PUBLISHER	SPECTRUM	CBM 64	BBC	ELECTRON	VIC 20	AMSTRAD	ATARI	OTHERS
1	●	1	Ghostbusters	Activision	●	●						
3	●	2	Daley Thompson's Decathlon	Ocean	●	●						
11	▲	3	Blockbusters	Macsen	●	●	●	●				
7	▲	4	Manic Miner	Software Projects	●	●	●			●		●
25	▲	5	Zaxxon	US Gold	●	●	●			●	●	
5	▼	6	Booty	Firebird	●	●						
04	▼	7	Match Day	Ocean	●							
9	▲	8	Football Manager	Addictive Games	●	●	●	●				●
8	▼	9	Hunchback II	Ocean	●	●						
12	▲	10	Air Wolf	Elite	●							
14	▲	11	Pyjamarama	Mikro Gen	●	●				●		
6	▼	12	Hunchback	Ocean	●	●	●	●	●			
–	N/E	13	Monty is Innocent	Gremlin Graphics	●							
3	▼	14	Elite	Acornsoft			●	●				
29	▲	15	Skooldaze	Micro Sphere	●	●	●					
15	▼	16	Combat Lynx	Durell	●	●				●		
22	▲	17	Kong Strikes Back	Ocean	●	●						
16	▼	18	American Football	Mind Games	●	●				●		
–	R/E	19	Chuckie Egg	A & F	●	●	●	●				●
13	▼	20	Starstrike 3D	Realtime	●							

SPECTRUM

Top Ten

1	**Ghostbusters** Activision
2	**Match Day** Ocean
3	**Daley Thompson Decathlon** Ocean
4	**Zaxxon** US Gold
5	**Airwolf** Elite
6	**Monty is Innocent** Gremlin Graphics
7	**Booty** Firebird
8	**Starstrike 3D** Realtime
9	**Skooldaze** Microsphere
10	**Underwurlde** Ultimate

BBC

Top Ten

1	**Elite** Acornsoft
2	**Blockbusters** Macsen
3	**Manic Miner** Software Projects
4	**Sabre Wulf** Ultimate
5	**Chuckie Egg** A & F
6	**Eddie Kidd Jump Challenge** Mertech
7	**Jetpac** Ultimate
8	**Football Manager** Addictive Games
9	**Twin Kingdom Valley** Bug Byte
10	**Hobbit** Melbourne House

COMMODORE

Top Ten

1	**Ghostbusters** Activision
2	**International Football** Commodore
3	**Raid over Moscow** US Gold
4	**Daley Thompson Decathlon** Ocean
5	**Hunchback II** Ocean
6	**Frak** Front Runner
7	**Staff of Karnath** Ultimate
8	**Booty** Firebird
9	**Kong Strikes Back** Ocean
10	**Impossible Mission** Ocean

Compiled by Gallup for the industry's weekly trade magazine, Computer and Software Retailing
For details contact John Sorsani, Computer and Software Retailing, No. 1 Golden Square, London W1R 3AB. 01 437 0626

Oric up for grabs

From front page

The receiver's task is to reconstruct a viable company from the old one. Oric's products, the Oric and the Atmos, have never sold well in this country, but have been very popular on the continent, particularly in France

Those who bought an Oric computer in the recent past are in a difficult situation as there is currently no-one prepared to honour the one-year warranty. The staff still working at Oric will repair any faulty machines, but at a charge. This is currently £15, but there is no decision yet about whether the provision of customer warranty service will be made a condition of the sale

Tansoft, contracted to market the new Oric computer, is a completely separate company, which will continue to produce software support for the Oric and other micros

Bruce Everiss of Tansoft believes 'Oric will emerge like a phoenix from the ashes. Although we had a trading relationship we will survive without Oric and currently we have a number of products ready for release on other machines. We expect to have a bad debt due to Oric's problems but that is all."

Stunt winners

On 15 January 1985 Craig Billington from Birkenhead and Jason Ellis from Dunton Green were presented with a Toshiba MSX computer by world famous motorcycle stuntman, Eddie Kidd

Both boys are champion players of Software Communications' motorbike game, Eddie Kidd Jump Challenge. Craig cleared 25 cars on his Spectrum, while Jason jumped 33 cars on his BBC. The young stuntmen received their prizes at the Inn on the Park, London, and were then taken for a well deserved lunch at the Hard Rock Cafe where they talked with Eddie about his famous leaps

Eddie's most dangerous stunt ever is being planned for later this year, and it is hoped that all winners in the Jump Challenge competition will be able to attend

Eddie and the kids

Workshop converted

Games Workshop has converted it's fantasy board-game Talisman to run on the Spectrum. Games Workshop claims it is the first ever interactive multi-player arcade adventure

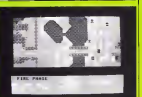
The game is for up to four players who are all trying to reach the same objective, so they may have to kill each other to reach it

Talisman has over 50 graphic locations and will be available soon, priced £7.95

Games Workshop has also converted D-Day to run on the QL and C64. According to Games Workshop it has been 'widely acclaimed as the best graphic wargame for the Spectrum'

Both versions will be available on 1 March, priced at £24.95 for the QL and £8.95 for the C64

Games Workshop, 27/29 Beam Rd, London NW10 6JP



Forty years on

QL for students

Students at Strathclyde university will have an extra excuse for handing their work in late by the end of the 1980s

By that date all students in relevant subject areas will have their own computer at home as well as in the university. The machines will be provided by Sinclair Research, and the Universities Computer Board

A university spokesman said 'We wanted to use British hardware and software and we felt that only the QL could offer the power, software and portability at a realistic price.'

Sinclair Research donated the first 525 QLs as part of it's £250,000 support for the project. Sinclair will be following the project closely, with particular interest in the machines' performance

University of Strathclyde, 204 George St, Glasgow G1 1XW

Ski-run

Ski Star is Richard Shepherd Software's latest game. To be released in mid-February, it will run on the Spectrum and a C64 version will follow shortly

Richard Shepherd states that it bears no resemblance to any ski program on the market

The game is joystick compatible and is a complex simulation giving the player a 3D view of obstacle skiing courses through snow specked goggles. There are an infinite number of course designs, according to the makers. 16 basic courses which can be redesigned using a Course Designer function

There are also fixed feature modes including predetermined sets of parameters so players can compete directly using exactly the same conditions

The Spectrum version will cost £7.95

Richard Shepherd Software, Elm House, 23-25 Elmshott La, Cippenham, Slough, Berks

Well done!

Congratulations to these winners of the Micromega competition in our Christmas issue. They will each be receiving one of Micromega's top games, either Jasper for the Spectrum or Jin Genie for the C64

B D Everingham, Romford. D R Matless, Norwich, B C Steele, West Drayton, Paul Brain, High Wycombe. Joe Maguire, Bardsea. Adam Furness, Huntingdon. Michael Cook, Lowestoft, Mark Pepperrell, Bedford. A J Brooks, Weymouth. M L Shariff, Maidenhead, Joanne Harrison, Staffordshire, Brian Christie, Belfast. J Clarke, Consett, Mark Buckley, Huddersfield. Ivor Ackerley, Derby. D Roebuck, Lymington, T Dutton, Westerham, Anthony Micallef, Preston, D Porter, Ashington, A F Turner, Howe Overton, A Rahman, Nottingham. Roman Foster, Woodhouse. William Braker, Washington, Anthony Pope, Quedgeley, Garry Sharp, Barrow, Shawn McAvery, Stamshaw, Ian Flaxten, Waltham Abbey. Alastair Hewens, Wallington. Alistair May, Elgin, Simon Lewis, Withywood. Jonathan Leach, Tipton St John, Richard Heap, Earl Shilton. J D Whitaker, Liversedge, D Cooper, Lancaster, Andrew Hughes, Glasgow. David Harrow, Hertford. David Hall, Greystones. Don Ramsey, Bradford, Adrian Waller, Haslemere. Keith Mawson, Slough, Barry Hilton, Polegate. Anthony Franklin, Wirral. Paul Sharpe, Measham. S Ackerman, Mitcham, Karen Stalker, Fraserburgh, Mark Brown, Swadlincote, Angus Crowther, Niam. Dave Edwards, Cheetham, T M Britton, Llantwit Major, Gary Burfield, Wallis, Lingfield, Martin Thomas, Portmead, C Crane, Stoke, H Collings, Aldershot. Alan Mourshane, Wigan, John D Thompson, Tidworth, Steven Kinsella, Leigh, J Hughes, Cadishead, Michelle Richards, London. Grahame Chadwick, Grimsby, S Wong, Gorleston, Ving Chhoy, Sparkbrook. D Floyd, St Germans, David Kelly, Shrewsbury

Fun at the toy fair

Toys to excite and enchant kids — and horrify their parents — were on show at the Toy Fair. Robots were a fascinating feature — although some weren't as well behaved as others

At the British Toy and Hobby Fair at Earls Court, from January 26-30, a number of robots were attracting attention One particular one was accosting embarrassed young ladies in the press room with lewd suggestions

Meanwhile, downstairs in the main hall the robots were but a small part of an extensive exhibition **Omnibot** was drawing large crowds on **Tomy's** stand When put through his paces, it became clear that it's more than just a robot — it also plays your favourite tapes and acts as an alarm clock

Not only that, but it can serve you drinks While you're in the kitchen, you can send it to your guests in the dining room and project your voice through it, like a walky talky Omnibot can be operated using wireless remote control or from memory A handy home help, in the shops for around £200

Omnibot's younger siblings are **Chatbot**, **Verbot**, **Dingbot** and **Pocketbot**, ranging in price from £40 to £2 Chatbot is new on the scene It's a more sophisticated version of Verbot, and you can program it to deliver messages, which it does with open mouth and blinking eyes.

Verbot can be controlled by voice and programmed to travel for five metres Both Verbot and Chatbot cost around £40

Dingbat is a smaller robot, costing about £7 It's battery operated, unlike Pocketbot, which you have to wind up before it can walk This tiny little toy can walk do somersaults and get up again

Home helps were never like this before — Tomy's Omnibot

Moving on to CGL's stand, **George** has already been around for some time He's now joined by **Charles**, who can be programmed to draw on paper, while **Armstrong 800** has an extended arm which can pick up and carry objects

Range of robots from CGL — George leads the way

George (who will be reviewed in HCW 102) costs about £25, while Charles costs around £40

Robots have come in for lots of praise from educationalist, who stress the learning functions of these stylish toys Powers of logic and precise thought are required HCW editorial staff soon realised that it's not as easy as it looks we weren't abot to control Armstrong 800's arm to pick up and drop little plastic balls in precise places without cheating!

As well as the programming involved in fooling around with robots, you will also be pleased to find out that you're educating yourself if you build your own one

Robotix from MB are kits of interlocking plastic parts which you fix together to make up models or futuristic machines Each piece snaps together easily and you can move the models around with the aid of bi-directional motors

Your control panel is a five-channel console from which you control movement and operate the pincers of the robot's arm Each standard kit includes a figure to operate the machinery — like Commander X or Dr Steel

Price, from £19 to about £40, varies depending on the number of motors in each kit, and expansion sets and booster packs are also available

Fischer-Technik has a range of robot kits which can serve as an introduction to robotics The six working models can be programmed to operate under computer guidance and combined with other Fischer-technik kits

Each kit contains two motors electromagnet, three lamps, eight switches, two potentiometers and 20-core ribbon cable and connects, with which you can interface your model to your computer

Teach-in Robot is a robot arm, like those you will have seen manufacturing cars **Graphics Board** uses your computer screen and plotter, **Plotter** does just that **Solar Cell Tracking** guides the replica solar cell according to the sun's position, while **Sorting System** distinguishes between two sizes of bricks and sorts them into separate containers **Tower of Hanoi** moves the discs in a pre-programmed sequence, in the familiar game.

Throw your voice — and let Verbot catch it

Moving away from robots, there were a number of computerised games without keyboards One such was the **Playmate Talking Computer**, £60 from **Peter Pan Playthings** You have a number of overlays for a screen, and then press a letter or number as you're guided by the computer's spoken voice

Spelling, maths, and telling the time are some of the subjects handled For pre-school children, it's an educational toy

Also from Peter Pan Play things, **Kid Comp** is a smaller game based on the same idea There are 12 overlays to choose from and your response to each game is recorded via a plastic stylus This one's aimed at the seven to 14 age range Price 32

Microspeech was exhibiting **My Talking Computer**, aimed at pre junior school infants A new addition to the computer is a 128K expansion module, which you can program

Now a pre-school child can learn about music, making sentences, the alphabet and colours The computer's voice is female and the company is emphasising that this isn't just a toy — it's a first computer

The machine costs around £65, and accompanying adaptor costs £6 95, while the expansion module costs £19.

Microspeech states that this is just the beginning of software for My Talking Computer, and there is a new range of programs under development, scheduled for release later this year

Chatbot — can't speak without his eyes blinking

Addresses

CGL, CGL Hse, Goldings Hill, Loughton, Essex IG10 2RR
Fischertechnik, Fischer Hse, 25 Newtown Rd, Marlow, Bucks SL7 1JY
Microspeech, c/o Triotoys, 190 Walton Park, Pannal, Harrogate, N Yorks
Milton Bradley, Spencer Hse, 23 Sheen Rd, Richmond upon Thames, Surrey TW9 1AL
Peter Pan Playthings, Bretton Way Bretton Peterborough PE3 8YA
Tomy, Wells Hse, 231 High St, Sutton, Surrey SM1 1LD

WIN
FAME & FORTUNE
See inside
No programming experience needed
Includes 3 great, ready-made games
GAMES CREATOR
MIRRORSOFT
by David and Richard Darling
COM 64

Monkey business

The ever popular giant gorilla King Kong is back again in Ocean's latest game Kong Strikes Back This week we are offering 120 copies of the game as prizes in our witty caption competition

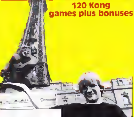
There are 60 C64 versions and 60 Spectrum versions to be won The C64 game costs £7 95 and the Spectrum one is £6 95

To win your copy you must guess what Kong is saying to Tony Pomfret one of Ocean s programmers pictured here with Kong in Blackpool The caption must be witty and relevant and shouldn t be longer than 20 words We ve given you an example just to set you on the right track

There will also be 20 bonus prizes for the best 20 captions which will be published in a future issue of HCW The top 10 Commodore entries will receive Ocean sweatshirts (like the one Tony is wearing in the photograph) and the best 10 Spectrum captions will win copies of Ocean s latest release, Gift from the Gods (£9 95)

Prizes galore this week from ocean

120 Kong games plus bonuses



Ocean's new Kong game involves the rescue of a damsel in distress She is trapped at the top of a roller coaster and is being guarded by Kong You must save her but you have to contend with speeding cars which threaten to knock you off the track, and there are other obstacles like pies and springs to avoid

If you want to win this game and possibly a great bonus prize into the bargain, then send your witty caption to us You may soon be holding Kong Strikes Back in the palm of your hand!

How to enter

Study the photograph and think of a funny and relevant caption It must not exceed 20 words Write it in the space provided on the entry coupon Complete the coupon clearly and fully — if you are a winner it will be used as a label Send the whole coupon to us

Send your entry to Ocean Competition Home Computing Weekly No 1 Golden Square, London W1R 3AB Closing date first post on Friday 1 March 1985

You may enter as many times as you wish but each entry must be on an official coupon — not a copy — and sealed in a separate envelope

Prizes will arrive from Ocean within 28 days of the publications of the issue containing the results of the competition

The rules

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

The How to Enter section forms part of the rules

Oceon Competition

Entry Coupon

Name ______________________________

Address ______________________________

____

____

______________ **post code** ______________

Type of computer (C64/Spectrum) ______________

Sweatshirt size (if C64 owner) ______________

My caption for the photo is (not more than 20 words): ______

____

____

____

____

Complete clearly and fully — if you are a winner this will act as a label for your prize Post to Ocean Competition Home Computing Weekly No 1 Golden Square London W1R 3AB Closing date first post Friday 1 March 1985 Don't forget to follow closely the advice in the How to Enter section

Forest at Worlds End Amstrad CPC464 £6

Interceptor, Linden Hse The Green Tadley Hants

As the mightiest of the ancient warriors, your task is to rescue the Princess Mara from the evil Wizard Zarn

Whilst wandering through forests, leafy glens and the like you have many encounters with both people and places

All the well established communications of adventure games are available — N for north and a verb/noun format for most of the other dialogue Some of the key words only need the first letter which speeds things up a great deal

All the messages come to the screen quickly though occasionally these were of no real help and were duplicated on screen

Better use of Amstrad's strong colour commands would have enhanced the repetative screen display of print statements However this is partly compensated for by the excellent hi resolution locational pictures all POKEd to the screen quite quickly

Save to tape and restore facilities along with adequate instructions are all included

This will most likely appeal to experienced armchair adventurers having a strong story line not too imaginative for comprehension, but leaving Rupert Bear out in the cold

A tonic for those long winter evenings **D H**

instructions	90%
playability	80%
graphics	80%
value for money	[illegible]%

★ ★ ★ ★

Crystal Theft Amstrd CPC464 £7.99

Wicca soft 107 Bollington Rd, Bollington Near Macclesfield Cheshire

Four text windows labelled Location Inventory Message and Command occupy the screen throughout this traditional text only adventure

Seasoned adventurers may find the lack of graphics to their liking allowing their imaginations to paint the pictures

Permitting the use of the words 'and' or 'then' to chain commands together the advanced communications system is a considerate and helpful ally Your task is to locate the communications crystal within the Vegan colony

Directions include up or down along with movement to the four compass points Backtracking is not allowed A move north cannot be followed by a move south

This necessitates a cautious choice of route No chance to peep round the corner followed by a hasty retreat if danger lurks

A time limit adds impetus The time is reflected in total points scored

Save and restore facilities are included, enabling the game to be held at any stage to be played later

Accompanying the cassette is an adequate instruction booklet and lengthy prologue to this fascinating adventure **D.H.**

instructions	100%
playability	100%
graphics	N/A
value for money	85%

★ ★ ★ ★

Eden to Babylon

This page of adventures will take you to exotic places in, and out, of this world

Return to Eden Amstrad CPC464 £9.95

Level 9, 119 Hughenden Rd, High Wycombe, Bucks

An elaborate adventure which finds Kim Kimberley inside the cockpit of his crashed strato glider on the planet Eden Where he goes to from there is entirely up to you, there are innumerable hazards lurking about

Occupying more than half the normal screen area the pictures of each location can be switched off by entering 'WORDS' This leaves the screen free for dialogue which can then be re read and adds to the continuity of the game Entering 'PICTURE' reverts back to the original layout where the dialogue is scrolled through a window at the bottom of the screen

With none of the usual treasures to collect, points are awarded at the end of each game depending on how many moves have been made in the right direction

Your game may be saved to tape and loaded later

Included with the software along with a poster is a nine page instruction booklet This tells in detail the events leading up to the starting scenario on Eden

Another imaginative game from a company specialising in Level 9 Computing

A midnight oil burner **D.H**

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

★ ★ ★ ★ ★

Tyrann Oric 1/ Atmos 48K £8.95

No Man's Land 110 bis, av du General Leclerc 93500 Pantin, France

Tyrann is a fairly standard text adventure with simple graphics There are some notable features, however which ensure that the enthusiast will enjoy this offering

At the start you have to create six characters This is your team and you control all their actions in pursuit of the objective" You choose your six from four classes — warrior, thief druid and magician All have their strengths and weaknesses You can modify their characteristics to suit your needs This versatility ensures that you have a different starting position every time

The game extends over both sides of the tape When you succeed on side one, you get more on side two — more scenes different monsters, and different situations

For those who enjoy adventures Tyrann should be different enough to be worth a try **D N**

instructions	80%
playability	70%
graphics	40%
value for money	70%

★ ★ ★

Jewels of Babylon Amstrad CPC464 £6

Interceptor Linden Hse The Green, Tadley Hants

Supposedly stolen by pirates whilst en route from West Africa the Jewels of Babylon were intended as a wedding gift for an Indian Princess

Your task in this fascinating adventure is to locate the jewels which are presently hidden on a remote island where the pirates are based

On finding the jewels you need to return to your ship, safely at anchor in the bay

Numerous brilliant hi resolution pictures serve only to enhance this adventure which has more than a hundred locations for you to visit

Input commands are in real English where adjectives adverbs and prepositions can and must be included where appropriate At other times the traditional verb/noun format is accepted

Objects are collected on your travels to help in the quest, a complete inventory can be listed

The most pleasurable adventure I have seen Somehow movement around the island seems less repetitive than others The computer's vocabulary is extensive making communication more responsive

Your game can be saved to tape for future loading an essential facility to ardent adventurers **D H**

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

★ ★ ★ ★ ★

Desert mission

There's peril in the desert in this program from Stephen and Mark Howlett. Can you destroy the enemy fort with your tank?

There's danger under the burning desert sun in this short program for the ZX81

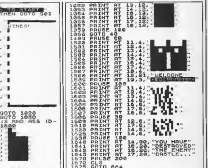
As the commander of a tank you are attempting to destroy an enemy stronghold, a castle situated in the middle of the desert The picture on your screen is the scene from the viewing port of your tank

You will be asked two questions The first is direction, measured on a scale of -90 to 90, and the second is elevation, this determines the angle at which your missile will be fired

You will then be told whether you have scored a hit If not, your enemy is still dominating the sand dunes and you'll have to try again

Good luck and don't forget to take plenty of water with you!

```
  1 REM "DESERT TANK"
 10 PRINT AT 3,2,"        DESERT
TANK"
 11 GOTO 800
 12 CLS
 20 LET T=INT (RND*181)-90
 30 LET D=RND
 41 PAUSE 100
 42 CLS
 50 PRINT AT 0,4,"DIRECTION(-90
TO 90) ?"
 60 INPUT T1
 70 PRINT AT 1,4,"ELEVATION(0 T
O 90) ?"
 80 INPUT B
 90 LET D1=SIN (2*(B/180*3.1416
))
100 IF ABS (T-T1)<2 AND ABS (D-
D1)<.08 THEN GOTO 820
110 PRINT "MISSILE LANDED ",
120 IF T1<T THEN PRINT "TO THE
LEFT ",
130 IF T1>T THEN PRINT "TO THE
RIGHT ",
140 IF ABS (D1-D)>.08 AND T1<>T
THEN PRINT " AND ",
150 IF D-D1>.08 THEN PRINT "NOT
FAR ENOUGH",
160 IF D1-D>.08 TNEN PRINT "TOO
FAR",
170 PRINT
171 GOTO 1000
220 GOTO 1000
810 PRINT AT 8,0,"
            ███"
820 PRINT AT 9,0,"
  ███████████"
830 PRINT AT 10,0,"
  ███████████"
840 PRINT AT 11,0,"
    ████████████████████"
850 PRINT AT 12,0,"
    ████████████████████████"
860 PRINT AT 13,0,"
    █████████████████████████"
870 PRINT AT 14,0,"
    ███████████████████████"
881 PRINT AT 19,0,"
 MADE BY M,AND S.HOWLETT 1984
 "
882 PAUSE 250
883 CLS
884 PRINT AT 0,0,"
          HOW TO PLAY"
885 PRINT AT 2,0," YOU TASK IS
TO SHOOT DOWN THE"
886 PRINT AT 4,0," ENEMY CASTLE
 IN THE MIDDLE OF"
887 PRINT AT 6,0," THE DESERT.Y
OU WILL BE PLACED"
888 PRINT AT 8,0," IN A DESERT
ARMARD TANK AND YOU"
889 PRINT AT 10,0," CAN VIEW FR
OM THE TANKS WINDOW."
900 PRINT AT 13,0,"
          GOOD LUCK"
```



```
 310 PRINT AT 19,0;
     "PRESS ANY KEY TO START"
 911 IF INKEY$="" THEN GOTO 901
 912 GOTO 20
1000 PRINT AT 10,0
     ,AT 9,3;" WINDO'
1001 PRINT AT 11,0,
1002 PRINT AT 12,0,
1003 PRINT AT 13,0,
1004 PRINT AT 14,0,
1005 PRINT AT 15,0,
1006 PRINT AT 16,0,
1007 PRINT AT 17,0,
1006 PRINT AT 16,0,
1009 PRINT AT 19,0,
1010 PRINT AT 20,0,
1011 IF T1<T THEN GOTO 1020
1012 IF T1>T THEN GOTO 1050
1013 IF ABS (T-T1)<2 RND ABS (D-
D1)<.05 THEN GOTO 1500
1020 PRINT AT 11,1,
1021 PRINT AT 12,1,
1022 PRINT AT 13,1,
1023 PRINT AT 14,1,
1024 PRINT AT 15,1,
1025 PRINT AT 16,1,
1026 PRINT AT 17,1,
1027 PRINT AT 18,1,
1030 PAUSE 200
1040 GOTO 42
1050 PRINT AT 11,16,
1051 PRINT AT 12,16,
1052 PRINT AT 13,12,
1053 PRINT AT 14,12,
1054 PRINT AT 15,12,
1055 PRINT AT 16,12,
1056 PRINT AT 17,12;
1057 PRINT AT 18,12,
1059 PAUSE 100
1060 GOTO 40
1409 PAUSE 60
1500 PRINT AT 11,4,
1501 PRINT AT 12,4,
1502 PRINT AT 13,4,
1503 PRINT AT 14,4,
1504 PRINT AT 15,4,
1505 PRINT AT 16,4,
1506 PRINT AT 17,4,
1507 PRINT AT 18,4,
1508 PRINT AT 12,21, "WELDONE
1589 PRINT AT 19,3,
1600 PAUSE 100
1601 PRINT AT 11,4;"
1602 PRINT AT 12,4,"
1603 PRINT AT 13,4,"
1604 PRINT AT 14,6,"
1605 PRINT AT 15,6,"
1606 PRINT AT 17,6,"
1607 PRINT AT 16,6,"
1608 PAUSE 30
1609 PRINT AT 12,6,"
1610 PRINT AT 17,6,"
1620 PRINT AT 14,5,"
1625 PRINT AT 14,6,"
1630 PAUSE 100
1640 PRINT AT 14,20,"YOU HAVE"
1641 PRINT AT 15,20,"DESTROYED"
1642 PRINT AT 16,26,"THE ENEMY"
1643 PRINT AT 17,20,"CASTLE..."
1670 PAUSE 200
1672 CLS
1675 GOTO 664
9000 SAVE "DESERT TANK"
9010 RUN
```

Jamboree

Pick 'n' mix from this wide selection of programs. You should find something here to enjoy

Flight Path 737 Amstrad CPC464 £6.95

Amrog, 29 West Hall Dartford, Kent

Whilst there are whole ranges of flight simulators for the other home computers, this is the first that I have seen for the Amstrad. Unfortunately it looks like it has been rushed rather too much during it's conversion.

In particular I have to criticise the instructions all of which refer to the function keys on the speed control. There is a sticker in the rear saying that it is the number keys but as there is no mention of these in the text, I found the whole instruction process rather confusing.

Added to this, there is the initial start up routine. It can have you at an acute angle to the runway which means you have to taxi to the correct position before you can start to take off.

There are a whole range of levels to select and the display is clear, despite the low resolution mode. Another difficulty is the program response time, I can't believe that even a 737 takes a second to acknowledge the flap down instruction.

Workable, but not really recommendable to budding Amstrad pilots. **D.C.**

instructions	25%
playability	70%
graphics	65%
value for money	50%

★ ★

Family Quiz 32K BBC £12.95

Blandford Press Link Hse West Street, Poole, Dorset

Blandford has had a good idea, write a program to go with one of your books and sell it with the book for over eight times the price.

The book that goes with this is a cheap paperback with a cover price of just £1.50. It contains 68 quizzes of 20 questions and has a wide spread of subjects from which you can test the family. It isn't my cup of tea, but is great value for that type of book.

The program is a very different proposition. It is a simple quiz program of the type you can find printed in computer mags regularly. The difference is a little colour and sound and a range of questions selected from the book. The number of categories is severely reduced and they are grouped in rather strange ways too.

Overall, I would prefer the family to buy a whole range of quiz books or even a record book so they can write their own rather than buy this package at it's exorbitant price. There are no instructions at all. **D.C.**

instructions	15%
playability	20%
graphics	5%
value for money	5%

★

Flexifriend Amstrad CPC464 £7.50

Camel, Wellpark, Willeys Av, Exeter EX2 8BE

Fitting comfortably between the over simplified and restrictive style of some and the complexities of many home budget programs, Flexifriend is a friend indeed.

Offering seven well chosen options on the main menu, it will be of inestimable value to anyone looking for such a financial toolkit with a clear and concise screen display.

An eight page instruction book accompanies the cassette, which is indexed and cross referenced, obviating the tedium of switching back and forth to screen instructions.

There are two bar graphs and a forward projection of the way your money matters are heading if you don't change course: could be a real life saver!

When called, a built in calculator neatly overwrites the main menu. The result of your calculations is retained in memory for recall at any time, thus error trapping the input of data via the keyboard.

A disc based system would put beef on the bones of this program, which suffers from the limitations associated with sequential file handling on cassette.

Not for the feint hearted as the results of running this program can be terrifying. **D.H.**

instructions	100%
playability	90%
graphics	85%
value for money	75%

★ ★ ★ ★

The Music Box 32K BBC £10

Selective, 64 Brooks Rd, Street, Somerset BA16 0PP

Educational software is improving by leaps and bounds and this is one of the better new releases. The idea of using the adventure format to encourage learning is not new, but it's a good vehicle for a program that has the learning of bearings and compass points as it's aim.

The music box of the title just starts you on a journey crossing deserts and sailing seas before it is done.

The package comprises a number of programs, including the two main adventure sections. A neat use of passwords allows you to get back to the beginning of the section that you haven't finished yet. They encourage decision making and discussion and need a certain amount of knowledge. This is good and has children racing for reference books at just the right times.

Both adventures are played using a minimum of key presses, but require your exact order input in a correct mathematical form. Pictures are good and keep the interest very well.

This is thought provoking and easy to use. The children are delighted to learn. **D.C.**

instructions	85%
ease of use	95%
graphics	80%
value for money	90%

★ ★ ★ ★

Holy Horrors

32K BBC £6.99

Romik Software 272 Argyll Ave, Slough Berks SL1 4HE

According to the cassette insert this program is 'not just a detective story... not just a graphic adventure... not just a village-full of gruesome secrets... but the beginning of real sleepless nights.'

Sorry, but I can't agree. What I found in this (which has to be one of the slowest loading programs that I have ever come across) was a reasonably straightforward graphical adventure that didn't keep my interest for very long at all. The pictures are detailed, interesting, colourful and drawn quickly. They appear only on your first visit and don't seem to add much to the verbal description at all. This is a pity. It means that they might just as well not be there at all.

There are some extra surprises as you venture onward, but the lack of sophistication makes it less than acceptable in comparison with other recent adventures.

There is very little documentation supplied, just the cassette notes and a single screen. This is another sad omission and makes the game unsuitable for the new adventurer. Only for the fanatics I fear. **D.C.**

instructions	25%
playability	50%
graphics	75%
value for money	50%

★ ★ ★

Store and retrieve

R D Austin's utility enables you to store and retrieve up to 127 screens on your Spectrum.

These machine code routines enable the storing and retrieval of up to 127 screens. Each screen can then be recalled in rapid succession producing an animated display. Unlike similar programs, only the small part of the inked display file is loaded to the higher memory locations starting at address 32000.

The display file is read until an inked character is detected. This address and the contents are then stored in a higher memory location. Using this method the number of frames stored is directly related to the inked density. However, for reasons explained later, this has been limited to 127.

How to use it

First, type in program 1, taking great care that the numbers within the data statements are correct. Before running, the program should be saved and verified on to cassette tape. Run the program. The 147 bytes of code should now be located above RAMTOP, at memory locations 65300 to 65447. Program 1 can now be NEWed before test program 2 is entered.

This example is based around the Spectrum's circle command. A circle, radius r is plotted, stored and then erased. Each circle has a slightly larger or smaller radius than the previous one. Disconnect your printer before running this program. When completed, type RANDOMIZE USR 65375. All 40 frames will now be displayed producing a pulsating circle. Press any key to stop the program repeating. If the program crashes, reload program 1 and check very carefully that the listing is correct.

Lines 10 and 20 are very important and should be used in every program calling these routines. These POKEs reset the load data to and printer buffer base addresses. The addresses are incremented every time the routine is called. If these values are not reset, new designs stored will not overwrite the old designs.

Next, try filling the screen with text by listing the program a couple of times. Again run the machine code routine. You will see that only the small inked part of the display file is being manipulated. Animation can, therefore, be recalled very quickly because only the important inked characters are read and loaded, not the entire screen.

All frames have been recalled when the contents of the printer buffer are read to be zero. The routine will then loop back to frame 1.

It is important to be able to determine when a single frame has been fully displayed so that it can be erased before the next is displayed. Each time an address and contents are stored a counter is increased by three. When the entire screen has been read, this counter is stored in the printer buffer. A maximum of 127 loops (greater than 255) can be stored within the printer buffer.

If a new design consisting of fewer frames is saved, the old design will be overwritten. However when the new frames are recalled, the last few frames of the old design will also be read and displayed. To overcome this problem simply store a clear screen after the designs. This sets the loop to zero, which is then placed within the printer buffer. Any frames stored above the new designs will now be ignored.

For small displays of non-shaded pictures, more frames could be stored by locating these loops elsewhere in RAM. However, the number of inked characters loaded to higher memory addresses would need to be extremely small. Out of memory error trapping subroutines are called whenever the printer buffer is full (i.e. 127 frames stored) or memory is full.

The store picture routine will then return to BASIC printing "?M, Line No". Whenever an error message appears, always store a clear screen thus protecting the code from being overwritten.

Modifications

A time delay has been inserted in the recall frame routine. To change the delay POKE 65415,n where n is any number between 0 and 255. The delay is initially set at 10.

To stop the routine looping back to frame 1 POKE 65398, 48. The routine will now return to BASIC after all the frames have been displayed.

All animated displays are in the current ink and paper colours. No provision has been made for the storing of colours. However it would be possible to modify the routine so that a fourth byte is used to store the attribute of the character.

Listing 1

```
  1 REM LOAD M. CODE
 10 CLEAR 65299
 20 FOR a=65300 TO 65447
 30 READ b
 40 POKE a,b
 50 NEXT a
 60 DATA 221,33,0,91,17,0,0,33,0,125,1,255,63,124,254,
253,40,56,3,10,254,0,176,80,255,120,254,87,32,239,121,2
54,255,32,234,34,28,255,221,114,0,221,35,221,115,0,221,
35,221,34,22,255,58,22,255,254,254,40,7,201,112,35,113,
35,119,35,17,201,62,3,56,56,92,207,201
 70 DATA 221,33,0,91,17,0,0,33,0,125,221,70,0,221,35,2
21,78,0,221,35,120,177,40,41,229,197,86,35,94,35,126,35
,18,11,120,177,32,244,1,0,10,11,120,254,0,32,250,193,22
5,86,35,94,35,62,0,18,35,11,120,177,32,243,195,185,255,
58,0,92,254,13,40,184,201
```

Listing 2

```
10 REM TEST PROGRAM
20 POKE 65302,0: POKE 65303,91
30 POKE 65308,0: POKE 65309,125
40 FOR A=-20 TO 20
50 CIRCLE 100,100,A
60 RANDOMIZE USR 65300: CLS
70 NEXT A
```

Listing 3

```
  1 LET r=0: REM CYLINDER SPIN
 10 POKE 65302,0: POKE 65303,91
 20 POKE 65308,0: POKE 65309,125
 30 INK 1: PAPER 4: BORDER 4
 40 FOR a=0 TO 6.2 STEP 0.0517
 50 LET x=COS (a)*40+122
 60 FOR b=0 TO 6.2 STEP 0.16
 70 LET s=SIN (b)*r+x
 80 LET c=COS (b)*20+100
 90 PLOT s,c
100 DRAW SIN ((20-r)/12.6)*10,0
110 NEXT b
120 RANDOMIZE USR 65300: CLS
130 IF r=-20 THEN  LET r=20
140 LET r=r-2
150 NEXT a
```

Variables

a	main loop for one complete revolution
x	centre co-ordinate for cylinder plotted on x axis
s,c	plots of circle or ellipse, x and y points respectively
r	radius of circle, width of ellipse
b	plots single cylinder loop

Arcade action

Excitement and action in this thrill-packed page

Boulder Dash
48K Spectrum
£7.95

Front Runner, K-soft Distribution, 620 Western Av, London W3 0TU

The hero of this game, Rockford, is a very cute fellow. He specialises in digging tunnels and collecting jewels. The snag is that the ground through which he burrows is littered with boulders which drop into the tunnels and squash him if he's not careful.

There are 16 sizeable caves for Rockford to dig his way through, you can choose to start at the first, fifth, ninth or thirteenth, so even if you're hopeless at the game, you can get to see quite a few different screens. Each cave has different problems, some are relatively straightforward, while in others the jewels are guarded or have to be created by strategically dropping boulders onto assorted obstacles.

The graphics are adequate rather than stunning. The weakest point is that the screen scrolls rather slowly. If you move too fast it is possible to lose sight of Rockford off the edge of the screen, where he can run into unseen hazards.

It's a game with lasting appeal, needing careful planning as well as fast reactions, and is well worth adding to your calculations. **M N**

instructions	90%
playability	100%
graphics	70%
value for money	90%

★ ★ ★ ★ ★

Finders Keepers
48K Spectrum
£1.99

Mastertronic, Park Lorne, 111 Park Rd, London NW8 7JL

Finders Keepers is really impressive value. It features graphics reminiscent of Software Projects offerings in a format which is almost a combination of Jet Set Willy and Manic Miner.

You are Magic Knight, a nicely animated little character seeking to join the Polygon Table of the King of Ibsisima. In order to please the king, who's run out of ideas for presents for his daughter's birthday, you dash around the Castle of Spriteland visiting various rooms, collecting objects, trading with traders, and avoiding nasties, which all appear in a form which would not disgrace Matthew Smith.

Just so you can be evil and devious, you can either opt for giving the goodies to the king, thus making your knighthood secure, or you can trade all the treasures you find for money, then seek to escape quick before the king gets you!

The program is complete with every imaginable joystick protocol, though some help is needed from the keyboard, and has detailed screen instructions. Not original, but a high quality treatment of some well loved concepts at a keen price. **D M**

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

★ ★ ★ ★

Software Star
48K Spectrum
£6.95

Addictive Games, 7a Richmond Hill, Bournemouth, Dorset BH2 6HE

This is the latest offering from Kevin Toms, who gave you Football Manager. It's a simulation of running a software house and developing new games and selling the old ones.

Paying staff, duplicating tapes, developing games are costs beyond your control. To achieve greater efficiency you can discipline staff or offer incentives, and choose how many pages of advertising per month. You can also decide whether to use hype or honesty as the means of promoting your company's image. This may not work. You can alter sales strategy or launch a new game, but this costs money, and the quicker you launch it, the lower it's quality.

At the end of each month you get the software charts with last sales shown against targets, and the balance sheet. You either increase your overdraft or make money accordingly. There are some excruciating puns in the chart!

Nice presentation, good fun, but needs more of the cost elements under player control. Not as challenging as other simulations, and rather overpriced for what it is. **D M**

instructions	80%
playability	90%
graphics	60%
value for money	50%

★ ★ ★

Espionage
48K Spectrum
£8.95

Modular Resources, 12 Ledger La, Lofthouse, Wakefield WF3 3NG

The package of this tape quotes a 'well known reviewer' praising this game. It sure as heck ain't me... I think it's weird! It's supposed to be an espionage game set in the oil business, but it appears to be a game of deduction based on 'O' level organic chemistry!

You take a test to select a cover story for your work in the company where you are to discover a mole. Simple questions on the catalytic cracking of petroleum and the dry distillation of coal soon face you, and even if you type rubbish in [illegible] code number.

You receive requests for info from people within the company. From these you have to work out who's asking for information they shouldn't, and hence unmask the mole. Fail and you get a new number, but the same questions. Type rubbish again and it makes no difference. Even the printed instructions are no help. There aren't any!

Instead of the free pen etc, the money would have been better spent on programming and printing. **D M**

instructions	20%
playability	10%
graphics	20%
value for money	40%

★

Space Shuttle
48K Spectrum
£7.99

Activision, 15 Harley Hse, Marylebone Rd, London NW1 5HE

This is a fine space shuttle flight simulator, though the manual which accompanies it really needs to be read carefully before lift off, because there's a lot to learn! There are three modes of play. The third one gives you full control, so start on the first, which is a demo, during which you can take over for practice purposes. The mission is to launch, achieve a preset orbit, rendezvous with a satellite, then re-enter the Earth's atmosphere and land.

Your screen shows the view through the cockpit window, whilst below, a variety of instruments are shown depending on the phase of the mission reached. All the major joystick conventions are catered for, and the keyboard overlay provided shows the location of all the control keys for the engines and landing gear. Not only does the manual give very detailed advice, but also a guide to interpreting the messages from the on-board computer when the mission is aborted because you did something wrong!

Once you take control, you won't have time to look at the cockpit window, you'll be too busy watching your tracking display. It's very challenging, good fun and will take some time to master. Excellent graphics, highly recommended. **D M**

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

★ ★ ★ ★ ★

Increase your vocabulary

Learn more words and broaden your horizons. This week David Ellis shows you how to pass parameters to and from new words

In my last article I explained how to set up the RSX, and with the help of the BASIC program create eight new words, saving these new words and their routine to tape as an 'RSX file' The first new word *parameter* was not explained — read on for an explanation

The ability to pass parameters with the new words to their corresponding machine code routines is very useful The number of parameters which can be passed is limited only by the maximum line length allowed, i e 255 bytes Each parameter must be separated by a comma — including a comma directly after the command word Passing three parameters with the word, say TEST, would take the form

ITEST , PARAMETER 1 , PARAMETER 2 , PARAMETER 3

When the machine code routine for TEST is called, the Z80 registers are set as follows

Register IX points to the last parameter In the above example this would be parameter three The accumulator contains the number of parameters, and this would therefore be 3 By setting the offset for the IX register, any parameter can then be assessed In the above example the offsets would be

IX + 0 LSB address of parameter 3
IX + 1 MSB address of parameter 3
IX + 2 LSB address of parameter 2
IX + 3 MSB address of parameter 2
IX + 4 LSB address of parameter 1
IX + 5 MSB address of parameter 1

If you refer to Table 1, this shows how the various parameters are loaded into the different registers of the Z80 by the parameter routine

Since many of the new words from now on will require some parameters to be passed with them, it is better to have just this one routine, which will save a lot of repetition and wasted space Any part of the parameter routine can be CALLed depending upon how many parameters there are to be passed

To see how this works we will create a new word WAIT, which will halt the running of a program on the Amstrad for a certain time The length of this time will be passed to the machine code routine of WAIT by placing a value in 1/100 the second after the WAIT command

Table 2 shows the actual machine code program The routine will always require one parameter so the first instruction compares the accumulator (which holds the number of parameters) with the value of one This value is subtracted from the accumulator and the ZERO flag is set if there is one parameter (1 1 = 0!)

If there are no parameters, or more than one, then the ZERO flag is not set The next instruction RET NZ will therefore RETurn if the result is not zero If the result is zero then the next instruction will be carried out — CALL &829B

Refer to the PARAMETER routine and you will see that this will load the HL register pair with parameter one On return the BC register is loaded with the value &4F0 and then the BC register is decremented until it reaches zero (Jump relative to LOOP if BC is not zero) The HL register pair is then decremented — if it is not zero then a relative jump is taken to REPEAT

It takes approximately one-hundredth of a second to perform each complete loop — therefore if you enter

IWAIT , 500

the Amstrad will pause for approximately five seconds The value in the BC register can be adjusted accordingly if you want the timing to be more accurate (one-thousandth of a second) or less accurate (one tenth of a second), by increasing or decreasing the value

If you load the RSX file which you created last time and also the BASIC program for entering new words, then you can add this new word WAIT and try it out Remember to take a fresh copy of the file

The values of parameters can range from zero to 65535. They can also be negative values from zero to -32768 if required Various types of parameters can be passed

1 a decimal number -32768 to 65535
2 a hex number &0 to &FFFF
3 a numeric value (within the ranges given above)
4 a numeric variable preceded by the '@' symbol
5 a string variable

Items one and two are self-explanatory A value out of range will cause an 'overflow' message to appear A variable can be used instead of a value The value of this variable must be within range A fractional value will be accepted but it will be rounded to the nearest integer

If a numeric variable is preceded by '@', then the address of where the variable resides in memory will be passed to the routine This is very useful A value can be placed in this address thus giving a means of passing parameters back to BASIC Similarly, if a string variable is given as a parameter then the address of where the string resides in memory will be passed to the routine These will be discussed in more detail next week when the new words LROM and UROM will be used to take a look inside the Amstrad's ROM(S).

Table 1

Parameter Routine

Address	Mnemonic	Op code	Parameter
&828C	LD A,(IX + 6)	DD 7E 6	LSB of PARAMETER 4
&828F	LD B,(IX + 5)	DD 46 5	MSB of PARAMETER 3
&8292	LD C,(IX + 4)	DD 4E 4	LSB of PARAMETER 3
&8295	LD D,(IX + 3)	DD 56 3	MSB of PARAMETER 2
&8298	LD E,(IX + 2)	DD 5E 2	LSB of PARAMETER 2
&829B	LD H,(IX + 1)	DD 66 1	MSB of PARAMETER 1
&829E	LD L,(IX + 0	DD 6E 0	LSB of PARAMETER 1
&82A1	RET	C9	

Table 2

Machine code listing for WAIT

Address	Label	Mnemonic	Op code	Comments
&82BE		CP 1	FE 1	, compare accumulator to 1
&82C0		RET NZ	C0	return if not zero
&82C1		CALL &829B	CD 9B 82	, puts value in HL register
&82C4	REPEAT	LD BC &04F0	1 F0 4	put delay count in BC
&82C7	LOOP	DEC BC	0B	decrement BC register
&82C8		LD A,B	78	transfer B to accumulator
&82C9		OR C	B1	logical OR with C
&82CA		JR NZ LOOP	2	branch to LOOP if not zero
&82CC		DEC HL	2B	, decrement HL register
&82CD		LD A,H	7C	transfer H to accumulator
&82CE		OR L	B5	, logical OR with L
&82CF		JR NZ REPEAT	20 F3	branch to REPEAT if not zero
&82D1		RET	C9	return from routine

You'll need dexterity and skill in this fast-moving game by Steven Bennett. Gather your wits about you

```
1 DEFINT c-z
2 SPEED KEY 255,255
3 ZONE 20
4 GOSUB 51
5 PRINT""
6 ENT 1,5,20,5
7 h=0:h$="CPC"
8 BORDER 13:INK 0,14:INK 1,1:MODE 1:PAPER 0:PEN 1
9 WINDOW 1,40,4,40:WINDOW #1,1,40,1,3
10 PAPER #1,2:PEN #1,0:CLS #1
11 LOCATE #1,20,2:PEN #1,1:PRINT#1,"High";USING "#
"
12 LDCATE #1,1,2:PEN #1,0:PRINT #1,"Score    0"
13 INK 2,24:INK 3,26,15:
14 x=1:y=21:s=0
15 LDCATE x,y:PEN 1:PAPER 0:PRINT CHR$(248)
16 WHILE a$="":a$=LDWER$(INKEY$):WEND
17 SOUND 2,1000,1,15,0,0,1
18 LDCATE x,y:PAPER 0:PRINT " "
19 x=x-(a$="x" AND x<39)+(a$="z" AND x>1)
20 y=y-(a$="l" AND y<21)+(a$="p" AND y>1)
21 IF TEST(x*16-8,358-y*16)=2 THEN 34
22 IF TEST(x*16-8,358-y*16)=3 THEN SDUND 1,10,20,1
5,0,1:s=s+50
23 FOR n=1 TO 2
```

You're su

In this game you must land on the flashing red squares which appear at random, while avoiding the yellow squares which try to surround you.

Type in the symbol which should be in line 5 by using CTRL and G, and that in line 11 by typing CTRL and X. The program listing is fairly short and straightforward apart from the control characters.

The controls for the game are Z and X for left and right and P and L for up and down.

Variables

h,h$	high score and holder
s	score
x,y	position of man
a$	key pressed
a,b,n	general purpose variable

```
24 a=INT(RND*3)-1:b=INT(RND*3)-1:IF a=0 AND b=0 TH
EN 27
25 IF x+a<1 OR x+a>40 OR y+b>22 OR y+b<1 THEN 27
26 LOCATE x+a,y+b:PEN 2:PAPER 1:PRINT CHR$(233)
27 NEXT
28 IF RND>0.95 THEN LOCATE INT(RND*38)+1,INT(RND*2
2)+1:PAPER 3:PRINT" "
29 s=s+1
30 LOCATE #1,1,2:PEN #1,0:PRINT #1,"Score";USING "
####";s
31 IF INKEY$<>"" THEN 31
32 a$=""
33 GOTO 15
34 BORDER 0,0:INK 0,0:INK 1,10
35 IF INKEY$<>"" THEN 35
36 CLS
37 RESTORE 64:FOR n=1 TO 10:READ a,b:SOUND 4,a,b,7
:NEXT
38 IF s<h THEN 47
```

```
39 h=s
":PRINT:PRINT TAB(13)"ENTER YOUR INITIALS"
41 LOCATE #1,20,2:PRINT#1,"High";USING "####";h::P
RINT #1,"  by     ":PEN #1,3
42 h$=""
43 h$=h$+UPPER$(INKEY$)
44 LOCATE #1,34,2:PRINT#1,h$
45 IF LEN(h$)=3 THEN 47
46 GOTO 43
47 CLS:LOCATE 1,23:PAPER 0:PEN 1:PRINT"P R E S S
 A   K E Y  T O   P L A Y."
48 IF INKEY$< >"" THEN 48
49 IF INKEY$="" THEN 49
50 GOTO 8
```

rrounded!

```
51 INK 0,0:PAPER 0:BORDER 0:MODE 0:INK 1,13:LOCATE
 7,5:PEN 1:PRINT"SURROUND":INK 2,14
52 PEN 2:LOCATE 9,7:PRINT CHR$(164);" SJ8":INK 4,1
9:PEN 4:LOCATE 9,9:PRINT"& HCW"
53 INK 3,16:PEN 3:LOCATE 1,25:PRINT"Press a key to
 play."
54 FOR n=1 TO 32
55 READ a:SOUND 1,a,20,7:SOUND 2,a/2,20,7:SOUND 4,
2*a,20,7
56 IF INKEY$<>"" THEN RETURN
57 NEXT
58 RESTORE
59 GOTO 54
60 DATA 225,253,225,284,379,284,451,451
61 DATA 225,253,225,284,379,284,451,451
62 DATA 225,201,190,201,190,225,201,225
63 DATA 201,253,225,253,225,201,190,190
64 DATA 478,50,426,50,402,25,426,25,478,50,478,50,
426,50,402,25,426,25,478,50
```

A right Charlie

Charlie, the church carpenter, is trying to build the church tower. But the 'thing' is working against you, and you're also liable to be hit by a demolition ball. Can you cope?

By Mark Bristow

You play the part of Charlie the church carpenter

The idea is to build the church tower before the 'thing' on the roof moves across to the end, and also without being hit by the demolition ball

To do this you must collect a ladder, one at a time from the right and take it across to the scaffolding on the left. When you have built all four ladders up, you must go to the top and release the tower

Once this is done the 'thing' on the roof stops moving... but you still have to place the clock in the right place on top of the church

This is simply done by pressing '0' when you think it is over the right place on the church.

Variables

n,f FOR loops
v position of church door and later position of 'thing' in window
o,p new position of Charlie
x,y new position of demolition ball
x1,y1 number of squares the demolition ball is moved in the x and y direction from it's own position
time incremented for speed of game
a b old position of demolision ball
c,d old position of Charlie
ladder 0 if you're not carrying a ladder 1 if you are
dist how high up scaffolding you can go
a1,b1 same as x1,y1 — makes sure ball doesn't go through a wall

How it works

10-75 prints initial screen display
80 sets up variables
90 waits for keypress and sets up loop for number of ladders
100 prints new position of Charlie and demolition ball
102 checks if Charlie has been hit
103 checks if Charlie has climbed up to clock
105-130 moves demolition ball
140 picks ladder up, then decreases loop containing number of ladders
190 puts ladder down if you're in the right place and if you're carrying a ladder
200 moves Charlie horizontally depending on keypress
210 moves Charlie vertically depending on keypress and where he is
215 moves the 'thing' on the church across depending on time
220 increases time and checks to see if time is up
230 prints 'thing' on the church
290 prints 'thing' in one of the windows of the church
900 GOTO 100
1000 1050 you get hung
2000-2030 moves clock across and checks to see if '0' is pressed to release clock
2040 checks if clock is in right place
2050-2080 church tower built!
5000-5050 gives final assesment and asks for another go
9000-9010 SAVES and VERIFies a copy of 'DOOM CHURCH'
9050 where prograre autoRUNs from

Note. In lines 220, 1050, 2040 and 5000 the INVERSE letters should simply be typed in as normal letters but the normal looking letters should be typed in as the graphics of those letters

```
  10 PAPER 7: INK 0: BORDER 6. CLS
  20 FOR n=0 TO 1: FOR f=5 TO 21: PRINT  INK 5; PA
PER 1;AT f,4*n+2;"E": NEXT f: NEXT n
  30 PRINT  INK 2,AT 0,0;"▛▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀
▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▜";AT 21,0;"▙▄▄▄▄▄▄▄▄▄▄▄▄▄▄▄▄▄▄
▄▄▄▄▄▄▄▄▄▄▄▄▄▄▄▄▟"
  40 FOR n=1 TO 20: PRINT  INK 2;AT n,0;"$";AT n,3
1;"$": NEXT n
  50 FOR n=1 TO 4: PRINT  INK 1; PAPER 5;AT n*4+1,
0;"HHHHABAA": NEXT n
  60 PRINT  INK 2; PAPER 6;AT 1,2;"JJJJ";AT 2,2;"
FJJ";AT 3,2;"JHIJ";AT 4,2;"JJJJ"
  65 FOR n=12 TO 7 STEP -1: PRINT AT n,10; PAPER 7
; INK 2;"OOOOOOOOOOOOOOOOOOO";AT n+1,10; INK 2;
PAPER 6;"JJJJJJJJJJJJJJJJJJJJJ": NEXT n
  66 FOR n=11 TO 25 STEP 2: PRINT  PAPER 1; INK 7;
AT 9,n;"E";AT 10,n;"Q": NEXT n
  67 LET v=RND*16+10: PRINT AT 12,v; PAPER 0; INK
6;"E";AT 13,v;"Z"
  70 FOR f=16 TO 20: PRINT  INK 2;AT f,27;"BBCB":
NEXT f
  75 FOR n=1 TO 8: PRINT  INK 1;AT n,28;"L";AT 9,28
;"L";AT 15+INT (RND*3)-1,2*n+8;"Q": NEXT n: PRINT
 INK 1;AT 13,8;"QQ"
  80 LET o=19: LET p=13: LET x=10: LET y=28: LET x
1=-1: LET y1=1: LET time=0: LET a=x: LET b=y: LET
```

```
c=o: LET d=p
  98 PAUSE 0: LET ladder=0: FOR n=4 TO 0 STEP -1:
LET dist=4*n+3
 100 LET v=INT (RND*8)*2+1): PRINT AT a,b;" ";AT c
,d;" ";AT c+1,d;" ";AT o,p;"C";AT o-1,p;"D": PRINT
  INK 1;AT x,y;"E"; INK 7; PAPER 1;AT 10,v;"N": LE
T c=o: LET d=p: LET a=x: LET b=y
 102 IF ATTR (o,p)<>56 OR ATTR (o+1,p)<>56 THEN  G
O TO 1000
 103 IF o=3 AND p=6 THEN  GO TO 2000
 105 LET a1=x1: LET b1=y1
 110IF ATTR (x,y+y1)<>56 THEN  LET y1=(y1=-1)-(y1=
1)
 120 IF ATTR (x+x1,y)<>56 THEN  LET x1=(x1=-1)-(x1
=1)
 122 BEEP .003,2*time
 125 IF a1=x1 AND b1=y1 AND ATTR (x+x1,y+y1)<>56 T
HEN  LET x1=(x1=-1)-(x1=1): LET y1=(y1=-1)-(y1=1)
 126 PRINT  INK 1;AT x,y;"E"
 130 LET x=x+x1: LET y=y+y1
 140 IF p=30-n AND ladder=0 THEN  PRINT AT a,b;" "
: BEEP .1,10: LET ladder=1: FOR f=16 TO 20: PRINT
AT f,31-n;" ": NEXT f: NEXT n
 150 IF p=9 AND ladder=1 AND o=n*4+7 THEN  BEEP .1
,5: LET ladder=0: FOR f=n*4+5 TO 20: PRINT  INK 2;
AT f,8;"H": NEXT f
 200 LET p=p+(INKEY$="8" AND p<30-n AND o=19)-(INK
EY$="5" AND (o=3 OR (o=19 AND p>9)))
 210 IF p=9 THEN  LET o=o+(INKEY$="6" AND o<19)-(I
NKEY$="7" AND o>dist): BEEP .005,10
 215 PRINT AT 7,time+10; PAPER 7; INK 2;"Q"
 220 LET time=time+.005: IF time>=17 THEN  LET a$=
" THE QHING IN QHE CHURCH OKQ YKQ": GO TO 5000
 230 PRINT AT 7,time+10; PAPER 7; INK 0;"N"
 490 PRINT  PAPER 1; INK 7;AT 10,v;"J"
 500 GO TO 100
 999 REM       H A N G I N G
1000 FOR n=10 TO 0 STEP -.2: BEEP .005,n: NEXT : F
OR n=0 TO 18: PRINT AT n,p; PAPER 8;"L": NEXT n
1010 FOR n=16 TO 0 STEP -1: BEEP .005,n: BEEP .005
,n+5: PRINT AT n,p; PAPER 8;"L";AT n+1,p;"L";AT n+
2,p;"C";AT n+3,p;"D";AT n+4,p;" ": NEXT n
1050 LET a$="   QHE DEMKLIQIKN BALL HIQ YKQ  ": GO
 TO 5000
1999 REM  M O V I N G  C L O C K
2000 FOR n=18 TO 1 STEP -1: PRINT AT n,20;"K";AT n
+1,20;"L";AT n+2,20;" ": BEEP .01,n: NEXT n
2010 FOR n=20 TO 6 STEP -1: PRINT AT 1,n;"K ";AT 2
,n;"L ": BEEP .01,n: NEXT n
2020 FOR n=1 TO 24: PRINT AT 1,n;" "; PAPER 6; INK
 2;"JJJJ"; PAPER 7;"K";AT 2,n;" "; PAPER 6;"JFCJ";
 PAPER 7;"L";AT 3,n;" "; PAPER 6;"JHIJ";AT 4,n; PA
PER 7;" "; PAPER 6;"JJJJ"
2030 IF INKEY$<>"0" THEN  BEEP .01,n: NEXT n: FOR
f=1 TO 4: PRINT AT f,24;"      ": NEXT f: GO TO 20
20
2040 IF n<>9 THEN  LET a$="        THE CLOCK MISSED
        ": GO TO 5000
2050 FOR n=5 TO 8: PRINT AT n,10;; PAPER 6; INK 2;
"JJJJ": NEXT n
2060 PRINT AT 5,11; INK 6; PAPER 1;"PP";AT 6,11;"Q
Q"2070 FOR f=1 TO 5: FOR n=1 TO 10: BEEP .01,n*f:
NEXT n: NEXT f
2080 LET a=0: LET a$="YOU HAVE BUILT THE CHURCH TO
WER "
5000 FOR n=0 TO 2 STEP .08: PRINT AT 3,10; BRIGHT
1; INK n;"HARD LUCK...";AT 3,9;("CKNGRAQQLAQIKNL"
AND a=0) a$;AT 18,12;"ANOTHER GO ?"
5010 IF INKEY$="y" OR INKEY$="Y" THEN  RUN
5050 IF INKEY$<>"n" AND INKEY$<>"N" THEN  NEXT n:
GO TO 5000
5060 STOP
9000 SAVE "<<<DOOM>>>" LINE 9050
9010 VERIFY "": RUN
9050 CLS : PRINT AT 0,7;"Doom church.."
9055 FOR n=USR "a" TO USR "q"+7: PLOT 127,87: DRAW
 RND*255-127,RND*175-87: READ a: POKE n,a: NEXT n:
 RUN
9060 DATA 255,0,255,15,15,255,0,255,66,66,126,66,6
6,66,126,66,56,56,16,238,254,198,222,222,198,124,6
8,84,84,84,84,238,56,100,226,242,250,124,56,0
9070 DATA 3,14,30,59,127,111,254,198,120,224,240,1
84,188,100,254,242,254,111,127,59,30,14,3,0,126,15
6,220,184,240,224,120,0,255,1,1,1,255,16,16,16
9080 DATA 24,36,36,36,36,36,24,0,24,36,29,16,0,4,3
6,24,56,124,250,242,226,100,56,0,189,255,219,255,1
89,153,129,255
9090 DATA 129,129,129,129,129,129,129,255,255,231,
231,195,195,129,129,129,24,24,126,126,24,24,24,24
```

Time and travel

Take your pick from these strange and commonplace times and places. Our experts have sampled them all

Jungle Quest
C64
£7.95

Solar Soft 77 West Dr, Bury Lancs BL9 5DW

Life's tough for our jungle hero Jim. The cannibals have captured Jane and it's down to him to save her from the cooking pot.

You're given five screens depicting the trials and tribulations Jim must suffer. The first four use scrolling to give side-to-side motion. First you must outrun a lion and avoid spears thrown from the side. In the second screen you swing on creepers, avoiding hungry plants. In the third you outswim crocodiles and in the fourth avoid boulders. In the final screen you confront the cannibals, rescue Jane and it's back to the beginning, but tougher.

To be honest the first screen was so tough that I never managed to complete it. The graphics are colourful and quite competent. The overall flavour, however, is similar to earlier games like Aztec Challenge.

This game is sufficiently challenging and attractive to appeal to lovers of arcade action but if you're looking for originality, look elsewhere. A W

instructions	75%
ease of use	80%
graphics	60%
value for money	60%

★ ★ ★

1985
C64
£1.99

Mastertronic Park Lorne, 111 Park Rd, London NW8 7JL

This is by far the cheapest Commodore game I've seen, so I didn't expect too much from it, but in fact it kept me amused for longer than many more expensive ones.

The graphics aren't flashy but the game fast loads, has keyboard and joystick options and sound effects are good. There is a demonstration mode and it's very challenging. I can't judge the packaging as I had a pre-release copy.

The scenario: it's the day after Big Brother has been destroyed, etc. What you actually have to do is to fly a small spaceship out of its underground base to one of four planets to collect nuclear fuel pods. The controls enable you to rotate your craft left or right, to thrust in the direction you are facing, or to pick up the pod using a tractor beam. The ship is subject to a gravitational pull and just manoeuvring it out into space without crashing takes a lot of practice.

I had considerable difficulty in picking up even the easy fuel pods, let along those in complex caverns. M N

instructions	60%
playability	75%
graphics	90%
value for money	100%

★ ★ ★ ★

Africa Safari
C64
£7.95

Simulated Interdive 249 251 Kensal Rd, London W10 5DB

This is a graphic adventure set in darkest Africa. You take the part of Dr Livingstone in his quest for the long lost Kenyan Diamond. He's helped by a monkey. You can choose a strong, stupid monkey or a weak, clever one. Once you've made your choice you're stuck with him, though; if you stray too far away, you may lose him.

The locations scroll in an east-west direction and you can move this way under joystick control. To move north or south, or to do anything else, you type in the relevant two word command. When moving east or west you have to type in look to see a description of your surroundings, as the description is not updated unless you do this and not all of the objects are readily identifiable.

According to the instructions an experienced adventurer should be able to complete this game in fourteen days. I didn't complete it so I can't really comment on this. There is a help sheet available if you get stuck. I think I'll send off for it now! M N

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

★ ★ ★

Titans
C64
£8.99

Romik, 272 Argyll Av, Slough Berks

My knowledge of ancient history isn't all that great but somehow I don't remember the rider of Perseus the winged horse being armed with a cosmic lance — oh well, game writers must be allowed to take a few liberties with plots. In this one you have to destroy nine levels of harpies, gorgons, cyclops and other unrecognisable monsters with the aforementioned lance to reach an audience with the sacred Oracle.

You have to ride backwards and forwards against a scrolling background of temples and other classical buildings, shooting everything that moves and avoiding enemy missiles. The secret is to keep moving; if you try hovering your energy plummets. Flying through power orbs, which I had difficulty identifying as they are diamond shaped, replenishes your energy. After clearing each level of monsters you climb steps, jumping over obstacles as you go.

The early levels are rather dull as the monsters are too few and far between but it improves, and fortunately you can select your own starting level. Not bad, but not a classic game. M N

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

★ ★ ★

Mr Wong's Loopy Laundry
Amstrad CPC464
£8.95

Amsoft Brentwood House 169 Kings Road Brentwood Essex

Collecting his gaily coloured washing and depositing it in the laundry shoot keeps Mr Wong busy indefinitely.

Out to stop him, and working single handed, is a steam iron that's out of order, an ominous looking bag of laundry and some frighteningly lethal soap suds.

At first sight this looks a relatively simple game but don't be deceived. The aforementioned wrong doers are always aware of your movements. Their mobility over floors, slamming up and down the various staircases, calls for some dexterous sidestepping in order to help Mr Wong clean up.

Starting out with three lives, a novel twist is the ability to scatter starch in the faces of your pursuers. The supply of starch is restricted so should be used sparingly.

Further supplies of starch are offered later in the game, but have to be collected instantly before disappearing quicker than a swarm of free range bees.

Although not mentioned in the instructions, Mr Wong's movements can be controlled with a joystick as well as the keyboard.

The Chinese style of background music enhances the visual impact of this splendid game. D H

instructions	99%
playability	100%
graphics	100%
value for money	90%

★ ★ ★ ★ ★

Thinking logically

Follow David Nowotnik's advice and programming your ZX81 and Spectrum will be easier. His tips can also help with other micros, too

The ZX81 and Spectrum computers (in common with most other micros) evaluate IF ... THEN statements by assigning a numerical value to the conditions between the IF and THEN. To convince you of that fact, try the following routine

```
10 LET A = RND
20 LET B = (A < 5)
30 PRINT A,B
40 GOTO 10
```

Line 20 may look a little strange. The brackets enclose a condition (as might be used in an IF ... THEN statement). The variable B is assigned the numerical value which the computer gives to the condition.

When you RUN the program, you should get two lists of figures, on the left are random numbers between 0 and 1, and at the centre of the screen, the list should be comprised of 1s and zeroes. Check down the two rows. If the random number is less than 0.5, then the number at the centre of the screen should be 1.

When the random number is greater or equal to 0.5 then variable B has the value 0. In other words, when the condition is true, the computer assigns a value of 1 to the condition, and when it is false, it receives a value of 0.

If you need further convincing that the IF ... THEN statement actually works on numbers, here is another routine to try.

```
10 INPUT K
20 IF K THEN GOTO 50
30 PRINT K," is false"
40 GOTO !0
50 PRINT K," is true"
60 GOTO 10
```

As before, line 20 may look odd. In this case, there is no condition between the IF and THEN, just the variable K. When you RUN the program, enter numerical values.

Only when zero is entered will the 'false' message appear. Any other value, positive or negative, will give the 'true' message. Convinced? The important thing to remember, of course, is that a true condition is given a value 1, and a false condition is zero.

So far, this aspect of the computer's operation may just appear to be a curiosity, but there are some practical applications of logic. I shall be demonstrating two, if readers have any more I'd like to hear about them.

Some micros have the command structure REPEAT ... UNTIL included in their version of BASIC. These commands are like FOR ... NEXT insofar as they allow you to form a loop, but instead of circulating around the loop a fixed number of times, the loop is REPEATed UNTIL a condition is met.

The REPEAT command (like FOR) marks the start of the loop, and UNTIL (like NEXT) marks the end. You can mimic REPEAT ... UNTIL on your ZX81 or Spectrum by using the computer's numerical evaluation of conditions. Here is an example.

```
10 REM REPEAT
20 LET A = RND
30 PRINT A
40 GOTO 50-40*(A < 95)
50 REM UNTILA > = 95
```

Line 10 marks the start of the loop, and line 40 marks its real end (line 50 just gives you the equivalent UNTIL statement). The program again uses random numbers (between 0 and 1), which are printed on the screen.

The important line is 40, which decides which line follows 40, depending on the value of the variable A, the random number just produced. If the condition (A < 95) is met, then line 40 becomes GOTO 50-40*(1) (=10), and if the condition is not met, line 40 is GOTO 50-40*(0) (+50). Hence, you have created a conditional loop.

A second command you can mimic is ON ... GOTO/GOSUB. This Microsoft BASIC command has the following syntax:

```
ON A GOTO 10000,20000,
   3000,4000
```

The command depends on a variable (in this case A) having a positive integer value of limited range. The numbers after GOTO are line numbers to which the program jumps depending on the value of A.

If A equals one, the first is selected, if A equals two the second number is selected, and so on. The last sentence mimics the way you would probably tackle that problem on the ZX81 or Spectrum — several IF ... THEN lines, but you could compress them into one line as

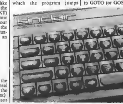
```
GOTO 2000*(A=1)+2500*(A
   =2)+3800*(A=3)
```

All expressions between the plus signs equate to zero except when the condition (in brackets) is met. Hence, the final value will be 2000, 2500, or 3800 depending on whether A=1, 2, or 3. You could use the command GOSUB in exactly the same way.

Another way to mimic ON ... GOTO is

```
GOTO VAL ("1100205031104
   000")(A*4-3 TO A*4)
```

The expression uses the powerful ZX string slicing facility to produce the substrings "1100", "2050", or "400" for values of A of 1, 2, 3 and 4 respectively. VAL converts the substring to a numeric value, the line number to GOTO (or GOSUB).



Tricks and treats

Here's a real assortment: plus Micropower's Castle Quest and Azimuth 3000 from Interceptor

Castle Quest BBC £12.95

Micropower, Sheepscar House,
North St, Leeds

Bet you £1 you can't crack it' is the advertising slogan which accompanies this new mega game. Never having been one to pass up the chance to earn a fast buck I spent half last night scurrying aimlessly around the castle.

Castle Quest falls fairly and squarely into the arcade/adventure category, but on a grand scale. The game employs Micropower's revolutionary new 'Scrollerama' system, allowing full screen scrolling in all four directions.

In true adventure fashion there is a right and wrong way to do things. If you are not carrying the correct object or more importantly, have the object but fail to use it for it's correct purpose, then you are in for a pretty short game. You'd be surprised how quickly you can get through four lives.

The high spots of the game are the puzzles. One such brain strainer is encountered when you are captured by the green guards and cast into a dungeon to starve. The dungeon contains a torch, a stool and a bed. Via some extremely inventive manipulation of these three items you can manufacture your escape.

The more I play this game, the more I get the sneaking feeling that this is one questor who won't be collecting his winnings from Micropower. **J.R**

instructions	85%
playability	95%
graphics	100%
value for money	90%

★ ★ ★ ★ ★

Fruit Machine Amstrad CPC464 £8.95

Amsoft, 169 Kings Rd, Brentford Essex

Flushed with the excitement of only having five pounds between you and the desert beyond the Casino, this game entices you into a Las Vegas lifestyle that you probably cannot afford.

As it's name implies, you are sat in front of a one armed bandit, your future precariously dependent upon Lady Luck.

Control of the machine is from the keyboard as defined in the comprehensive instructions given on the cassette inlay.

Included are all the well established features of these money snatchers with hold, nudge, gamble and collect. These features give you some semblance of controlling your inevitable destiny. A renewed familiarity with that old feeling of false security comes flooding back. (What mis spent youth?)

Winner spinners are a unique feature of this pound pincher, adding considerably to the pot of gold.

Good graphics colourfully enhance the visual impact of this program.

Disappointingly, my hopes of hearing some exciting and original sounds from Amstrad were not to be realised. A lost opportunity of innovative progamming here, and such an obvious opportunity to be creative. **D.H**

instructions	90%
playability	100%
graphics	90%
value for money	80%

★ ★ ★

Azimuth 3000 C64 £8.99

Interceptor, Lindon Hse, The Green, Tadley, Hants

This new product from Interceptor will solve most, if not all, C64 loading problems.

It's a kit consisting of a clever piece of software, special screw driver and instruction manual. With this it's extremely simple to adjust the head alignment of the C2N so accurately that it faultlessly loads programs up to 3000 baud.

After one short demonstration I had no problems adjusting my data recorder and managed to load a couple of programs which had previously been unloadable.

The manual is very clear and takes you step by step through the adjustment procedure. The software is very easy to use and the whole procedure needn't take more than five minutes.

This kit is a must for any C64 tape user. Not only will it save a lot of frustration, it will also save money for software houses, far fewer tapes will be returned as faulty.

It comes complete with an arcade game Bandana City on the reverse, which is turbo loaded at 3000 baud and means you can check your final adjustment.

Azimuth 3000 will be published in a number of languages for the export market. Interceptor warns that you should be wary of pirate versions since these won't be on the special precision tape and could produce worse results than before.

It is, of course, re-usable and I recommend it to all C64 cassette users. **J.G.D.**

instructions	100%
playability	N/A
graphics	N/A
value for money	100%

★ ★ ★ ★ ★

Fantasia Diamond Amstrad CPC464 £7.95

Hewson, Milton Trading Estate, Milton, Abingdon, Berks

The Fantasia diamond was stolen and taken to the fortress across the river, your quest is to recover this magnificent jewel.

On your journey you will encounter many different characters including the guardian, the toy Robot and the Conductor. Each character having his own idiosyncrasies, some helpful to you in your search, others distinctly unhelpful.

Incorporated within the program are several cameo problems and puzzles. Your own intuition is called upon to solve these and help you along the way.

Extensive use of multiple statements is permitted, the computer vocabulary running to some 300 words is controlled by a sophisticated language analyser.

This graphic adventure includes pictures that fill the whole screen very quickly, and can be removed equally speedily by using the enter key.

With graphics removed, the dialogue between you and the computer is on a split screen. The computer messages occupy the top two thirds, leaving the remainder for your own inputs.

Helpfully, your last several moves remain in vision, allowing an immediate check on the route taken to your present location.

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

★ ★ ★ ★ ★

Manic Miner Amstrad CPC464 £8.95

Amsoft, Brentwood Hse, 169 Kings Rd, Brentwood, Essex

Miner Wily from Surbiton has discovered evidence of a lost civilisation buried deep inside a mine at the earth's core.

Backed by an elaborate musical introduction, the colourful title page is a foretaste of the superior quality of this program.

Scrolling smoothly across the base of the screen is a humorous message setting the mood of the game.

Racing speedily through the many chambers that Wily will visit, the demonstration sequence only serves to confirm your earlier expectations.

Wily needs to collect the assortment of shimmering keys that are scattered throughout the labyrinth, before moving on to the next chamber.

You control Wily's movements either with keyboard or joystick.

Adequate instructions are printed on the cassette inlay card.

This game instructions are printed on the cassette inlay card.

This game is now available on most micro's and thankfully this conversion incorporates all the sophisticated graphic and sound commands specific to the Amstrad.

Watch out for the manic mining robots and lots of other nasties who are out to get you. Not being a master player, I saw lots of 'Game Over' screens, and was promptly stomped on to boot! Hilarious family fun. **D.H**

instructions	100%
playability	100%
graphics	100%
value for money	80%

★ ★ ★ ★ ★

COMMODORE 64 PROGRAM

Quick on the draw

Prove your dexterity and fast reactions with this finger-twitching game by Andrew Clarke. It's for two players and should give you hours of fun

Make believe you're a quickshot with this game for the Commodore 64. You need to be fast on the draw to beat your opponent.

You have two minutes to shoot at and avoid being shot at by your opponent. The winner is the one with most hits against his/her opponent.

Use two joysticks or a joystick in port two and keys **1** for up, **2** for right, **space** for fire and **left arrow** for down.

How it works

0-11 read in sprite data
12-14 set up sprites
40-56 get input from joysticks
60-63 if men go off screen bring them back on
64 check for end
70 continue loop
100-136 end game routine another go?
200-290 titles and get names
300-368 sound routines
500-560 fire routines plus check for a hit
600-604 print names and scores
3000-3089 sprite data

Variables

Y video chip start register
Y1/Y2 positions of men
DS/JS joystick variables
PS/KS equal one if men are poised to fire
JC/DC scores

Hints on conversion

Conversion should be highly possible. Replace sprites with UDGs and sound routines with those for your own micro. Replace collision detect with a PEEK routine that checks if PLAYER A's bullet is in the same place as PLAYER B's man.

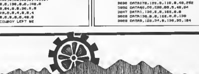
```
0 REM**BY ANDY CLARKE (C) 1984**
0 REM CLR
1 PRINT"♥":POKE53280,0:POKE53281,0:CLR
2 GOSUB200
3 FORC=54272TO54296:POKEC,0:NEXT
4 FORS=210TO218:FORT=0TO62:READW
6 POKES*64+T,W:NEXT:NEXT
8 FORT=0TO62:POKE219*64+T,0
10 IFT=21ORT=24THENPOKE219*64+T,255:NEXT
11 NEXT
11 REM CLR CLA
12 PRINT"♥":GOSUB204:PRINT"♥"
14 V=53248:POKEV+21,0:GOSUB600
16 POKEV+37,7:POKEV+38,10
18 POKEV+39,2:POKEV+40,0
20 POKEV+41,10:POKEV+42,14
22 POKEV,70:POKEV+2,250
24 POKEV+28,3:POKEV+32,0
26 POKE2040,210:POKE2041,214:Y1=80:Y2=200:TI$="000000"
28 POKE2042,219:POKE2043,219:POKEV+21,15
30 POKEV+4,70:POKEV+6,250
32 POKEV+5,Y1:POKEV+7,Y2
34 POKEV+1,Y1:POKEV+3,Y2
40 DS=PEEK(56320):JS=PEEK(56321)
42 IFJS=254THENY1=Y1-5:GOSUB500:PS=0
```

```
44 IFDS=126THENY2=Y2-5:GOSUB504:K8=0
46 IFDS=125THENY2=Y2+5:GOSUB508:K8=0
48 IFJS=252THENY1=Y1+5:GOSUB512:F8=0
50 IFJS=247THENPOKE2040,217:F8=1
52 IFDS=123THENPOKE2041,215:K8=1
54 IFF8=1ANDJS=239THENPOKE2040,216:GOSUB520
56 IFK8=1ANDDS=111THENPOKE2041,214:GOSUB550
60 IFY1<=20THENY1=240
61 IFY2<=20THENY2=240
62 IFY1>=250THENY1=20
63 IFY2>=250THENY2=30
64 IFVAL(TI$)>=200THEN100
70 GOTO30
90 END
98 REM CLR-  5*CRD-  8*CRR-WHT
100 PRINT"■■■■■■■■■■■■■■TIME UP!!!!"
102 GOSUB300
104 POKEV+21,0
105 REM CLR-  6*CRD
106 PRINT"■■■■"
107 REM   7*CRR-LRD WHT
108 PRINT"■■■■■■";N$(1)" SCORED:■";JC
109 REM CRD   7*CRR-LBL WHT
110 PRINT"■■■■■■";N$(2)" SCORED:■";DC
112 IFJC>DCTHENX=1:GOTO118
114 X=2
116 IFJC=DCTHENX=0:GOTO124
117 REM   2*CRD   7*CRR-LGN WHT
118 PRINT"■■■■■■■THEREFORE,■";N$(X)
119 REM   7*CRR-LGN
120 PRINT"■■■■■■■IS THE WINNER!!!"
121 REM CRD-  7*CRR
122 PRINT"■■■■■■■WELL DONE!!!!!!!":GOTO130
123 REM   2*CRD-  7*CRR-LGN
124 PRINT"■■■■■■■■THIS MEANS YOU HAVE DRAWN!!!!"
125 REM CRD-  7*CRR
126 PRINT"■■■■■■■BETTER LUCK NEXT GO."
128 REM CRD-  7*CRR-DAS
130 PRINT"■■■■■■■ANOTHER GO? (Y/N)"
132 GETA$:IFA$="Y"THENRUN12
134 IFA$<>"N"THEN130
136 END
198 REM  11*CRD-  8*CRR-WHT
200 PRINT"■■■■■■■■■■■■■■■■■■HERE IS....."
202 RETURN
203 REM HOM-  4*CRD-WHT
204 PRINT"■■■■■■":GOSUB300
206 A$=" ●●●●● ●              ●":GOSUB250
208 A$="●      ●              ●":GOSUB250
210 A$="●      ●              ●●●":GOSUB250
212 A$=" ●●●   ●●●   ●●   ●●  ●":GOSUB250
214 A$="    ●  ●  ●●  ●●  ●  ●":GOSUB250
216 A$="    ●  ●  ●●  ●●  ●  ●":GOSUB250
218 A$="●●●●   ●  ●  ●●   ●●   ●●":GOSUB250
220 PRINT
222 A$=" ●●●       ●":GOSUB250
224 A$="●   ●      ●":GOSUB250
226 A$="●   ●      ●●●":GOSUB250
228 A$="●   ● ●  ● ●":GOSUB250
230 A$="●   ● ●  ● ●":GOSUB250
232 A$="●   ● ●  ● ●":GOSUB250
234 A$=" ●●●   ●●   ●●":GOSUB250
235 REM   2*CRD-LRD LGN LBL
236 A$="■■■( ■ANDY CLARKE ■(C)1984":GOSUB250:GOTO260
249 REM   8*CRR
250 PRINT"■■■■■■";:FORT=1TOLEN(A$)
252 B$=MID$(A$,T,1)
254 PRINTB$;:IFB$=" "THEN258
256 GOSUB310:FORK=1TO20:NEXTK:POKEHF,0
257 REM CRU
258 NEXT:PRINT:PRINT"■":RETURN
260 FORT=1TO2000:NEXT
261 REM CLR
262 PRINT"■"
263 REM   3*CRD-  3*CRR-YEL LRD
264 PRINT"■■■■■■■GET ■YER SIX SHOOTERS READY."
265 REM CRD-  3*CRR-YEL LGN
266 PRINT"■■■■■TWO ■OF YER MUST FIGHT IT OUT."
267 REM CRD   3*CRR-YEL LBL
268 PRINT"■■■■■SCORE ■MOST HITS TO BECOME THE"
269 REM CRD-  3*CRR-YEL
270 PRINT"■■■■■SUPREME GUNFIGHTER!!"
271 REM   3*CRD-  5*CRR-LRD
272 PRINT"■■■■■■■■■ENTER NAMES"
273 REM CRD-  5*CRR-YEL WHT
274 PRINT"■■■■■■■GUNFIGHTER 1■";:INPUTN$(1)
275 IFLEN(N$(1))>8THENN$(1)=LEFT$(N$(1),8)
```

```
275 REM CRD-  5*CRR-YEL WHT
276 PRINT"■■■■■■■GUNFIGHTER #2■";:INPUTN$(2)
277 IFLEN(N$(2))>8THENN$(2)=LEFT$(N$(2),8)
281 REM   3*CRD-  5*CRR-WHT
282 PRINT"■■■■■■■■■PRESS 'FIRE'"
284 IFPEEK(56320)=111ORPEEK(56321)=239THEN290
286 GOTO284
290 RETURN
300 VO=54296:AT=54277:SU=54278
302 WA=54276:HF=54273
304 POKEAT,32:POKESU,250
308 POKEWA,128:RETURN
310 POKEVO,15:POKEHF,9:RETURN
312 GOSUB300:FORX=15TO0STEP-1:POKEVO,X
314 POKEAT,15:POKEWA,128:POKEHF,10
316 NEXT
318 GOSUB350:RETURN
330 GOSUB350
332 POKEAT,32:POKESU,255:POKEWA,21
334 POKEHF+14,20:POKEVO,143
336 FORO=1TO80:POKEHF,O:POKEV+40,O:NEXT
338 POKEV+40,2:POKE2040,217:POKE2041,210:GOSUB350:RETURN
340 GOSUB300
342 POKEAT,32:POKESU,255:POKEWA,21
344 POKEHF+14,20:POKEVO,143
346 FORO=1TO80:POKEHF,O:POKEV+39,O:NEXT
348 POKEV+39,2:POKE2041,215:POKE2040,210:GOSUB350:RETURN
350 FORC=54272TO54296:POKEC,0:NEXT:RETURN
360 GOSUB300
362 POKEAT,32:POKESU,255:POKEWA,21
364 POKEHF+14,20
366 POKEVO,143:FORT=1TO100
368 POKEHF,T:NEXT:GOSUB350:RETURN
500 IFPEEK(2040)=210THENPOKE2040,212:RETURN
502 POKE2040,210:RETURN
504 IFPEEK(2041)=210THENPOKE2041,212:RETURN
506 POKE2041,210:RETURN
508 IFPEEK(2041)=210THENPOKE2041,211:RETURN
510 POKE2041,210:RETURN
512 IFPEEK(2040)=210THENPOKE2040,211:RETURN
514 POKE2040,210:RETURN
520 GOSUB312
524 FORT=70TO250STEP5:POKEV+4,T
526 IFT>200AND(PEEK(V+30)AND3)=3THENGOSUB360:GOTO280
528 NEXT:POKE2040,217:RETURN
530 T=250:JC=JC+1:GOSUB600:POKEV+30,0:RETURN
550 GOSUB312
554 FORT=250TO0STEP-5:POKEV+6,T
556 IFT<100AND(PEEK(V+30)AND3)=3THENGOSUB340:GOTO300
558 NEXT:POKE2041,215:RETURN
560 T=0:DC=DC+1:GOSUB600:POKEV+30,0:RETURN
598 REM HOM-  8*CRR-LRD   4*CRL-LBL
600 PRINT"■■■■■■■■■■";N$(1),"■■■■";N$(2)
601 REM   8*CRR-YEL   6*CRR
602 PRINT"■■■■■■■■■■";JC,"■■■■■■";DC
604 RETURN
3000 REM COWBOY FRONT #1
3001 DATA0,0,0,0,160,0,0
3002 DATA160,0,10,170,128,0,110
3003 DATA0,0,252,0,0,220,0
3004 DATA0,40,0,1,160,0,5
3005 DATA160,64,20,160,80,40,160
3006 DATA40,0,160,0,0,160,0
3007 DATA0,84,0,0,84,0,0
3008 DATA80,0,0,85,0,0,80
3009 DATA0,0,130,128,2,128,0
3010 REM COWBOY FRONT #2
3011 DATA0,0,0,0,160,0,0
3012 DATA160,0,10,170,128,0,110
3013 DATA0,0,252,0,0,220,0
3014 DATA0,40,0,1,160,0,5
3015 DATA160,64,20,160,80,40,160
3016 DATA40,0,160,0,0,160,0
3017 DATA0,84,0,0,84,0,1
3018 DATA80,0,1,4,0,2,4
3019 DATA0,10,0,0,0,10,0
3020 REM COWBOY BACK # 1
3021 DATA0,0,0,0,160,0,0
3022 DATA160,0,10,170,160,0,160
3023 DATA0,0,160,0,0,236,0
3024 DATA0,40,0,1,160,0,5
3025 DATA160,64,20,160,80,40,160
3026 DATA80,0,160,0,0,160,0
3027 DATA0,84,0,0,84,0,0
3028 DATA80,0,0,80,0,0,80
```

```
3029 DATA0,0,130,128,2,128,0
3030 REM COWBOY BACK # E
3031 DATA0,0,0,0,160,0,0
3032 DATA160,0,10,170,128,0,130
3033 DATA0,0,130,0,0,238,0
3034 DATA0,40,0,1,180,0,5
3035 DATA160,34,20,130,30,40,160
3036 DATA40,0,160,0,0,160,0
3037 DATA0,84,0,0,34,0,1
3038 DATA68,0,1,4,0,2,4
3039 DATA8,10,0,0,0,10,0
3040 REM COWBOY LEFT #1
3341 DATA0,0,0,0,130,0,0
3025 DATA160,64,20,130,80,40,160
3026 DATA40,0,130,0,0,160,6
3027 DATA0,84,0,0,34,0,0
3028 DATA68,0,0,65,0,0,80
3028 DATA0,0,130,128,2,128,0
3030 REM COWBOY BACK # 2
3031 DATA0,0,0,0,130,0,0
3032 DATA160,0,10,170,128,0,130
3033 DATA0,0,130,0,0,230,0
3034 DATA0,40,0,1,168,0,5
3035 DATA160,34,20,130,30,40,160
3036 DATA40,0,130,0,0,160,0
3037 DATA0,34,0,0,84,0,1
3038 DATA68,0,1,4,0,2,4
3039 DATA0,10,0,0,0,10,0
3040 REM COWBOY LEFT #1
3041 DATA0,0,0,0,130,0,0
3042 DATA168,0,10,170,168,0,104
3043 DATA0,0,238,0,0,124,0
3044 DATA0,30,0,0,130,0,0
3045 DATA182,0,20,88,0,15,104
3046 DATA0,0,130,0,0,160,0
3047 DATA0,84,0,0,30,0,0
3048 DATA20,0,0,4,0,0,4
3049 DATA0,0,0,0,0,40,0
3050 REM COWBOY LEFT #2
```

```
3051 DATA0,0,0,0,166,0,0
3052 DATA168,0,10,170,160,0,184
3053 DATA0,0,252,0,0,104,0
3054 DATA0,40,0,0,168,0,0
3055 DATA162,0,5,152,0,2,00
3056 DATA0,0,160,0,0,160,0
3057 DATA0,00,0,0,20,0,0
3058 DATA30,0,0,4,0,0,4
3059 DATA0,0,0,0,0,40,0
3060 REM COWBOY RIGHT #1
3061 DATA0,0,0,0,160,0,0
3062 DATA160,0,10,170,128,0,044
3063 DATA0,0,252,0,0,244,0
3064 DATA0,40,0,0,160,0,0
3065 DATA152,0,0,148,00,0,130
3066 DATA192,0,166,0,0,160,0
3067 DATA0,84,0,0,90,0,0
3068 DATA30,0,0,64,0,0,34
3069 DATA0,0,120,0,0,160,0
3070 REM COWBOY RIGHT #2
3071 DATA0,0,0,0,158,0,0
3072 DATA168,0,10,170,120,0,084
3073 DATA0,0,252,0,0,244,0
3074 DATA0,46,0,0,190,0,0
3075 DATA152,0,0,130,0,0,163
3076 DATA84,0,181,0,0,180,0
3077 DATA0,84,0,0,00,0,0
3078 DATA30,0,0,84,0,0,84
3079 DATA0,0,120,0,0,130,0
3080 REM COWBOY DEAD
3081 DATA0,0,0,0,0,0,0
3082 DATA0,0,0,0,0,0,0
3083 DATA0,0,0,0,0,0,0
3084 DATA0,180,0,0,130,0,18
3085 DATA170,130,0,110,0,40,252
3086 DATA40,20,230,80,0,48,64
3087 DATA1,130,0,0,166,0,0
3088 DATA130,0,0,168,0,0,130
3089 DATA0,128,34,0,130,30,184
```



Jump to reach the next level — but watch out for moving holes and monsters! Kevin Clarke's game should keep you on the hop

BoUnCin

Variables

CS,DS contain graphics of Benny
AS() array for girders and holes
X% left and right position of Benny
Y% up position of Benny
BA() monster right position
BC() monster left position
L% number of lives
S% score
HI% high score
LE% present level

Listing 1

```
0 REM K.CLARKE 1984
10 REM K.CLARKE 1984
20 MODE7
25 PROCdefine
30 PRINTTAB(6,10)"BOUNCING BENNY IS LOADING"
40 VDU23;8202;0;0;0;:PRINT TAB(13);
50 CHAIN""
60 DEFPROCdefine
80VDU23,224,1,7,15,31,25,25,127,255
90VDU23,225,128,224,240,248,152,152,254,255
100VDU23,226,112,24,15,15,14,14,30,62
110VDU23,227,14,24,240,240,112,112,120,124
120VDU23,228,0,32,48,31,15,15,25,25
130VDU23,229,0,4,12,248,240,248,152,152
140VDU23,230,31,15,27,51,102,108,236,28
150VDU23,231,240,240,216,204,102,54,55,56
160VDU23,232,18,54,31,31,15,9,11,15
170VDU23,233,32,102,252,248,240,152,216,248
180VDU23,234,15,60,120,63,15,15,31,60
190VDU23,235,240,62,30,252,240,240,120,60
200VDU23,236,3,31,51,44,109,243,255,127
210VDU23,237,192,240,204,52,182,207,255,254
220VDU23,238,63,60,29,15,15,28,28,60
230VDU23,239,252,60,184,240,240,56,56,60
240VDU23,240,0,24,31,16,22,110,90,95
250VDU23,241,0,24,248,8,104,110,10,250
260VDU23,242,79,76,15,6,6,6,14,30
270VDU23,243,242,50,240,96,96,96,112,120
280VDU23,244,0,1,3,3,7,3,3,15
290VDU23,245,0,128,64,64,128,192,192,248
300VDU23,246,15,63,67,187,68,84,68,56
310VDU23,247,240,252,192,220,34,42,34,28
320VDU23,248,0,0,1,7,15,25,25,63
330VDU23,249,0,0,128,224,240,152,152,252
340VDU23,250,59,28,55,102,12,28,12,60
350VDU23,251,220,56,236,102,48,56,48,60
360VDU23,252,255,255,24,60,102,195,255,255
370VDU23,253,255,128,109,165,165,189,128,255
380VDU23,254,255,0,47,34,34,226,0,255
390VDU23,255,224,32,160,32,32,32,224
400ENDPROC
```

The object of the game is to jump up the girders to the top of the screen and go on to the next level.

Two hazards are there to stop you reaching the top, the first being the presence of moving holes in the girders, while the second is the monsters who patrol the girders ready to attack when you get in their way.

To move Benny use keys **Q** left **W** right and **P** to jump up to the next girder.

The bottom of the screen will display your score, lives and present level during the game.

Listing 1 should be saved first as it defines the graphics and CHAINs the main program, listing 2

How it works

10-60 set up program and variables
70-130 main game loop
140 endgame display score, high score
160-220 PROCLE change level
230-250 PROCM moves girders
260-270 set up screen score lives and level
280 PROCA set up AS() ar for girders and holes
290-280 move Benny routi PROClevel (
410-510 monster move routine end and st
520-630 screen and music PROCm
640-710 routine and tune

Hints on conversion

The game will run with little changes on the Acorn Electron.

However, to run on other micros you must have LEFT$ and RIGHT$ functions similar to those on the BBC micro or have ways of handling strings as mentioned above

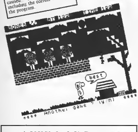
g Benny

Listing 2

```
    0 REM ** K.CLARKE 1984 **
   10RESTORE690:HI%=0:B7=0:I=0:DIMP(56):PROCp:J=2
   20C$=CHR$248+CHR$249:D$=CHR$250+CHR$251:MODE2:V
DU23;8202;0;0;0;:PROCSTART
   30DIMn(6):DIMb(6):n(1)=224:n(2)=228:n(3)=232:n(
4)=236:n(5)=240:n(6)=244:b(1)=3:b(2)=0:b(3)=2:b(4)
=13:b(5)=7:b(6)=1
   40UX=-56:DIMBA(6):BA(1)=8:BA(2)=11:BA(3)=14:BA(
4)=17:BA(5)=20:BA(6)=5:xx=RND(5)+1:DIMBC(6):BC(1)=
8:BC(2)=11:BC(3)=14:BC(4)=17:BC(5)=20:BC(6)=5:xy=R
ND(5)+1:q=0:qw=0:L$="      "
   50DIMA$(7):PROCB:PROCA:F%=6:B%=9:H%=12:I%=1:J%=
15:K%=18:L%=3:M%=21:V%=19:X%=8:Y%=23:Z%=Y%-1:Y$=ST
RING$(20," "):S$=" ":C%=2:D%=3:E%=4:N%=5:O%=6:Q%=-
34:W%=-17:o%=0
   60A%=6:S%=0:S%=0:L%=3:LE%=1
   70REPEAT:PROCM:x%=X%+17:I%=FN1
   80IFI%=x%THEN PROCD ELSEIFI%=x%-1%THENPROCD
   90PROCE
  100IF LE%>1 AND X%=qw AND Y%=BC(xy)THENPROCk
  110COLOUR3:PRINTTAB(X%,Y%)D$;TAB(X%-I%,Y%)S$;TAB
(X%+C%,Y%)S$:PRINTTAB(X%,Z%)C$;TAB(X%-I%,Z%)S$;TAB
(X%+C%,Z%)S$:IFA%=O%ANDB%THENPROCk ELSEIFA%=o% AND
 X%<2THENPROCLE
  120IFX%<1%THENPROCl ELSEIFX%>17THENPROCr:
  130UNTIL L%<I%
  140PRINTTAB(5,15);"GAME OVER":FORF=1TO9000:NEXT:
CLS:PROCEND
  150PROCS:VDU23;8202;0;0;0;:GOTO60
  160DEFPROCLE:J=0:SOUND2,-10,50,10:SOUND1,-10,51,
10:COLOUR7:B%=o%:LE%=LE%+1:PRINTTAB(o%,Y%)Y$;TAB(o
%,Z%)Y$;TAB(7,29)LE%:A%=O%:X%=8:Y%=23:Z%=Y%-I%:PRO
CA:q=0:qw=0
  170R=RND(5)+1:F$=S$+CHR$(n(R))+CHR$(n(R)+1)+S$:E
$=S$+C=S$(n(R)+2)+C=S$(n(R)+3)+S$
  180J=LE%MOD2
  190PRINTTAB(0,BA(xx))Y$;TAB(0,BC(xy))Y$;TAB(0,BA
(xx)-1)Y$;TAB(0,BC(xy)-1)Y$:xy=0:xx=0:IF J=0THENxy
=RND(5)+1:qw=0
  200IF J=1THENxx=RND(5)+1:q=0
  210IFLE%MOD5=0THENxy=RND(5)+1:xx=RND(5)+1
  220ENDPROC
  230DEFPROCM:A$(I%)=RIGHT$(A$(I%),I%)+LEFT$(A$(I%
),V%):A$(C%)=RIGHT$(A$(C%),V%)+LEFT$(A$(C%),I%):A$
(D%)=RIGHT$(A$(D%),I%)+LEFT$(A$(D%),V%):A$(E%)=RIG
HT$(A$(E%),V%)+LEFT$(A$(E%),I%):A$(N%)=RIGHT$(A$(N
%),I%)+LEFT$(A$(N%),V%)
  240PROClevel(LE%)
  250A$(O%)=RIGHT$(A$(O%),V%)+LEFT$(A$(O%),I%):COL
OURO%:PRINTTAB(o%,F%)A$(I%);TAB(o%,B%)A$(C%);TAB(o
%,H%)A$(D%);TAB(o%,J%)A$(E%);TAB(o%,K%)A$(N%);TAB(
o%,M%)A$(O%):ENDPROC
  260DEFPROCS:PLOT69,0,20:DRAW1279,20:DRAW1279,200
:DRAW0,200:DRAW0,20
  270PRINTTAB(3,2)"BOUNCING BENNY":A$=STRING$(20,C
HR$252):COLOUR4:PRINTTAB(0,24)A$:COLOUR7:PRINTTAB(
1,27)"SCORE:00000";TAB(13)"LIVES";TAB(1,29)"LEVEL
1":PRINTTAB(16,29)"3":COLOUR5:PRINTTAB(0,3)CHR$253
;C=S$254;CHR$255:ENDPROC
  280DEFPROCA:FORF=1TO6:A=RND(17)+1:B=18-A:A$(F)=S
TRING$(A,CHR$252)+"  "+STRING$(B,CHR$252):NEXT:END
PROC
  290DEFPROCD:COLOUR7:S%=S%-10:l=LEN(STR$(S%)):PRO
CP:PRINTTAB(12-l,27);S%:Y%=Y%+D%:Z%=Y%-I%:A%=A%+I%
:B%=1:IFS%=o%THENPRINTTAB(10,27);R%
  300IFA%<=5 PROCD
  310ENDPROC
  320DEFPROCU:PROCM:COLOUR7:S%=S%+10:l=LEN(STR$(S%
)):PRINTTAB(X%,Y%)L$;TAB(X%,Z%)L$;TAB(12-l,27)S%:Y
%=Y%-D%:Z%=Y%-I%:A%=A%-I%:B%=1%:ENDPROC
  330DEFPROCk:A%=6:COLOUR7:SOUND0,-10,20,3:SOUND0,
-10,20,5:SOUND0,-10,30,10:Y%=23:Z%=Y%-I%:B7=0:L%=L
%-I%:VDU31,16,29,L%+48:ENDPROC
  340DEFPROCE:IFINKEY(U%)ANDINSTR(A$(A%),S$)=x%THE
NPROCU
  350IF J=0 AND X%=qw AND Y%=BC(xy) THEN PROCk
  360IF J=1 AND X%=q AND Y%=BA(xx) THEN PROCk
  370X%=X%-(INKEY(Q%)AND X%<17)+(INKEY(W%)AND X%>I
)
  380ENDPROC
  390DEFFN1=INSTR(A$(A%+1%),S$):ENDPROC
  400DEFPROCP:PRINTTAB(0,Y%)Y$;TAB(0,Z%)Y$:ENDPROC
  410DEFPROClevel(LE%):IFLE%<2THENENDPROC
  420IFLE%MOD5=0THENPROCLEFT:PROCRIGHT:ENDPROC
  430IFJ=0THEN PROCLEFT ELSEPROCRIGHT
  440ENDPROC
  450DEFPROCLEFT:IFqw>0THENqw=qw-1 ELSEPRINTTAB(qw
,BC(xy))L$;TAB(qw,BC(xy)-1)L$:xy=RND(5)+1:qw=17
  460COLOURb(R):PRINTTAB(qw,BC(xy))E$;TAB(qw,BC(xy
)-1)F$:ENDPROC
  470DEFPROCRIGHT:IFq<17THENq=q+1 ELSEPRINTTAB(q,B
A(xx))L$;TAB(q,BA(xx)-1)L$:xx=RND(5)+1:q=0
  480COLOUR b(R):PRINTTAB(q,BA(xx))E$;TAB(q,BA(xx)
-1)F$:ENDPROC
  490DEFPROCO:PRINTTAB(X%,Z%)C$;TAB(X%,Y%)D$:FORF=
1TO9+(LE%):IFFN1=x%THEN PROCO:ENDPROC
  500IFX%=q ANDY%=BA(xx)OR X%=qw ANDY%=BC(xy)THENP
ROCk:ENDPROC
  510PROCSM:SOUND0,-10,F,2:NEXTF:ENDPROC
  520DEFPROCEND:l=1:PRINT "  " SPC(3); "BOUNCING
BENNY"
  530IF S%>HI% THEN HI%=S%
  540PRINT "    HI-SCORE:";HI% "   YOUR SCORE: ";S
%
  550PRINT "        PRESS ' SPACE BAR TO START":
COLOUR3:PRINT SPC(9)C$ SPC(9)D$
  560PROCmusic
  570IF NOT INKEY(-99) THEN 560
  580CLS:COLOUR7:ENDPROC
  590DEFPROCSTART:COLOUR2:PRINT  SPC(3)"BOUNCI
NG BENNY"
  600COLOUR1:PRINT  " CONTROL HIM USING,  SPC(5)
" Q  LEFT" SPC(5)  W  RIGHT  SPC(5)" P  UP :COLO
UR3:PRINT  "       PRESS     SPACE BAR TO START':
COLOUR7
  610PROCmusic
  620IF NOT INKEY(-99) THEN 610
  630CLS:ENDPROC
  640DEFPROCmusic:l=l+1
  650IF l>56 THEN l=1
  660SOUND1,-10,P(l),5
  670ENDPROC
  680DEFPROCp:FORF=1TO56:READA:P(F)=A:NEXTF:ENDPRO
C
  690DATA 33,49,61,73,81,73,61,49,33,49,61,73,81,7
3,61,49,53,69,81,93,101,93,81,69,33,49,61,73,81,73
,61,49,61,77,89,101,109,101,89,77,53,69,81,93,101,
93,81,69,33,49,61,73,81,73,61,49
  700FORF=1TO8:READ A:PRINTA+28; ",";:NEXT
  710DATA33,49,61,73,81,73,61,49
```

Give a dog

Due to unavoidable production difficulties we were unable to publish the complete listing of the Spectrum program Give a Dog a Bone by R N Butcher which appeared in HCW 94. All such problems have now been sorted out and we apologise for the frustration this must have caused. This week we are including the correct version of the program.



```
   1 BORDER 0  BRIGHT 1  CLS   P
APER 7  RANDOMIZE 0  LET hi=500
 LET game=0  GO SUB 500  GO SUB
7000
   2 GO SUB 300  GO SUB 100
   3 FOR w=1 TO (16-b)
   4 PRINT AT 15,w+b+3,""
   5 PAUSE 5
   6 PRINT AT 15,w+b+3," "
   7 NEXT w
   8 PRINT AT 15,w+b+3,""
   9 FOR o=11 TO INT (RND*5)+10
  10 PRINT AT o,24,"",AT o+1,24
,""
  11 PAUSE 5
  12 PRINT AT o,24," ",AT o+1,24
," "
  13 NEXT o
  14 PRINT AT o,24,"",AT o+1,24
,""
  15 FOR g=20 TO 23
  16 PRINT AT 15,g,""
  17 PAUSE 5
  18 PRINT AT 15,g," "
  19 NEXT g
  20 IF o=15 OR o+1=15 THEN GO T
O 33
  21 FOR g=24 TO 26
  22 PRINT AT 15,g,""
  23 PAUSE 5
  24 PRINT AT 15,g," "
  25 NEXT g
  26 FOR j=16 TO 19
  27 PRINT AT j,26,""
  28 PAUSE 5
  29 PRINT AT j,26," "
  30 NEXT j
  31 GO SUB 400
  32 LET bones=bones+1  PRINT PA
PER 6 AT 0,6+bones,""   GO TO 3
9
  34 FOR t=23 TO 21 STEP -1   PR
INT AT 15,t,""  PAUSE 5  PRINT
AT 15,t," "  NEXT t
  35 FOR r=16 TO 20  PRINT AT r,
20,""
```

```
  36 PAUSE 5
  37 PRINT AT r,20," "
  38 NEXT r  PRINT AT 20,20,""
 GO SUB 420
  39 FOR i=o TO 12 STEP -1
  40 PRINT AT i,24,"",AT i+1,24
,""
  41 PAUSE 5
  42 PRINT AT i+1,24," "
  43 NEXT i
  44 PRINT AT i,24,"",AT i+1,24
,""
  45 IF bones=3 THEN GO TO 121
  46 GO TO 116
 105 DIM v(16)  FOR r=1 TO 16
 106 LET y=INT (RND*100)+1  LET
v(r)=y  PAUSE 5
 107 NEXT r
 110 LET sc=0  LET a=16  LET b=1
  LET bones=0  LET q=.15  LET x=
.3  PRINT AT 0,15,hi,AT 0,27,sc
 111 GO SUB 117
 112 PAUSE 0  IF INKEY$="p" THEN
 GO SUB 116
 113 IF INKEY$<>"q" THEN GO TO 1
12
 114 IF v(b)>=51 THEN PRINT AT 2
0,b+1,""  PAUSE 50  PRINT INK 4
,AT 20,b+1,""  PRINT AT a,b-1,"
"  PAUSE 50  PRINT AT a,b-1," "
  GO TO 3
 115 PRINT AT 20,b+1,""  LET ex
=ex+10  GO SUB 308
 116 PRINT AT a,b," ",AT a+1,b,"
 ",AT a+2,b," ",AT a+3,b," "  LE
T b=b+1  IF b>16 THEN GO TO 120
 117 PRINT AT a,b,a$,AT a+1,b,b$
,AT a+2,b,c$ AT a+3,b d$
 118 GO TO 112
 120 PRINT AT a,b-1,a$,AT a+1,b-
1,b$,AT a+2 b-1,c$,AT a+3,b-1,d$
  GO SUB 306  GO TO 122
 121 GO SUB 306
 122 LET game=game+1  IF bones<3
 THEN LET sc=sc+(3-bones)*60
 123 GO SUB 200
 124 IF sc<hi THEN LET hi=sc
 125 IF sc>hi THEN GO TO 129
 126 IF game=1 THEN GO TO 123
 127 FOR y=1 TO 100  LET br=INT
(RND*7)+1  BORDER br  BEEP .01,y
/2  NEXT y
 128 FOR f=1 TO 3  BEEP q,2  BEE
P q,4  BEEP q 6  BEEP x,7  BEEP
q,2  PAUSE 7  BEEP q,7  BEEP q,6
  BEEP q,7  BEEP /,9  BEEP x 4
PAUSE 10  NEXT f
 129 PRINT INK 3,AT 0,15,"     "
 PRINT AT 0,27,sc AT 0,15 hi
 130 PAUSE 100  PRINT PAPER 6,AT
 21,0,"****  Another game ? (y/n
)  ****
 131 PAUSE 0
 132 IF INKEY$<>"y" AND INKEY$<>
"n" THEN GO TO 131
 133 IF INKEY$="n" THEN GO TO 14
0
 134 IF INKEY$="y" THEN PRINT IN
K 4,AT 21,0,"
           "
 135 PRINT INK 6,AT 0,7,"    "  P
RINT INK 4,AT 0,27,"    "
 136 PRINT AT a,b-1,"    ",AT a+
1,b-1,"    ",AT a+2,b-1,"    ",A
T a+3,b-1,"
```

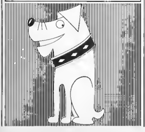
a bone

```
 137 BORDER 0  FOR f=0 TO 20 STE
P 2  PRINT INK 4,AT 20,f,"▀▀"  N
EXT f
 138 FOR e=14 TO 16  PRINT AT e,
b+2,"    "  NEXT e
 139 GO TO 2
 140 PAPER 5  CLS  PAPER 5  PRI
NT AT 5,5,"TODAYS BEST TIME  ",h
i
 141 FOR f=40 TO 120
 144 LET a=INT (RND*4)
 145 PLOT f,a+50
 146 NEXT f
 150 PRINT AT 11,8,a$,AT 12,8,b$
,AT 13,8,c$,AT 14,8 d$
 160 PLOT 37,80  DRAW 20,5  DRAW
 -16,0  DRAW 0,13,-PI  DRAW 64,8
 DRAW 0,-13,-PI  DRAW -30,0  DR
AW -38,-5
 170 PRINT AT 10,12,"GOODBYE"  P
AUSE 0
 200 PLOT (b+3)*8,40  DRAW 8,5
DRAW -10,0  DRAW 0,12,-PI  DRAW
34,0  DRAW 0,-12,-PI  DRAW -14,0
 DRAW -16,-5
 201 IF sc<hi THEN PRINT AT 15,b
+3,"best"  RETURN
 202 IF sc<100 THEN PRINT AT 15,
b+3,"good"  RETURN
 203 IF sc<150 THEN PRINT AT 15,
b+3,"fair"  RETURN
 204 IF sc<175 THEN PRINT AT 15,
b+3,"O.K"  RETURN
 205 IF sc>=176 THEN PRINT AT 15
,b+3 "poor"  RETURN
 300 PRINT FLASH 1,AT 16,3,"STAR
T",AT 15,3,"*****",AT 17,3,"****
*"  PAUSE 0  PRINT AT 16,3,"
",AT 15,3,"     ",AT 17,3,"
"
 301 LET ex=0
 302 LET p=23672
 303 POKE p+2,0
 304 POKE p+1,0
 305 POKE p,0
 306 LET ti=PEEK (p)+256*PEEK (p
+1)+65536*PEEK (p+2)
 307 LET sc=INT (ti/28)+ex
 308 PRINT AT 0,27,sc
 309 RETURN
 400 LET u=INT (RND*2)+1  IF u=1
 THEN GO TO 410
 403 BEEP x,0  BEEP x,0  BEEP q,
4  BEEP .4,7  PAUSE 3  BEEP q,7
 BEEP q,7  BEEP q,4  BEEP q,4  B
EEP q,2  BEEP q,0  BEEP .5,2
 404 GO SUB 306
 405 RETURN
 411  BEEP q,7  BEEP q,7  BEEP q
,7  BEEP q,4  BEEP q,7  BEEP q,9
  BEEP q,7  BEEP .5,4  BEEP q,4
 BEEP .75,2  BEEP q,4  BEEP .5,2
 412 GO SUB 306
 413 RETURN
 421 BEEP .01,8  BEEP x,9  BEEP
q,12  BEEP .01,8  BEEP q,9
 422 PAUSE 10
 423 BEEP .01 8  BEEP x,9  BEEP
q,12  BEEP .01,9  BEEP q,9
 424 PAUSE 10
 425 BEEP q,10  BEEP q,12  BEEP
q,10  BEEP x,7
 426 PAUSE 10
 427 BEEP q,9  BEEP q,12  BEEP q
,9  BEEP x,5
 428 GO SUB 306
 429 RETURN
 500 LET pa=INT (RND*3)+4  PAPER
 pa  CLS  PAPER pa
 510 PLOT 16,160  DRAW 0,-64
 511 PLOT 48,160  DRAW -32,-32
DRAW 32,-32
 512 PLOT 8,168  DRAW 48,0  DRAW
 0,-80  DRAW -48,0  DRAW 0,80
 513 PRINT AT 9,7,"ENNEL"
 514 PLOT 72,80  DRAW 0,-64
 515 PLOT 104,80  DRAW -32,-32
DRAW 32,-32
 516 PLOT 64,88  DRAW 48 0  DRAW
 0,-80  DRAW -48,0  DRAW 0 80
 517 PRINT AT 19,14,"APERS"
 518 PLOT 112,136  DRAW 16,16  D
RAW 40,0  DRAW 16 16  DRAW 48 0
 DRAW 16,-16  DRAW 0,-72  DRAW -
8,-8  DRAW -32 0  DRAW -16 24
 519 DRAW -64,0  DRAW -16,16  DR
AW 0,24
 520 FOR f=1 TO 5  CIRCLE 107,12
4,f  NEXT f
 521 CIRCLE 195,144,5
 522 CIRCLE 194,144,1
 523 PLOT 244,14  DRAW -82,0,PI/
1.3  DRAW 82,0  PRINT AT 17,24,"
by",AT 19,21,"A.Butcher"
 524 PLOT 164,96  DRAW 20,6  DRA
W 4 10
 525 FOR f=5 TO 9  PRINT AT f,27
,"▀▀"  NEXT f  PRINT AT 10 27,"
▀"  AT 11,23,"▀"
 526 PRINT #1,"(i) instructions
 (g) game"
 527 PAUSE 0
 528 IF INKEY$<>"i" AND INKEY$<>
"g" THEN GO TO 527
 529 IF INKEY$="i" THEN GO TO 60
0
 530 CLS  PAPER 7  CLS  RETURN

 600 CLS  PAPER 7  CLS  PRINT
INVERSE 1,AT 1,9,"KENNEL KAPERS"
 601 LET k$="Help Lassie,the Lab
rador,to fillher dog bowl with 3
 bones in theshortest time.But f
irst you haveto find where they
are buried  using the keys O to
 dig or P to go forward.Every ti
me you dig  and no bone is foun
d 10 is addedto the time.Hoverin
g above the  kennel is a bird wh
ich tries to stop the bones.If t
he  kennel isreached without the
 3 bones,60  is added for every
bone short.To**START** the game
press any key"
 602 FOR l=1 TO LEN k$
 603 LET n=INT (RND*5)+1  PAUSE
3
 604 PRINT INK n,k$(l);
 605 NEXT l
 606 PRINT , FLASH 1,AT 20,6,"Pr
ess any key"  PAUSE 0
 607 CLS  RETURN
7000 RESTORE 7000  FOR a=USR "a"
 TO USR "u"+7
7010 READ b  POKE a,b
7020 NEXT a
7030 DATA 254,254,254,3,239,239,
239,0  REM wall
7040 DATA 0,0,0,4 15,127,255,239
  REM cloud a
7050 DATA 1,3,31,191 255,255,255
,223  REM cloud b
7060 DATA 33 243,255 255,255,255
,255,247  REM cloud c
7070 DATA 0,194,247,255 255,255,
255,255  REM cloud d
7080 DATA 0,0,0,192,224 248 254,
127  REM cloud e
7090 DATA 0,3,199,255,255,255,25
5,255  REM grass a
8000 DATA 0 28,191,255,255 255,2
55,255  REM grass b
```

PROGRAM CORRECTION

```
8001 DATA 1,1,2,2,4,7,15,8  REM
roof a
8002 DATA 15,15,63,63,64,64 255,
255  REM roof b
8003 DATA 128,128,84,64,32,224,2
05,16  REM roof c
8004 DATA 8,8,252,252,2 2,255,25
5  REM roof d
8005 DATA 255,255,0,0,0,255,255,
0  REM roof e
8006  DATA 0,0,255,255,0,0,255,2
55  REM roof f
8007 DATA 255,0,255,0,255,0,255,
0  REM kennel s
8011 DATA 0,0,1,1,3,7,15,31  REM
 trunk l
8012 DATA 0,0,128,128,192,224,24
0 248  REM trunk r
8013 DATA 255,255,254,127,255,25
5,126,254  REM trunk
8014 DATA 157,255,255 255.255.25
5,211,0  REM branch
8015 DATA 127,31,31,15,15,7,1,0
 REM slope bl
8016 DATA 128,128,192,224,224,24
8,252,255
8017 FOR f=1 TO 10  FOR g=0 TO 3
1  PRINT , INK 5,AT f,g,"■"  NEX
T g  NEXT f
8018 PAPER 5  PRINT INK 7,AT 2,1
2,"   ",AT 6,2,"   " AT 2,25,
"   ",AT 4,15,"   "
8019 PRINT INK 7,AT 5,22,"   "
,AT 3,1,"   ",AT 5,8,"   "
8020 FOR a=0 TO 31  PRINT INK 4,
AT 21,a,"■"  NEXT a
8021 PAPER 7  FOR a=0 TO 31 STEP
 2  PRINT INK 4,AT 20,a,"  "  NE
XT a
8022 PAPER 6  FOR f=11 TO 13  FO
R g=0 TO 20  PRINT INK 2,AT f,g,
"  "  NEXT g  NEXT f
8023 PAPER 4  PRINT INK 3,AT 21,
29,"■■"  FOR f=10 TO 21  PRINT
 INK 3,AT f,30,"■"  NEXT f
8024 PAPER 5  PRINT INK 3 AT 7,2
7,"  " AT 8,28,"  " AT 9,29,"  "
  PAPER 7  PRINT INK 3 AT 12 26
"■■" AT 13,29 "  " AT 14 29 "  "
8025 PRINT INK 0 AT 17,21 "    "
,AT 18,21,"     " AT 19 22 "■
■■" AT 20,22 "■■■■"
8026 PRINT INK 6 AT 0,0,"■■■■■■
■■■",INK 3 AT 0,11,"■■■■■■■■",
 INK 4,AT 0,21,"■■■■■■■■■"
8027 PRINT AT 0,1,"BONES" AT 0,1
2,"8T" AT 0,22,"TIME"
8029 PRINT PAPER 5,AT 1,0,"■■■■■
■■■■■■■■■■■■■■■■■■■■■■■■■■■"
```



PERIPHERALS REVIEW

Forget the typing — draw instead

If you're not so hot on touch-typing, you'll be fascinated to read about the Grafpad. Editor Dave Carlos assesses its abilities for you

Grafpad
32K BBC
£126.50

British Micro, Penfold Works,
Imperial Way, Watford, Herts
WD2 4YY

Grafpad is yet another way of making a microcomputer understand what you want to do. This product is made for those who want to put graphic information on screen and there is a special pen with which to draw on the pad itself.

The pen has a sprung, switched tip which you place on to the surface of the pad whenever you want the machine to accept an input. It is comfortable to hold and very easy to use. The pad is a grid of squares printed on to a plastic surface covered with a clear perspex sheet. This is essential to protect the membrane and causes no difficulty of use whatsoever.

You can place a drawing or thin book on the pad and trace a design on to the screen of your computer by just following the lines. There is also a lettered touch pad which enables you to give commands to software about what action you next desire. This can make the keyboard redundant although none of the software supplied goes this far and you have to keep on pressing the keys too.

There are three programs supplied, on both cassette and disc, as an introduction to the machine and its use. The first two are demonstration programs which can be used to check the machines operation when setting up. Unlike some devices of this kind there is no need to check the sensitivity of the pad on each occasion, you just hold the pen at point 0,0.

The main program supplied is the CAD (Computer Aided Design) package. This is a sophisticated product which has a multitude of useful features for the serious user, including scaling of shapes, enlargement of drawings, loading and filing of designs and printouts.

The most disappointing part of the package is the manual. Over 16 pages are devoted to the CAD package and just a couple to the pad itself. There isn't a section on how the pad works at all. The nearets you get to such a section is the listing of programs at the back. Even this isn't error-free, however and one of the hexadecimal dumps is in the wrong order. This all means that if you want to write your own softwere or modify the existing programs you have to unravel the listings with no help whatsoever from the manual. This is a serious omission in such a premium product.

Although this review was based on the BBC micro, pads and software are available for the Commodore 64 and Specrrum. The comments about the hardware will apply to all the products but those about the software are probably specific to the BBC version.

If you really need easy input of graphical information then this pad can offer you that facility. I do feel that the price is likely to make a number of potential users think twice, however.

Character generator

HCW regular contributor Shingo Sugiura explains in full how this character generator works for your Oric-1

For many programs, user defined graphics are useful and for games they are almost essential, but working out the numbers for these characters is a tedious and error prone process Even when the numbers are calculated, the resulting character on screen quite often looks distinctly different from the one you designed on the scrap of paper Many character generators have been published in various magazines but for some reason, only a very few are for the poor old Oric The few generators that were published weren't very powerful and there was no way to save the resulting characters to tape so that you were forced to take down the numbers on a piece of paper

This program will literally save you hours of time spent on creating characters and leave you free to spend time on actually programming

When the program is loaded, it will display the options available When you press the space bar, the whole of the character set will be displayed next to a grid This is where you wil design your character One of the cells on the grid should be flashing This is your current position and this can be moved about the grid by Z, X, and to move left, right, up and down

To fill the current cell you're on, press the space bar To clear a cell which you have filled by mistake, press D (for delete)

When you are satisfied with the enlarged character on the grid, press E and you will be asked for the ASCII code of the character you want the new character to be assigned to When you do, the character you choose should be redefined If the new character in its actual size does not satisfy you, you can choose option 1 to edit the character you have just created

On the other hand, if you are satisfied, you can go on to redefine another character choosing option 2, or else choose option 3 to quit edit mode When this option is chosen, you will be asked whether you want to save the new character set or not If you reply yes (by pressing Y) the computer will prompt you to place a blank tape in the recorder then press S, otherwise you will exit gracefully out of the program During the actual edit stage, you have several options open to you These are listed below

UPTURN this is called by pressing U It simply turns the current character upside down

MIRROR this is called by pressing M' It reflects the current character

CLEAR this is brought into play by pressing 'C' This clears the whole grid and should be used when you've made a mess of your character!

INVERT called by pressing 'I'. This feature seems pointless at first as you can get an inverse character by swopping the background and foreground colours, but this is not used for making inverse characters It is used for filling an empty grid. This is particularly useful when defining a character which fills most of the grid

By pressing 'I' when the grid is empty — achieved by pressing 'C' — you can fill the grid Then erase the dots which aren't required by pressing 'DELETE'.

How it works

I have tried to use modular programming techniques which are used in structured high level languages (unlike BASIC) in writing this program As a result you won't find a single GOTO statement but more importantly, you will find that it is easy to understand and modify this program

It would have been nice to have indented the program but that would have consumed more memory and in any case this method of improving the legibility of the program is rather useless because the line numbers are left justified for some strange reason

For those who must know how everything works, here is a detailed run-down

10-40 REM statements

50 select TEXT mode, grab extra memory and print the instructions (the HIMEM is set as well This wouldn't be necessary if it weren't for a hideous bug in the Oric's operating system which re sets the value of HIMEM randomly on power up)

60 DIMs

70 start of main loop

80 check if the option chosen is 2 (redefine a character from scratch) and if it is clear the grid

90 actual edit

100 end of main loop

110 exit gracefully from the program

120-150 subroutine which clears the current character grid by filling DIM CC with zeroes

200-380 subroutine to set up screen for edit mode It prints the whole of the character set followed by a large grid

400 beginning of edit subroutine

410 scan keyboard

420-430 flash current cell in grid

440 if key pressed is Z, move cursor left one cell

450 if key pressed is X, move cursor right one cell

460 if key pressed is move cursor up one cell

470 if key pressed is /, move cursor down one cell

480 if key pressed is U, turn current character being edited upside down

490 if key pressed is C, clear grid

500 if key pressed is M, reflect character

510 if key pressed is I, invert current character

520 if space bar is pressed, fill current cell

530 if D is pressed, empty current cell

540 check whether key pressed was E otherwise go back to beginning of loop

550-560 input ASCII code of character you want you definition to be assigned to

570 check whether above input is valid

571 calculate address of character you have just chosen

580-620 POKE definition into the address just calculated

630-650 print options and wait for response

660-680 current character upside down

690-730 reflect current character

740-770 invert current character

800-830 draw grid and new definition

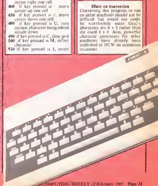
900-970 define character for grid and cursor

980 get rid of flashing cursor

1100-1400 print instructions when this program is first loaded

Hints on conversion

Converting this program to run on other machines should not be difficult but would not really be worthwhile since Oric's characters are 6 x 8 rather than the usual 8 x 8 Also, powerful character generators for other machines have already been published in HCW on numerous occasions



```
10 REM Character Generator
20 REM By Shingo Sugiura
30 REM July 1984
40 :
50 TEXT:GRAB:HIMEM#B400:GOSUB900:GOSUB1200
60 DIM CC(6,8),TE(6,8)
70 REPEAT
80 IF B$="2" THEN GOSUB 120
90 GOSUB 200:GOSUB 400
100 UNTIL B$="3":GOSUB 1100
110 POKE#26A,3:POKE616,23:END
120 FOR A=1 TO 6:FOR B=1 TO 8
130 CC(A,B)=0:TE(A,B)=0
140 NEXT B,A
150 RETURN
200 CLS:PRINTSPC(8)"CHARACTER GENERATOR":PLOT1,0,CHR$(4)
210 FOR A=1 TO 6:FOR B=1 TO 8
220 IF CC(A,B)=0 THEN PLOTA+6,B+5,"'" ELSE PLOTA+6,B+5,"*"
230 NEXTB,A
240 PLOT1,2,CHR$(3):PLOT6,2,"COLUMNS":PLOT1,4,CHR$(6):PLOT5,4,"1234
5678"
250 A$="  ROWS  ":B$="abcdefgh"
260 FOR A=1 TO 8:PLOT1,A+5,MID$(A$,A,1)
261 PLOT2,A+5,CHR$(5):PLOT3,A+5,MID$(B$,A,1):PLOT4,A+5,CHR$(0):NEXT
A
270 FOR A=0 TO 22
280 A$=STR$(A+34)+CHR$(1)+CHR$(A+34)
290 PLOT16,A+3,A$
300 A$=STR$(A+57)+CHR$(1)+CHR$(A+57)
310 PLOT21,A+3,A$
320 A$=STR$(A+80)+CHR$(1)+CHR$(A+80)
330 PLOT27,A+3,A$
340 A$=STR$(A+103)+CHR$(1)+CHR$(A+103)
350 PLOT33,A+3,A$
360 NEXT:XC=1:YC=1
370 FOR A=6 TO 13:PLOT5,A,"##":NEXT
380 RETURN
400 REPEAT
410 A$=KEY$
420 PLOTXC+6,YC+5," "
430 IF CC(XC,YC)=1 THEN PLOTXC+6,YC+5,"$" ELSE PLOTXC+6,YC+5,"'"
440 IF A$="Z" THEN XC=XC+(XC>1)
450 IF A$="X" THEN XC=XC-(XC<6)
460 IF A$="'" THEN YC=YC+(YC>1)
470 IF A$="/" THEN YC=YC-(YC<8)
480 IF A$="U" THEN GOSUB 660:GOSUB 800
490 IF A$="C" THEN GOSUB 120:GOSUB 800
500 IF A$="M" THEN GOSUB 690:GOSUB 800
510 IF A$="I" THEN GOSUB 740:GOSUB 800
520 IF A$=" " THEN CC(XC,YC)=1
530 IF A$="D" THEN CC(XC,YC)=0
540 UNTIL A$="E"
550 POKE616,15:PRINT
560 INPUT"Code";CO
570 IF CO<37 OR CO>125 THEN PLOT7,15,"    ":GOTO550
571 D=46079+(CO*8)
580 FOR A=1 TO 8:K=1:S=0
590 FOR B=6 TO 1 STEP-1
600 S=CC(B,A)*K+S:K=K*2:NEXT B
610 A$=RIGHT$(STR$(S),LEN(STR$(S))-1):PLOT14,A+5,A$
620 POKED+A,S:NEXTA
```

```
630 PLOT2,17,"1. Edit":PLOT2,18,"2. Define":PLOT2,19,"3. Quit"
640 PLOT2,21,"Which option?":REPEAT
650 B$=KEY$:UNTILB$="1" OR B$="2" OR B$="3":RETURN
660 FOR A=1 TO 6:FOR B=1 TO 8:TE(A,B)=CC(A,B):NEXTB,A
670 FOR A=1 TO 8:FOR B=1 TO 6:CC(B,A)=TE(B,9-A):NEXT B,A
680 RETURN
690 FOR A=1 TO 6:FOR B=1 TO 8:TE(A,B)=CC(A,B):NEXTB,A
700 FOR A=1 TO 8:FOR B=1 TO 6
710 CC(B,A)=TE(7-B,A)
720 NEXTB,A
730 RETURN
740 FOR A=1 TO 6
750 FOR B=1 TO 8:IF CC(A,B)=0 THEN CC(A,B)=1 ELSE CC(A,B)=0
760 NEXTB,A
770 RETURN
800 FOR A=1 TO 6:FOR B=1 TO 8
810 IF CC(A,B)=0 THEN PLOTA+6,B+5,"!" ELSE PLOTA+6,B+5,"$"
820 NEXTB,A
830 RETURN
900 FOR A=46344 TO 46351
910 READB:POKEA,B:NEXTA
920 DATA63,33,33,33,33,33,33,63
930 FOR A=46360 TO 46375
940 READB:POKEA,B
950 NEXT
960 DATA51,32,32,32,32,32,32,51
970 DATA 63,63,63,63,63,63,63,63
980 POKE#26A,6
1000 RETURN
1100 CLS
1110 PRINT"Do you want to save characters?":
1120 REPEAT:C$=KEY$:UNTILC$="Y" OR C$="N"
1130 IF C$="N" THEN PRINT"No":RETURN
1140 PRINT"Yes":PRINT"Find a suitable position on cassette"
1150 PRINT"and press 'S' to start.":PRINT
1160 REPEAT:C$=KEY$:UNTIL C$="S"
1170 CSAVE"CHAR",A#B528,E#B800
1180 PRINT:PRINT"Saving finished."
1190 RETURN
1200 CLS:INK0:PLOT0,0,CHR$(17)
1210 PLOT0,1,CHR$(17):PLOT1,1,CHR$(3):PLOT5,1,CHR$(10)
1220 PLOT0,2,CHR$(17):PLOT1,2,CHR$(3):PLOT5,2,CHR$(10)
1230 PLOT10,1,"CHARACTER GENERATOR":PLOT10,2,"CHARACTER GENERATOR"
1240 PLOT1,4,CHR$(2):PLOT11,4,"By Shingo Sugiura"
1250 PLOT1,6,"This program will allow you to"
1260 PLOT1,7,"create characters and save them on"
1270 PLOT1,8,"tape for later use. Facilities are"
1280 PLOT1,9,"available to define,edit,clear,invert"
1290 PLOT1,10,"upturn and reflect."
1300 PLOT1,11,"Move the cursor with 'Z','X',' and '/'"
1310 PLOT1,13,"Press SPACE BAR to create dot"
1320 PLOT1,14,"Press 'D' to erase dot."
1330 PLOT1,15,"Press 'C' to clear grid."
1340 PLOT1,16,"Press 'M' to reflect."
1350 PLOT1,17,"Press 'U' to upturn."
1360 PLOT1,18,"Press 'I' to invert."
1370 PLOT1,20,CHR$(12):PLOT2,20,CHR$(6)
1380 PLOT4,20,"Press the SPACE BAR to start."
1390 REPEAT:A$=KEY$:UNTIL A$=" "
1400 RETURN
```

Laugh or cry, these are the best

Our joke competition produced floods of jokes. These are the ones we selected as the funniest — we leave it to you to imagine the rest! We chuckled over them — hope you will too

The joke's on you' produced shoals of jokes Some were funny some were in bad taste and some were rather weak We ve picked out the best of the bunch. These winners will each receive a computing book from us

We had fun opening the jokes and we would like to encourage you to keep sending your best jokes, as we will be printing computer jokes — or any other really witty ones — in a special slot Keep 'em coming!

Which pet has no teeth but bytes?
The Commodore Pet
Paul Glancey Northumberland

Why did the man put a computer on the edge of his plate?
Because he wanted a BIT on the side
Tim Simcox Derby

What annoyed the farmer's wife after playing with her son's computer?
She found the RAM had taken bytes out of her chips
Mrs J Strachan Middlesex

What's the difference between an Oric and an elephant?
One of them does a proper load
Joseph Meehan Dublin

What s the difference between a computer, a railway guard and a tube of Superglue?
A computer trains the mind, while a railway guard minds the train What about the Superglue I hear you say Well that s another place where you got stuck
Eric Waters, Solihull

Why didn t little Johny cheat on adventure games?
Because his mummy said it was rude to POKE
Mrs J A Francis, Herts

Which computers are on board the USS Enterprise?
Spocktrums
Chris Whitehead Bolton

What did the VIC 20 say to its owner?
Will you still need me when I'm 64?
S Forth Hull

There's a new dance for computers called the whole-key POKEy
Michael O Dwyer, Runcorn

What did Jeff Minter say to his camels?
I'll get my revenge
Elliot Mason Hove

What made the dragon crash?
It was speeding
A R Drew Plymouth

What do computers eat for dinner?
Micro chips
Neil Thorne Tamworth

What do you call Clive Sinclair if he's holding 10 hand grenades and a machine gun?
Sir
David Kelly, Shrewsbury

Did you hear the one about the idiot who got a computer to play games on? He took it back because his darts kept falling out!
Bernard Harper, Netheredge

I told the wife I had a bug in my computer so she sprayed it with flykiller
A Adderley, Stockton

What is a miniature program?
A small one one miniature programming. one miniature not
Tony Austin, Walthamstow

My dad is so behind the times he can t get through the first screen of Eureka
D Roebuck Lymington

Why did the black and white television go to the doctors?
Because it had lost its colour
John Robson, Southminster

What did one Spectrum say to another Spectrum?
Only sPEEK when you're sPOKEn to
Ian Fletcher, Stockport

To err is human, but to really foul things up you require a computer
Phil Brusell, Derby

Did you have a computer on last night?
Yes
How did it fit?
R McKnight, Cheltenham

Did you hear about the man who sprayed his computer with insecticide to get rid of the bugs?
Gordon Smith, St Ives

What's a computer's favourite meal?
Micro chips and spaghetti invaders
Nicholas Greenhalgh, Radcliffe

BBC Micro You're a chip off the old block
Electron Can we go on an array day dad?
C Savill, S Ockendon

How do you make a jacket last?
Make the trousers first
Zuhir Rahman, Nottingham

What's a cannibal, Dad?
Well if you ate you Mum and me you d be a cannibal
Oh, I thought that would make me an orphan
Hamant Heeramun, Mauritius

A martian landed at a funfair just as someone hit the jackpot and the coins came flooding out. Turning to the machine the martian said 'You shouldn t be out with a cold like that'
Stephen Rees Swansea

What's round, covered in custard and miserable?
An apple grumble
Alun Davies, Cardiff

What do you call a female South African runner with smelly feet?
Gorgonzola Budd
W J Kingsbury S Wales

What do you give an overexcite elephant?
Trunkquilisers
Michael Evans Hull

Why did the lady snake need handkerchief?
She adder viper nose
Hugh Burnard, Tadley

In the war, with bombs droppin all around
I forgot to get my false teeth I n going to get them
Don't be stupid They r dropping bombs, not sandwiche
Mark Kesler, Derby

What do you get if you cross a road with an octogenarian?
Squashed
PE Wright, E Yorks

Where does mercury come from?
H G Wells
E McMenamin, Sutton Coldfiel

A computer is one side of a river On the other side is a field of games which it wants to try out
How does it get there?
Give up? Well don t feel too bad — so did the computer
Robin Demetriades Glasgow

What do you call an underground train full of computer game winners?
A tube of smarties
Michael Ward, Leighton Buzzard

What does a computer eat for dinner?
It takes bytes of microchips and for afters has currents to make it a bright spark
Mark Hinde, Manchester

Have you heard about the interface which turns a Spectrum into a home computer?
Sir Clive Sinclair No
John Horton, Purley

What's the difference between a computer and a porcupine?
You can POKE a computer without hurting your finger
Sean Wood, Walsall

What do you call a nun with a washing machine on her head?
Sister Matic
Debra Lawson, Hetton-Le Hole

It's you against your Texas in this Reversi-type game. Who's the smarter, you or it?

By C Tubb

Pit your wits against your micro

This game is an old favourite, now on your TI. It's a version of Reversi, in which you capture the other player's counters, as you would in draughts.

However, instead of removing the counters from the board, they stay on, but change colour and become yours.

You take the blue counters and play against the computer. But don't try cheating — the computer is on the ball and will soon put a stop to your foul play!

How it works

120-140	zero's flags
150-210	scans keyboard, goes to instructions if required
230-250	resets flags to zero
260	GOSUB to define colours, characters and draw board
270	GOSUB to create moves table into BD$
280	goes to players move entry routine
290	clears prompt line
300-320	checks if selected square is occupied
340	if move successful then GOTO remove from moves table routine
350-880	move pieces routine — reads moves from moves table and checks each one to find a legal move
490-520	clears old pointer arrows, prints new ones at each location as computer
620	finds what is in selected square
700-740	prints counter in selected square, changes colour of taken counters
750	sound of counters moving
760	clears prompt line
770-880	remainder of moves routine
890	I can't move routine
910	checks if moves table is empty. If so GOTO I can't move routine
920-930	makes Oh! Oh! sound
1000	clears prompt line
1010-1020	clears pointer arrows
1070	checks if square selected. If not GOTO your move routine
1080	if move OK GOTO delete move from moves table
1090	players move entry routine
1190	when computer can't move, enters here for further move by player
1250-1260	converts key entry
1270	error check
1280	clears prompt line
1300	prints x arrow
1320-1330	assigns counters into variables
1760	if flag ND is 0 then check if new data is to be added to moves table
1370-1600	checks where moves have progressed to
1420	checks if end of game has been reached
	checks them
570-580	scans adjoining squares for possible moves
1450-1470	creates moves table into BD$
1480-1490	zero's flags
1510-1520	zero's score registers
1530	end of game routine
1990-2000	delay
2010	GOTO start of new game
2020	defines characters and colours
2230	draws board
2420-2570	prints two blue/two yellow counters
2590-2680	deletes move from table
2690-2730	illegal move sound, clears pointer arrows for further try by player
2770	adds extra moves into moves table (BD$)
2870	instructions

```
100 REM   *NO CALLS ARE MADE TO
ANY OF THE REM LINES AND THESE C
AN BE OMITTED IF REQUIRED.*
110 REM  *
120 RO=0
130 ND=0
140 IM=0
150 CALL CLEAR
160 PRINT "**********************
*******"::"
          "::"**********************
*******"::::::::::
170 PRINT "WOULD YOU LIKE INSTRU
CTIONS?"::"            (Y/N)"::"(
ENSURE ALPHA LOCK IS DOWN)"
180 CALL KEY(0,KEY,S)
190 IF S=0 THEN 180
200 REM  *CALL TO INSTRUCTIONS*
210 IF (KEY=89)+(KEY=121)THEN 28
60
220 CALL CLEAR
230 PO=0
240 ND=0
250 IM=0
260 GOSUB 2030
270 GOSUB 1450
280 GOTO 1090
290 CALL HCHAR(22,1,32,32)
300 CALL GCHAR(A,B,X)
310 REM  *IS IT A LEGAL MOVE?*
320 IF (X<96)+(X>104)THEN 2820
330 REM  IF IT IS-REMOVE FROM MO
VES TABLE*
340 GOSUB 2590
350 M$=" I CAN'T MOVE! "
360 FOR P=1 TO LEN(M$)
370 CALL HCHAR(22,P+10,ASC(SEG$(
M$,P,1)),1)
380 NEXT P
390 BCHAR=96
400 CCHAR=104
410 H=0
420 REM  *MOVE MEN AND FIND HOW
MANY CAN BE TAKEN.*
430 FOR K=1 TO LEN(BD$)STEP 3
440 AA=VAL(SEG$(BD$,K,1))
450 BB=VAL(SEG$(BD$,K+1,1))
460 I$=STR$(AA)&STR$(BB)&"."
470 A=((AA+5)*2)-2
480 B=((BB+5)*2)-2
490 CALL VCHAR(5,9,32,16)
500 CALL HCHAR(4,10,32,16)
510 CALL HCHAR(A,9,37,1)
520 CALL HCHAR(4,B,36,1)
530 CALL GCHAR(A,B,Z)
540 IF Z<>112 THEN 880
550 CALL GCHAR(A,B,X)
560 IF (X<>112)THEN 2840
570 FOR C=-2 TO 2 STEP 2
580 FOR D=-2 TO 2 STEP 2
590 E=0
600 F=A
610 G=B
620 CALL GCHAR(F+C,G+D,Z)
630 IF Z<>BCHAR THEN 680
640 E=1
650 F=F+C
660 G=G+D
670 GOTO 620
680 CALL GCHAR(F+C,G+D,Z)
690 IF (Z<>CCHAR)+(E=0)THEN 820
700 CALL HCHAR(F,G,CCHAR,1)
710 CALL HCHAR(F-1,G,CCHAR+3,1)
720 IM=1
730 CALL HCHAR(F,G+1,CCHAR+1,1)
740 CALL HCHAR(F-1,G+1,CCHAR+2,1
)
750 CALL SOUND(1,440,7)
760 CALL HCHAR(22,1,32,28)
770 IF (A=F)*(B=G)THEN 820
780 F=F-C
790 G=G-D
800 H=1
810 GOTO 700
820 NEXT D
830 NEXT C
840 IF (BCHAR=104)+(H=1)THEN 101
0
850 CALL VCHAR(5,9,32,16)
860 CALL HCHAR(4,10,32,16)
870 CALL GCHAR(A,B,Z)
880 NEXT K
890 REM  *CANNOT MOVE*
900 RO=0
910 IF LEN(BD$)=3 THEN 1420
920 CALL SOUND(400,150,8)
930 CALL SOUND(400,110,8)
940 M$="I CAN'T MOVE.."
950 FOR P=1 TO LEN(M$)
960 CALL HCHAR(22,P+11,ASC(SEG$(
M$,P,1)),1)
970 NEXT P
980 FOR P=1 TO 500
990 NEXT P
1000 CALL HCHAR(22,4,32,28)
1010 CALL VCHAR(5,9,32,16)
1020 CALL HCHAR(4,10,32,16)
1030 IF BCHAR=104 THEN 290
1040 IF RO=0 THEN 1090
1050 CALL GCHAR(A,B,X)
1060 REM  *IS SQUARE CLEAR?*
1070 IF (X<>96)*(X<>104)THEN 109
0
1080 GOSUB 2590
1090 M$="D(YOUR MOVE)D"
1100 RO=1
1110 FOR P=1 TO LEN(M$)
1120 CALL HCHAR(22,P+10,ASC(SEG$
(M$,P,1)),1)
1130 NEXT P
1140 CALL KEY(0,KEY,S)
1150 IF S=0 THEN 1140
1160 AA=KEY-64
1170 A=((KEY-61)*2)-2
1180 IF (I$="44.")+(KEY=48)THEN
1510
1190 REM  *I CANNOT MOVE*
1200 IF KEY=48 THEN 350
1210 IF (A<6)+(A>20)THEN 2690
1220 CALL HCHAR(A,9,37,1)
1230 CALL KEY(0,KEY,S)
1240 IF S=0 THEN 1230
1250 B=((KEY-42)*2)-2
1260 BB=KEY-48
1270 IF (B<10)+(B>24)THEN 2690
1280 CALL HCHAR(22,4,32,28)
1290 CALL GCHAR(A,B,X)
1300 CALL HCHAR(4,B,36,1)
1310 IF X=112 THEN 1320 ELSE 269
0
1320 BCHAR=104
1330 CCHAR=96
1340 I$=STR$(AA)&STR$(BB)&"."
1350 REM      *IF MOVES HAVE REAC
HED HERE,ADD EXTRA MOVES TO MOVE
S TABLE IF IM=0*
1360 IF MD=1 THEN 1420
1370 T=VAL(I$)
1380 IF (T>=22)*(T<=27)THEN 2770
1390 IF (T>=72)*(T<=77)THEN 2770
1400 IF (T=32)+(T=42)+(T=52)+(T=
62)+(T=37)+(T=47)+(T=57)+(T=67)T
HEN 2770
1420 IF (KEY=45)*(P =LEN(BD$))TH
EN 1510
1430 GOTO 550
1440 REM  MOVES DATA **DO NOT AT
TEMPT TO PUT ALL DATA INTO ONE S
TRING**
1450 BD1$="63.66.33.36.64.65.35.
34.43.56.46.53.14.15.84.85.41.48
.51.58.23.26.73.76."
1460 BD2$="32.37.62.67.24.25.74.
75.42.47.52.57.12.17.82.87.21.28
.71.78.22.27.72.77.44.44."
1470 BD$=BD1$&BD2$
1480 ND=0
1490 PO=0
1500 RETURN
1510 YOU=0
1520 ME=0
1530 CALL HCHAR(22,1,32,32)
1540 M$="END OF THE GAME.."
1550 FOP P=1 TO 17
1560 CALL HCHAR(22,P+7,ASC(SEG$(
M$,P,1)))
1570 NEXT P
1580 FOP X=6 TO 20 STEP 2
1590 FOR Y=10 TO 25 STEP 2
1600 CALL GCHAR(X,Y,S)
1610 IF S=104 THEN 1630
1620 IF S=96 THEN 1650
1630 ME=ME+1
1640 GOTO 1660
1650 YOU=YOU+1
1660 NEXT Y
1670 NEXT X
1680 CALL HCHAR(21,1,32,32)
1690 CALL HCHAR(23,1,32,32)
1700 CALL HCHAR(24,1,32,32)
1710 C$=STR$(ME)
1720 Y$=STR$(YOU)
1730 CALL HCHAR(22,1,32,32)
1740 IF YOU>ME THEN 1870
1750 IF YOU<ME THEN 1820
1760 CALL HCHAR(22,1,32,32)
1770 M$="IT'S A DPAW!!"
1780 FOP P=1 TO 13
1790 CALL HCHAP(22,P+11,ASC(SEG$
(M$,P,1)))
1800 NEXT P
1810 GOTO 1910
1820 M$="I WIN!!"
1830 FOR P=1 TO 7
1840 CALL HCHAP(22,P+13,ASC(SEG$
(M$,P,1)))
1850 NEXT P
1860 GOTO 1910
1870 M$="YOU WIN!"
1880 FOP P=1 TO 8
1890 CALL HCHAP(22,P+13,ASC(SEG$
(M$,P,1)))
1900 NEXT P
1910 M$="YOU SCOPED:"&Y$
1920 FOR P=1 TO LEN(M$)
1930 CALL HCHAP(23,P+9,ASC(SEG$(
M$,P,1)))
1940 NEXT P
1950 M$="I SCOPED:.."&C$
1960 FOR P=1 TO LEN(M$)
1970 CALL HCHAP(24,P+9,ASC(SEG$(
M$,P,1)))
1980 NEXT P
1990 FOR I=1 TO 2000
2080 NEXT I
2010 GOTO 220
2020 REM  *DEFINE CHARACTERS
   AND COLORS*
2030 CALL CLEAR
2040 CALL CHAR(96,"7F7F7F7F7F7F7
F00")
2050 CALL CHAR(97,"FEFEFEFEFEFEF
E00")
2060 CALL CHAP(98,"00FEFEFEFEFEF
EFE")
2070 CALL CHAR(99,"007F7F7F7F7F7
F7F")
2080 CALL CHAR(100,"007E7E7E7E7E
7E00")
2090 CALL CHAR(104,"7F7F7F7F7F7F
7F00")
2100 CALL CHAP(105,"FEFEFEFEFEFE
FE00")
2110 CALL CHAP(106,"00FEFEFEFEFE
FEFE")
2120 CALL CHAR(107,"007F7F7F7F7F
7F7F")
2130 CALL CHAP(108,"007E7E7E7E7E
7E00")
2140 CALL CHAP(36,"004163777F3E1
C08")
2150 CALL CHAP(37,"00783C1E0F1E3
C78")
2160 CALL CHAP(112,"808080808080
80FF")
2170 CALL CHAR(113,"010101010101
01FF")
2180 CALL CHAP(114,"FF0101010101
0101")
2190 CALL CHAR(115,"FF8080806080
8080")
2200 CALL COLOP(9,5,2)
2210 CALL COLOP(10,11,2)
2220 CALL COLOR(11,2,8)
2230 PEM  SET UP BOARD
```

TI-99/4A PROGRAM

```
2240 FOR I=6 TO 20 STEP 2
2250 FOR J=10 TO 24 STEP 2
2260 CALL HCHAR(I-1,J,115,1)
2270 CALL HCHAR(I,J,112,1)
2280 CALL HCHAR(I-1,J+1,114,1)
2290 CALL HCHAR(I,J+1,113,1)
2300 NEXT J
2310 NEXT I
2320 X=0
2330 FOR J=6 TO 20 STEP 2
2340 X=X+1
2350 CALL HCHAR(J,8,X+64,1)
2360 NEXT J
2370 X=0
2380 FOR J=10 TO 24 STEP 2
2390 X=X+1
2400 CALL HCHAR(3,J,X+48,1)
2410 NEXT J
2420 CALL HCHAR(12,18,96,1)
2430 CALL HCHAR(11,18,99,1)
2440 CALL HCHAR(12,19,97,1)
2450 CALL HCHAR(11,19,98,1)
2460 CALL HCHAR(14,16,96,1)
2470 CALL HCHAR(13,16,99,1)
2480 CALL HCHAR(14,17,97,1)
2490 CALL HCHAR(13,17,98,1)
2500 CALL HCHAR(12,16,104,1)
2510 CALL HCHAR(11,16,107,1)
2520 CALL HCHAR(12,17,105,1)
2530 CALL HCHAR(11,17,106,1)
2540 CALL HCHAR(14,18,104,1)
2550 CALL HCHAR(13,18,107,1)
2560 CALL HCHAR(14,19,105,1)
2570 CALL HCHAR(13,19,106,1)
2580 RETURN
2590 REM  *REMOVE OCCUPIED SQUAR
E LOCATIONS FROM MOVES TABLE*
2600 PO=1
2610 CALL SOUND(10,1000,5)
2620 LS=LEN(BD$)
2630 XX=POS(BD$,I$,1)
2640 IF XX=0 THEN 2680
2650 EX1$=SEG$(BD$,1,XX-1)
2660 EX2$=SEG$(BD$,XX+3,LS-3)
2670 BD$=EX1$&EX2$
2680 RETURN
2690 CALL SOUND(200,550,1,440,1,
330,1)
2700 CALL HCHAR(4,10,32,16)
2710 CALL VCHAR(5,9,32,16)
2720 CALL HCHAR(22,1,32,32)
2730 FOR I=1 TO 300
2740 NEXT I
2750 GOTO 1030
2760 IF (PO=0)+(IN=0)THEN 1090
2770 REM  **EXTRA MOVES DATA.DO
NOT ATTEMPT TO INCLUDE THIS WITH
 THE OTHER PART OF BD$**
2780 IF ND=1 THEN 1420
2790 LET BD$="11.18.81.88.83.86.
61.68.31.38.16.13."&BD$
2800 ND=1
2810 GOTO 1420
2820 CALL SOUND(200,550,1,440,1,
330,1)
2830 GOTO 1090
2840 CALL SOUND(200,550,1,440,1,
330,1)
2850 GOTO 1090
2860 CALL CLEAR
2870 PRINT "              THE OBJEC
T IS TO CAPTURE THE COMPUTERS ME
N ASIN DRAUGHTS.IN THIS GAME HOW
"
2880 PRINT "-EVER.THE MEN REMAIN
 ON THE BOARD BUT CHANGE COLOUR
AND BECOME YOURS."
2890 PRINT " ":"THE WINNER IS TH
E ONE WITH  MOST MEN WHEN THE GA
ME ENDS."
2900 PRINT " ":"YOU PLAY FIRST A
ND ARE BLUE.THE COMPUTER WILL NO
T ALLOW YOU TO MAKE A WRONG MOVE
."
2910 PRINT "IF YOU CANNOT MOVE E
NTER 0  AND THE COMPUTER WILL PL
AY  AGAIN."
2920 PRINT "ENTER MOVES AS:LETTE
R-NUMBER"
2930 PRINT " "::"PRESS ANY KEY T
O START"
2940 CALL KEY(0,KEY,S)
2950 IF S=0 THEN 2940
2960 GOTO 220
```

Taking *it* easy

In the first of a new regular series, Margaret Webb looks at books for Commodore users. The subject matter is BASIC programming and you're led into it gently

This monthly column will feature news and reviews of newly released educational products for your Commodore 64, VIC-20 and Spectrum, as well as discussing the merits (or otherwise) of specific books and programs I hope this column will help you discover the real potential of not just your machine but yourself

Many of you may have purchased a computer for the family to play games on but are now finding that the novelty is wearing off and wondering what to do next Well, before you consign it to the attic or cupboard under the stairs, there are several books you may like to consider, which set out to gently ease you through the maze of programming

Step by Step Programming for the Commodore 64 by Phil Cornes, £5 95 from Dorling Kindersley, is an easy to read but not very informative book Like many cookery or DIY books it takes a one step at a time approach with coloured photographs to reinforce each point made

The book starts by taking a long look at the interior and exterior of the machine explaining the various parts and their use The next two chapters deal in depth with the inner workings of the computer and keyboard and its various functions Once you have got to grips with the keys you can proceed to work chapter by chapter through the book using the clearly photographed screen shots of both programs and results so that you can program your 64 and discover its possibilities in the fields of sound, graphics etc

Each segment (e.g. plotting a sprite and getting it to move smooth) is explained in a clear and concise manner without being too technical This is a good book to browse through and at £5 95 is an inexpensive way to introduce yourself to programming

The Commodore 64 for Kids of all Ages, by Tony Noble, £6 95 from Sigma Press, is another book aimed at teaching the novice about the 64 and its capabilities It starts by discussing the future and computer literacy, so important when you consider that many of our children go to school already knowing about computers

The book goes on to describe what a computer is, what a program is and how it is remembered by the machine Chapter three deals in 40 easy steps with the basics of programming your computer You are gently eased through the simple job of printing your name on the screen, through string commands, colour, sound, sprite generation, music on your 64 and POKEing

Once you have mastered all these steps and have tried out the mini-programs in the chapter you can go on to learn about designing and writing your own programs or type in one of the eight games listed in chapter seven These cover mostly educational topics (i e spelling, arithmetic tables practise and logic) but there is an adventure to test your powers of deduction The book's title sums it up, so if you are seven or 77 and want to learn, look at this book

Now for some books which will appeal more to the younger element the first, **Random Alley Adventure** by Michael Orkin, £6 95 from Reston, which is a paperback book in which you meet Harold, who, with the aid of his own curiosity and a pocket computer, explores Random Alley Each chapter deals with a topic like coin-tossing, dice throwing, roulette and fortune cookie messages (yes — it's an American book) and then backs up the theory behind the topic with a short program to be typed in

The working of the program is explained so that the child not only learns about randomness and its effects on games of chance, but learns how to progrm the computer

This is a short book, but easy to read and fun to use as well as being informative

Datalog, £2 95 from Collins, takes the form of a ship's log to be used on a futuristic spaceship's computer It is aimed at the 8+ youngster who dreams of flying a space shuttle

It starts by getting the user accustomed to the keys and colour options The user is then expected to write his own program to continue the theme and input interesting facts about himself Once this is mastered the child can go on to learn about time delays, string commands etc

The book is set out as a workbook so that the young learner en work through each page reading commands, trying out new programs and recording what happens This finished, he can write his own program to continue the theme and show that the preceding work has been understood

In a systematic way the book teaches the child the basics of sond and music making, sprites and the logical thought needed to write programs This is not an expensive book (£2 95) but one that will grasp the imagination of the young would be programmer

Another package which sets out to teach the youngster the rudiments of computer programming is **Dr Watson's Basic Adventure Part 1**, £9 95 from Honeyfold Included in the package is a book and a double-sided cassette which re-inforce the concepts in the book The book is a space adventure which tells the story of how Dr Watson and his time machine accidentally land on a spacecraft and aid the occupants with the help of an on-board Commodore 64

Like all the other books discussed, this one teaches all about computer programming, but in a style which is appealing to youngsters The cassette contains three programs which are listed and discussed in the book Also included are programs which are listed and discussed in the book Also included are programs which help the user understand about string commands and line numbering Overall this is a comprehensive package which, like Datalog and Random Alley, is great fun to use.

Well, that's all for now I do hope that I've given you some idea of what's available to help you with learning BASIC programming If so, get your book tokens (left over from Christmas) out and head down to your nearest bookshop

Commodore capers

If you own a C64 then sit up and take notice. Here's a pageful of games for you to peruse

Looey
TI-99/4A

Harlequin 111 Shakespeare St
North Kelvinside, Glasgow G20
8LE

Looeys are cuddly creatures that inhabit the planet Texas. They are protected by a magic cup which has been stolen by hooligans on their way to an intergalactic football match. When they found it was not the prize trophy they threw it into a deep crater inhabited by an evil druid (wouldn't you know it?). So now a poor Looey must venture into the crater to retrieve the missing cup.

The game itself is nothing elaborate — yet another climb ladders, avoid nasties, jump about and eat apples type game. I should think by now that everyone must have at least one, if not cupboards full of them. What's really the difference between them? The characters, scenario and where you eat the fruit!

The only instructions are those supplied on the screen loaded separately. Several attempts were made to load the game which required totally different volume and tone settings, so by the time I was ready to play I could have done with a reminder of which keys to use. **J W**

instructions	80%
playability	65%
graphics	65%

★ ★ ★

Kami-kaze
CBM 64
£5.95

Supersoft, Winchester Hse, Canning Rd, Wealdstone, Harrow, Middx

If there was a prize to be awarded for the most complicated and improbably scenario for a simple game, this would be a strong contender. There is a long rigmarole in the instructions about a battle cruiser mistaken for a public convenience on Cleethorpe's pier and dogs running away with the loo paper — sorry, battle plans.

Underneath all the trimmings this is just another shoot 'em-up and don't bump into anything game. What you have to shoot are the men and dogs walking along the pier, with the exception of the dogs emerging from the loo with rolls of paper. If you shoot those, an RSPCA helicopter comes after you. You have to avoid the clouds, an occasional low flying aircraft and, of course, the pier and loo. This is not difficult as the controls on your spaceship are not very sensitive.

It would have been better if more had gone into the game and less into the blurb. I felt nothing but relief when the supply of paper was finally exhausted and the game ended. **M N**

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

★ ★

Motocross
C64
£7.95

System 3, South Bank Hse, Black Prince Rd, London SE11

This game allows armchair sportsmen to become sitting room Barry Sheenes. Featuring a very fast load (Nova-load, which lets you have a screen display plus a tune, gives a running count of loading time and blocks left), you are quickly sitting astride your sprightly (in both senses of the word) racing bike.

The display is a multi-mode one, with a plain lower res area at the bottom for the action and a high res depiction of your bike's instruments at the top. This is rather useless — once you're travelling at speed, lifting your eyes will result in a crash. Racing against time and computer-controlled bikes, you have to complete laps without hitting hay bales at the roadside. The graphics are nice — I liked the way the biker leans into the curves and takes a spill — but I found that moving out of first gear was a recipe for disaster. Staying on the bike meant travelling slowly, which was boring.

I also had trouble changing gear, done by pushing the joystick backwards or forwards while pressing the fire button. A nice implementation, but I don't know about it's staying power. **P.G.**

instructions	85%
playability	75%
graphics	95%
value for money	70%

★ ★ ★

Flyer Fox
CBM 64
09.95

Tymac, Nettleton House, Calthorpe Rd, Edgbaston, Birmingham B15 1RL

This program boasts not only 3D graphics but also simulated speech — a novelty better dispensed with as it was the worst computer speech I've ever heard.

The game itself isn't bad. You are flying a jet fighter escorting a jumbo jet, defending it from Mig fighters. These come up at an alarming speed and it's a real challenge to keep them in your sights long enough to lock a missile on target. If you lose track of one, it's more likely to fire on the jumbo and if you take too long chasing it, you'll run out of fuel and crash.

The graphics are excellent, the blue sky is littered with fluffy white clouds which enable you to see which way you're going, and when you're flying low the ground scrolls past nicely. The controls are also clear, with a radar scope to show where the enemy planes are and the usual artificial horizon, altimeter and so on.

This game may not have the technical complexity of some flight simulators but it's hard enough to keep you busy for quite some time. **M N**

instructions	70%
playability	80%
graphics	95%
value for money	85%

★ ★ ★ ★

Gandalf the Sorcerer
C64
£9.95

Tymac, Nettleton House, Calthorpe Rd, Edgbaston, Birmingham B15 1RL

This is a very orginal game. You control Gandalf, who has to protect his treasure and guard his apprentices against the lizardmen. In the first screen you aim power bolts at the lizardmen from the ramparts of the castle, turning them into gold coins. To reach the second screen you must allow some of the lizardmen to break into the castle to abduct one of your apprentices, then you can follow them out into the forest, destroy them with the power bolt traps and retrieve the apprentice and gold coins.

Power has to be recharged from a shining star by climbing one of the castle towers. It is important to do this reguarly or the game will be brought to an early end by a nasty spider who kills the wizard if his power is low.

You can only score points by collecting coins on the second screen, which is trickier than the first. I found it depressing to die after shooting hordes of lizardmen, only to find I had scored nothing. The game has excellent sound and graphics and if you're looking for something different it's worth considering. **M N**

instructions	60%
playability	70%
graphics	95%
value for money	60%

★ ★ ★

Can you help?

I would like to know if any TI 99/4A owners can help me. I am in urgent need of a listing of a program I've written for a school project.

If any of your readers have got a TI 99/4A and a printer and would help me out could they please contact me at the address below or phone Runcorn 711011. I will be willing to pay for postage, printer paper etc and you can keep a copy of the program.

In reply to Stephen Miller's letter (HCW 87) asking about animation, I suggest he looks at The Complete Programmer by Mike James (Granada £5.95).

Keep up the good work, HCW and can we please have some more TI listings.

David Martin, 73 The Hove, Runcorn, Cheshire WA7 6EE

Words from the wise

I have taken every copy of HCW from week one and I think I possibly qualify at 54 as one of your older readers.

I own a TI 99/4A which I enjoy very much, but unlike Mr J Richardson of Bath (HCW 99) whose over-reaction about games playing seems to me to indicate a guilt complex, I try very hard to master programming techniques.

I did in fact send you one of my efforts some time ago, but it was rejected, so I assumed that, as I suspected, my programming isn't up to your requirements.

Not to worry though, I am still fascinated by the way my machine solves problems, and I frequently spend an evening solving maths problems which would take hours instead of minutes without my TI.

I feel that many parents buy their kids a computer thinking that they will keep them ahead in the new technology. They must be awfully disappointed when all the kids do is sit glued to the monitor playing useless games. I wonder how many kids who own a machine can actually program?

Parents tend to think that if they buy a machine with a manual their kids will be experts in no time. Alas, how many are?

I suspect that there is many a good machine which has never had a program typed on it.

I frequently go into stores where machines are made available for the customers' use, and the number of youngsters whose idea of programming is this

```
10 PRINT "TI ES RULES
   OK"
20 GOTO 10
RUN
```

is surprising. They then look around at any onlookers with a look of triumph on their face and swagger away as though they are the best programmers ever to enter the shop.

You do get some kids who seem to know what they are doing, but they are very much in the minority. Anyway, thanks for a good mag even though the TI seems to have fallen from grace a little.

T Walton, Manchester

Stop moaning!

Over the past weeks we've seen many letters complaining about TI-99/4A owners. Well I own a Texas and think it's a very good computer, but I do see what all the Spectrum and C64 owners have been getting at. After all there have been some so called "big headed" Texas owners saying their computer is the best.

But I also see their point of view because for the last three or four weeks there have been no programs for the Texas machine, while when I first began buying HCW every week there was a program in each issue.

I also saw there wasn't a single software review and in fact there have only been two or three during the past few weeks.

Please HCW give us 99ers more programs and reviews. Also could everyone stop arguing, as I think most readers are beginning to get a bit fed up with it all. I do realise the Texas is quite slow but it isn't dead as Barry Star said in HCW 92. Most computers have faults, even the Spectrum.

I would like to recommend the module Alpiner. It's very fast, and when used with the speech synthesiser, it has a man's and a woman's voice. It plays music non-stop throughout the game and has a two player option.

The graphics are superb, as with most of the Solid State software.

If everyone stops complaining about other computers we could all get on with using our own.

Paul Ridings, Heywood

Give us a break

Dear Golden Squares

Remember those good ol' bad ol' days when a C64 tape took anything up to 20 minutes to load? You could walk the dog, brew the cocoa or mix a mean martini and still have time to flex those arthritic fingers before doing battle in some far off galaxy.

Now, of course, that's all changed. Thanks to the miracles of zappo-, zonko- and turbo-loaders, I now have ample time to make the journey to Betelgeuse on foot. A bit short of oxygen by now, I nevertheless rush to my TV screen only to be confronted with — you've guessed! — sweet FA (that's Betelgeusian for Ffnuffin Appenin).

We all know about electricity surges, Datasettes too near the TV, the hi fi and the like, but even turning off every gadget on the premises and giving the electric au pair the night off, still doesn't cure the problem. I even lashed out on a spanking new recorder only to be rewarded with — zilch.

So, come on, you software moguls out there! Give us a break. By all means give us your lightning Wet Set Jillies on side one if you must, but please when you've finished admiring all those lurid air-brushed inlay cards, turn the tape over and reinstate the good, old fashioned (and what's more, ever reliable) 20-minute wait.

It'll save hours of frustration and — ultimate horror — having to take back your miserable metre length tape and exchange it for 100 yards of someone else's.

Nik Lumsden, London E9

Software winner

Disgruntled owner

I recently bought a 1520 Printer/Plotter to go with my Commodore 64 but am sorry to say I have been bitterly disappointed with it.

I primarily bought the printer because it was on special offer at less than £60 at one of the leading electrical retailers. I've always wanted a printer to print out statements on a Home Accounts program I have.

As this program didn't specify any special printer, I presumed that a Commodore printer would be compatible with the program, and I was also told by the shop that it would print out all Commodore programs which called for "Copy to Printer Y/N", but it wouldn't print.

I realised that one of the problems was that the Printer/Plotter has a file number of six and that all other printers for the Commodore have a file number of four. I consulted Commodore and they informed me that the reason for this was so that you could use it in conjunction with another printer and combine the two in one program. However, as no programs have been written for the Printer/Plotter I still couldn't understand their reasoning.

They did, however, tell me how to change the file number to four with a small wiring job inside the printer which I did, and again I was all set to go. Imagine my excitement when telling the computer to copy to printer and it actually started printing. But to my disappointment I found it was printing the CHR$(X) values in the columns of statement of account. You can imagine the muddle.

I contacted the manufacturers of the software, but they said they couldn't help me. I imagine there must be many people in the same boat as me. In fact all the Printer/Plotter is good for is printing out listings of programs you type yourself or running the examples in the manual.

If anyone has come up with the solution to this problem I will be glad to hear it.

Mrs J E Hayes, Essex

Is this a sham?

I write to enquire whether any other readers have encountered a problem similar to mine. In June 1984 I paid £10 to the Independent Sinclair User Group, 189 Rosehill Rd, Burnley, Lancs, as my first annual membership fee.

Within a few days I received the first newsletter. Since then, despite writing several letters, I have received nothing further. Neither have I had a reply to my letters.

I consider that I am therefore justified in denouncing the ISUG as nothing more than a sham. It is reputedly run by a man called Mr Webber. If Mr Webber reads this letter I would advise him to return money belonging to other people.

If any of your readers have had this problem or indeed if they would like to join, would they write to me as soon as possible. I am contemplating a certain course of action but would welcome comments from interested persons before I do so.

John Schofield, 1 Sutton St, Fenscowles, Blackburn, Lancs BB2 5ES

Pots of money

I know lots of people have found ways of cheating on games. Well here's another one to add to your list.

When you get on to the second screen of Ghostbusters you're asked your name. Type in Andy. Then when you're asked if you have an account, type in yes. Now you're asked for your account number. Type in 777. This gives you $999 000 instead of the usual $10 000. Now you can buy the fastest car, the laser confinement system and lots of other equipment.

I think this should help you get to the temple of Zuul. So happy Ghostbustin'.

David Morton, Wolverhampton

Send your letters to Letters, Home Computing Weekly, No.1 Golden Square, London W1R 3AB. Don't forget to name your computer — the best letter could win £5 worth of software. Got a problem with your micro? We'll soon be starting a queries page, so send your technical questions to Queries at the above address

Sporting chance

Here's your chance to try your luck at a variety of sports including stock car racing and cricket

Stock Car
C64 £7.95

Micro Power, Sheepscar Hse, 15 Sheepscar St South, Leeds LS7 1AD

Commodore 64 games are generally renowned for their graphics but this one is an exception, the main screen shows just a plain view of a brown racetrack against a green background, with four oddly shaped cars driving around it. This is followed by a screen showing an oddly shaped driver collecting a cup. The poor graphics don't affect the playability. It's a pity that it isn't more visually attractive.

It's a one or two player game. You can choose between different circuits, and select the number of laps, speed and other factors. The cars are controlled by keyboard or joystick, and you can turn left or right, or shift up or down through the four gears. When playing with a joystick it's easy to change gear by accident while trying to change direction. The third and fourth cars in the race are controlled by the computer and are there to obstruct you. The real race is against the clock rather than the other cars.

It's not realistic, and even with good graphics, I don't think I'd buy it. **M.N.**

instructions	70%
playability	50%
graphics	30%
value for money	50%

★ ★

Rack Storm 2
TI-99/4A

Harlequin, 111 Shakespeare St, North Kelvinside, Glasgow G20 8LE

This game is an adaptation of Asteroids. Taking command of the spaceship Mesopotamia you blast debris to clear the screen and move onto the next. You control the ship's laser cannon with your joystick. To start you press the fire button on the joystick. You aren't told this in the instructions.

The spaceship has momentum, so the speed of the game is under your direction, but to control the ship accurately takes practice.

Before you can start blasting you must first engage the ship with a small and elusive fuel crystal to make the laser cannon operative.

On the first screen the rocks are cleverly transformed to show the TI logo. On the second the debris starts as pacmen. You continue through many screens until all lives are lost in collisions.

You have a choice of skill level ranging from total idiot to real groover, the latter being a most apt requirement.

If you gain a high enough score you register your name on the Super Heroes list amongst a very motley crowd.

This needs Extended BASIC and joystick. **J W**

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

★ ★ ★ ★

Test Match
Amstrad CPC464
£6.95

CRL, 9 Kings Yd, Carpenters Rd, London E15

Matchstick white men jerkily moving across a green background purport to depict a cricket match in progress.

With two innings for each side to play or a maximum of 400 overs for the match, I was bored long before this figure was reached. As if in anticipation, the obverse side contains a one-day match which is a much quicker game, though the graphics are still disappointing.

Careful team selection and astute decision making during play are essential ingredients to win. The user interacts with the game by deciding whether to run each time the ball has been bowled.

A full cricket scoreboard is used to display individual and team scores throughout the match.

Full marks for several excellent pages of instructions. These are loaded along with the program, the display being easy on the eye and the content easy to follow. Pity about the spelling mistakes. Some knowledge of the rules of cricket is assumed.

Testmatch is a 'clonebuggy' — my word for a program hastily translated from one machine to another in total disregard of the full potential of the new hardware. **D H**

instructions	100%
playability	85%
graphics	50%
value for money	80%

★ ★

Olympic Challenge
48K Spectrum
£1.99

Century City, 99 High St, Dudley, W Midlands DY1 1QP

If this program had it's true name it would be Olympic Decathalon, for this is not just a whole range of sports for you to try from your armchair but a challenge based upon the completion of all ten sports one after another.

I find it difficult to get enthusiastic about this type of game, but I suppose it could be fun with four players.

The big drawback is that you're always competing on your own. The graphics show only your situation even on track events, and this is poor because it makes it difficult to measure progress. It is well known that competition spurs the athlete on to higher things, so why shouldn't it apply here?

The graphics are strange to say the least, the 100 metre runner looks bowlegged. The instructions aren't clear and as they are only available on the screen you cannot check them in the middle of an event. Not the best Olympic program that I have ever seen. **D C**

instructions	50%
playability	60%
graphics	45%
value for money	65%

★ ★ ★

Football Manager
Amstrad CPC464
£7.95

Addictive, 7a Richmond Hill, Bournemouth, Dorset BH2 6HL

This game covers a large number of the traumas involved in managing a football team.

Both save and restore facilities are included in the program along with comprehensive instructions. Nine main screens offer a wide choice of options to help you successfully manage the team.

Listed are 64 teams, any one of which you may choose. There is also the choice of players for each match and you may even play yourself, the computer tells you if you are macho enough, as it gives the strength, morale and other imponderables for each player.

Results of other games played are reported, followed by the League Table showing goals scored for and against, total points and the position of each team.

A Balance Sheet showing the club's financial position helps in deciding whether a player may be bought from the Transfer List. Gate receipts, ground rent and other income and expenditure are included.

The highlights of each match are shown graphically in a perfectly adequate 3D replay which lacks lustre owing to the poor use of sound commands. Hours of entertainment here. **D B**

instructions	85%
playability	100%
graphics	70%
value for money	80%

★ ★ ★ ★

Peter Sweasey lures you into the dark depths of subterranean caverns in his regular adventure column. Walk this way...

It's time to examine the slimy walls of the deepest, darkest dungeons you could imagine with Ventures, HCW's regular column dealing with the world of adventures and arcventures (arcade adventures, for the uninitiated). So, we'll be going Greek with Ocean's mega-game, Gift From The Gods, freeing a land from evil lords with Incentive's Ket Trilogy, and entering a chip factory of the electronic kind with Technician Ted from Hewson.

I'm glad to say that none of the games reviewed this issue are poor, and they are, on the whole, quite good. That is good news for everyone and of course, not least me.

First up is Technician Ted, which, judging by the title screen, was going to be called The Chip Factory, a better name in my opinion (humble as it is). This comes from Hewson, who brought us the classics Avalon and Fantasia Diamond.

Enclosed with my copy was a sheet to 'help me appreciate the game's quality'. A rather dubious, maybe even suspicious idea: it would have been more useful to tell the reviewer how to get further in the game. Still, on to the program.

As Ted, you must complete 27 tasks spanning 50 screens in a limited time by jumping on platforms, avoiding nasties and... well, here we have another twist on the Manic Set Willy game. Can't software houses do anything more original? That said, the game is otherwise flawless, far better than the rest of the platform brigade.

Firstly, it loads under a true animated loading screen, i.e. little men running about whilst a clock ticks away below. Screen size is large, and presentation very pleasing. You have an energy bar instead of lives, so you have plenty of chances, the game is very tricky, nonetheless. Graphics are varied, large and well animated, also very smooth. Sound is excellent too, there's The William Tell Overture in the background and some loud jumping noises. Colour is well used.

The screens have the usual witty names. The program's main innovation is that when you complete one task, some of the other screens change: thus you have to work out an order.

In all, a very professional, hard, attractive and addictive game. Ventures rating of five stars — well worth buying if you don't mind the lack of originality. Available on the 48k Spectrum and Amstrad CPC464, at £5.95

Mountains Of Ket first appeared in the shops when adventures were still regarded as suspicious things with no chance of being sold. Since then, Reading company Incentive has dutifully released the other two parts of the threesome, Temple Of Vran and The Final Mission, to wide acclaim. Now all three are available in The Ket Trilogy boxed set, costing the bargain price of £12.95, rather than over £15 if bought separately.

Having been framed for murder and sentenced to death, you are given the chance of a remand if you undertake a mission. The Land of Ket has been suffering, the people have been put into serfdom. Your task is to kill the leaders of the force behind such wicked doings — Priest Vran and High Priestess Delphia — which will hopefully restore light and happiness. To do this, cross the mountains, pass through the problems despite the hackneyed setting. Temple of Vran features a wide variety of animals who don't get on with each other, whilst The Final Mission includes a giant boot which tries to stamp on your head, and the Enmonster, a strange beast which pursues you all over the place.

They also feature a sophisticated, realistic, almost exciting combat routine that enhances play.

temple and find Vran in the catacombs beneath. Just to make sure you don't run off, an assasin bug, Edgar, has been implanted in your neck.

Well, that's hardly the most original of scenarios, and the descriptions and small graphics aren't very special. So, where does the trilogy's strength lie? In my opinion, there is something about the feel of the games. They are very user friendly, locations being boxed and almost all input giving a response. The problems come thick and fast: some are easy, some are hard, all are fun to solve. The programming techniques improve with each cassette, but the basic standard is satisfactory.

There are some fresh

Above all, the games are imaginative and polished, and are very good value in the boxed set. Ventures rating of four stars — available on the Spectrum. Incentive plans more adventures for '85, more news soon.

Remember Psyclapse and Bandersnatch, the Imagine megagames? Well, whilst the latter is being prepared for the QL, Ocean brings us a glimpse of what almost was, in Gift From The Gods, which was written by Denton Designs, an Imagine offshoot if I remember correctly.

As Orestes, you must enter the Palace of Mycenea in Ancient Greece, and reclaim your kingdom from Clyemnestra, your wicked stepmother. To do this you have to select the correct six out of 64 Euclidian shapes, strange geometric patterns, and take them to the Guardian's chamber.

The shapes are hidden in 16 caverns, and your sister, Electra, who is imprisoned down there, will lead you to them — if you can find her and she hasn't been killed by Clyemnestra. Zeus and Apollo are involved too: they gave you some gifts, and the Demi Gods are also there, using their powers of illusion to create hideous apparitions and try to stop you. Confusing stuff.

After another annoyingly difficult hyperload (reviewer's sigh as I change tape recorders), a very attractive title screen presents a wide range of joystick options. The character set is suitably redefined, and on starting, the screen shows a two-dimensional, attractive, temple-like screen, with columns on either side and a hole in the floor.

Orestes, a large, well animated hero, can thus fly (due to a wing on his boots) off in three directions, and fly he must, through an enormous number of rooms. In a few of these are doors, leading to either another door or one of

the special chambers. Scattered around the place are spiders, piles of skulls, acid drops and a beautiful, Disneyesque dragon, with three heads, naturally. Graphics are great, and colour well used.

So what's the problem? Well, the various hazards (and Electra) are all so spaced out in the massive palace the game is slightly boring. It takes so long to move around through screen

Ventures

Ventures

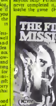
after screen of nothingness, interest soon wanes

In such a way it is not dissimilar to Tir Na Nog, though this is better, since if you were to try mapping it you would probably enjoy the challenge The sound is virtually non-existent.

This game is very professional It is well written well made, well boxed and represents an interesting idea The character interaction is not dissimilar to adventures. However, it's also overpriced and disappointing Ventures rating of three stars, costs £9 95 for the Spectrum A mini-megagame maybe — but gift from the gods, it isn't! (Sorry Ocean, you were asking for that one.)

As I write this, the second column has just been published, so I am only now starting to receive your letters — keep writing

Firstly, Zim Sala Bim and Hobbit fans, help for you next week, but Michael Jones wants to know whether the message at the end of The Hobbit means you have scored 100%. Can anyone help? Personally I have never completed it, because I loathe the game (Hobbit fans rush en masse to HCW offices with trolls' axes in hand)



Urban Upstart is a very popular game about which I get a lot of mail R Morton, Mark Goodwin and David Marshall all write in with hints Use the credit card from behind the dustbins to obtain the fiver from the cash dispenser, and to board the plane you need this and the papers How do you fly the plane though? To escape the police cell, wait until the phone rings Martin Jacks wrote to tell me he has completed the C64 version, well done!

Les Evans has sent me another Pyjamarama solution No more, please! I think I gave enough hints last time, so now it's a case of who gets the highest percentage in the least number of paces

Mr P G Wilson is stuck on an Amstrad adventure — Crystal Theft from Wica Soft How does he pass the stall door? Incidentally, Amstrad adventurers will be pleased to hear Fantasia Diamond from Hewson has been released on the CPC464 — well worth buying

Martin Jacks also provides GOATS, the cheat word for Revenge of The Mutant Camels Julian Cottrell gives infinite lives POKEs for two Spectrum arcventures 44685,0 for the Pyramid, and 36212,0 for Kosmic Kanga Has anyone discovered POKEs for Underwurlde, Knight Lore or Sir Lancelot?

Graeme Stewart has completed Knight Lore He says the advert is for a game called Mire Mire, or something along those lines

Finally, remember Kim Vidal from Belgium? He has written to me again, and since last time he has solved The Inferno and Pyjamarama, and also progressed in The Hulk When conversing with Strange, he will tell you to remember Nightmare Typing this will give you extra rage for three moves — long enough to eat the pulsating egg and get the biogem Thanks for your letter, Kim, who concludes 'Now I'm really into Spiderman and Valkyrie 17 — they are really great ' I am glad you think so — I like Valkyrie a lot too, so if you have any further solutions, please write

The same applies to you all Me and Gorand will be hard at work this week on some of your harder problems — so keep reading One final point, please enclose a full address when writing, in case I need to get back to you

Happy venturing

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