AN ARGUS SPECIALIST PUBLICATION
Feb 19-25, 1985
No. 100
45p

HOME Computing WEEKLY

100th ISSUE

A century not out
Special birthday programs

It's a gem!
Win fabulous jewellery from Interceptor

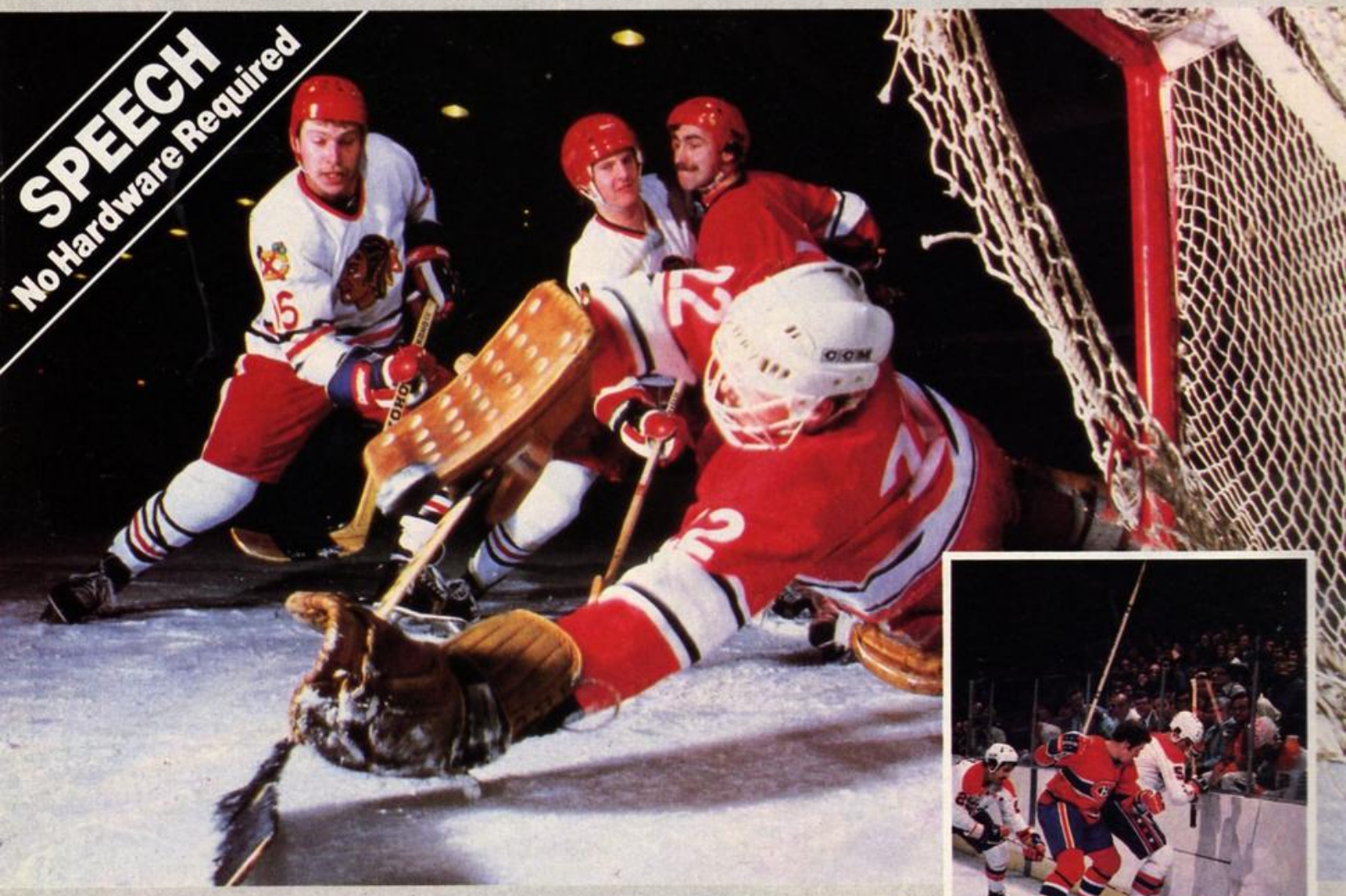
HCW first

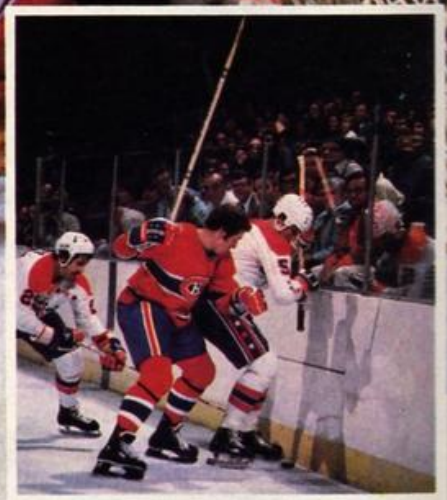
with Alligata's Defend or Die and Moon Cresta

FAST AND FURIOUS

SLAP SHOT

ANIROG

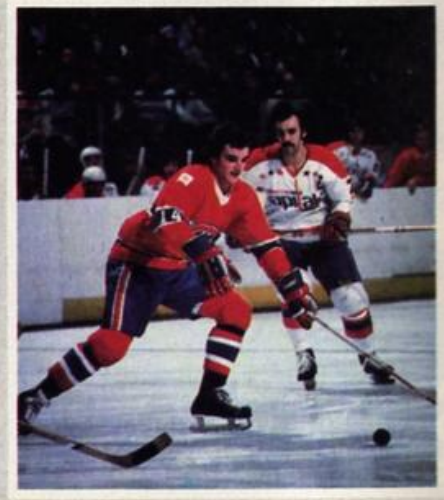




ALL ACTION ICE HOCKEY

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



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Home Computing WEEKLY

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TOP 20 Software

Compiled by Gallup

Week Ending February 5, 1985

LAST WEEK	MOVE	THIS WEEK	TITLE	PUBLISHER	SPECTRUM	CBM 64	BBC	ELECTRON	VIC 20	AMSTRAD	ATARI	OTHERS
1	•	1	Ghostbusters	Activision	•	•						•
2	•	2	Daley Thompson's Decathlon	Ocean	•	•						
6	▲	3	Booty	Firebird	•	•						
30	▲	4	Technician Ted	Hewson	•						•	
5	•	5	Zaxxon	US Gold	•	•	•				•	•
3	▼	6	Blockbusters	Macsen	•	•	•	•				
4	▼	7	Manic Miner	Software Projects	•	•	•				•	•
8	•	8	Football Manager	Addictive Games	•	•	•	•				•
9	•	9	Hunchback II	Ocean	•	•						
14	▲	10	Elite	Acornsoft			•	•				
11	•	11	Pyjamarama	Mikro-Gen	•	•					•	
36	▲	12	Monty Mole — Wanted	Gremlin Graphics	•	•						
10	▼	13	Airwolf	Elite	•							
47	▲	14	Impossible Mission	CBS		•						
31	▲	15	Flight Path 737	Anirog	•	•	•	•				•
13	▼	16	Monty is Innocent	Gremlin Graphics	•							
12	▼	17	Hunchback	Ocean	•	•	•	•	•			
29	▲	18	Beachhead	US Gold	•	•						
7	▼	19	Match Day	Ocean	•							
24	▼	20	Jet Set Willy	Software Projects	•	•						•

SPECTRUM Top Ten

1	**Ghostbusters**	Activision
2	**Booty**	Firebird
3	**Airwolf**	Elite
4	**Daley Thompson Decathlon**	Ocean
5	**Technician Ted**	Hewson
6	**Monty is Innocent**	Gremlin Graphics
7	**Zaxxon**	US Gold
8	**Match Day**	Ocean
9	**Knight Lore**	Ultimate
10	**Hunchback II**	Ocean

BBC Top Ten

1	**Elite**	Acornsoft
2	**Manic Miner**	Software Projects
3	**Blockbusters**	Macsen
4	**Scrabble**	Leisure Genius
5	**Sabre Wulf**	Ultimate
6	**Eddie Kidd Jump Challenge**	Martech
7	**Football Manager**	Addictive Games
8	**Chess**	Various
9	**Adventure Quest**	Level 9
10	**Jetpac**	Ultimate

COMMODORE Top Ten

1	**Ghostbusters**	Activision
2	**Impossible Mission**	CBS
3	**Daley Thompson Decathlon**	Ocean
4	**Raid over Moscow**	Commodore
7	**Bruce Lee**	US Gold
8	**Booty**	Firebird
9	**Combat**	Durrell
10	**Beach-Head**	US Gold

Commodore joins price war

Commodore rolled up it's sleeves to join in the price war last week, with the announcement of a massive 50 per cent reduction in the price of the Plus/4.

The Plus/4, Commodore's newest model, has been slashed from £299.99. The machine is a competitor of the QL and the BBC, but weighing in at £149.99, it's now a much more attractive prospect.

The Plus/4 has 64K memory, of which 60K is usable. Howard Stanworth, Commodore UK general manager, said: 'At £150 we're offering the public a really powerful and versatile computer at a price which until now has only applied to machines designed for first-time buyers.'

'We think at this price the Plus/4 is head and shoulders above it's rivals.'

Commodore has no plans to cut the prices of the C16 or C64, according to a company spokesman.

Commodore's move follows Acorn's announcement of a £70 price cut for the Electron, and Sinclair's repricing of the Spectrum Plus at £129 — a £50 reduction. The Plus/4 now offers good value for money at just £21 more than both these 'beginner's' machines.

And the price cut was one more move in a week full of drama and crisis, headed by the suspension of trading on Acorn shares. The price war reflects the turbulence in the computer industry: pre-Christmas sales were disappointing for a number of machines, and new pricing strategies are aimed to shift stock and sharpen up the competition.

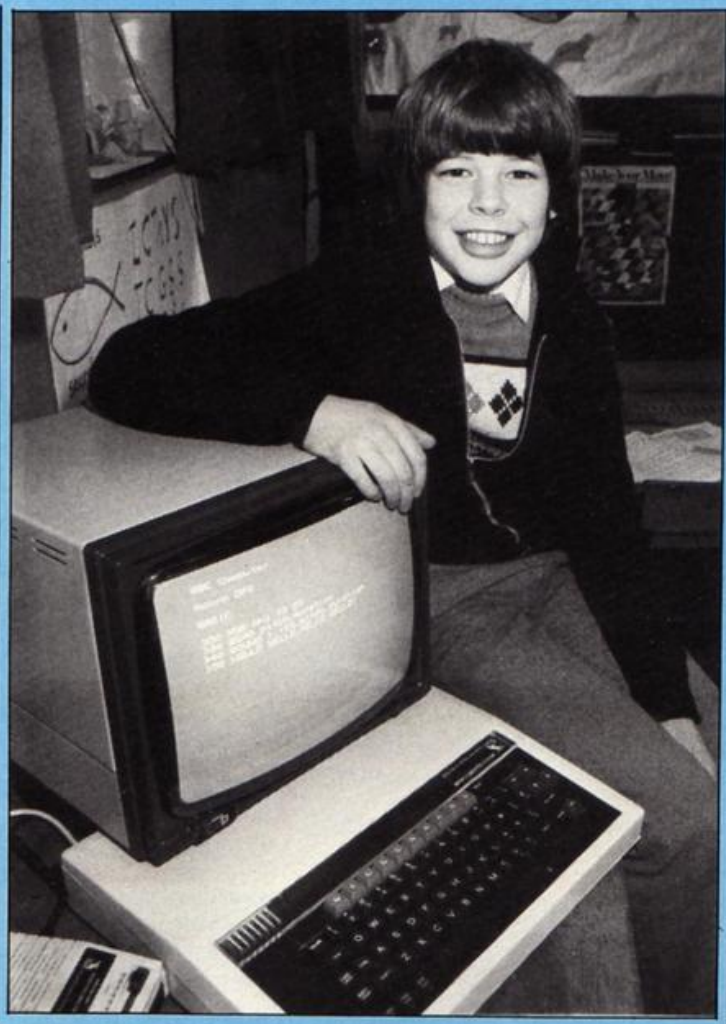
Commodore UK, 1 Hunters Way, Weldon, Corby, Northants NN17 1QX

PSS ia about to release it's first titles for the Amstrad: Frank 'N' Stein and Battle for Midway.

Frank 'N' Stein is a 50 level platform game in which players must collect parts of Frank's body. Battle for Midway is a computer version of the World War II Battle in the Pacific.

Frank 'N' Stein will be handled by Amsoft and will cost £8.95, and Battle for Midway will be dealt with by PSS at a price of £9.95.

PSS, 452 Stoney Stanton Rd, Coventry CV6 5DG



Chess champion

Ten-year-old David Essex from Lincolnshire has won the Make your Move chess championship.

This was the first ever contest in which the players didn't leave their schools to play the matches. All games were played on BBC machines linked to Ceefax, the BBC's Teletext service.

This had the added advantage that anyone with a suitable television could watch the games as they were being played.

The result wasn't too much of a surprise however. David was the number one seed: he's already the British under nine champion after just 18 months' playing experience.

Scrablesby primary school, which David attends, is the big winner. The school received a BBC computer system including a teletext adaptor. Runner-up was Cathy Haslinger from Hayes and her school have a new computer too.

Over 6,000 primary schools throughout the country took part in the championship, which may now become an annual event because of its popularity.

Acorn, Fulbourn Rd, Cherry Hinton, Cambridge

Staff axed

Five Ways Software, a software house which deals exclusively in educational titles, has sacked eight of its staff, mostly programmers.

Five Ways was set up by MEP, the Microelectronic Education Programme, but later went independent. The MEP project is due to end this year and Tony Clements, Managing Director of Five Ways, said: 'There are several reasons why we have had to take these measures. The MEP project is ending and Longmans is pulling out of the software market.' Five Ways has produced several programs on commission for Longmans.

Mr Clements also said that the general trends in the software market were not favourable to educational programs at present.

Elizabeth Collins of Websters Distribution commented on the sales of educational titles, saying: 'An educational best seller is only equivalent to a game at around number 50 in the charts.' She observed that an average title would have no chance of success. 'To get anywhere at all an educational title must be very good indeed.' However, she believes that the educational side of the market is 'definitely steady'.

Mr Clements was adamant that Five Ways is only suffering a temporary setback. He said: 'Five Ways is definitely not going down.'

Five Ways, Imperial House, Bourville Lane, Selly Oak, Birmingham

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Coming soon...

Dragontorc of Avalon is to be the next adventure movie from Hewson Consultants.

Based around the same style and format as Hewson's best-selling Avalon, there are some additional features.

All the characters have a personality of their own and the whole race has an attitude to you. For example, if you kill one member of a race the whole group will rapidly become your enemies.

Each member of the race also has an individual response to you. Some are more pleasant than others. In all, it's a game in which you choose your role before you start to play.

Whether you're Mr Nice Guy or Nasty Norah, you won't be able to find the game on the shelves until March 28th. Perhaps you should start practising now.

Hewson, Hewson Hse, 56b Milton Trading Est, Milton, Abingdon, Oxon OX14 4RX

First to crack Ket

Tom Frost of Montrose has carried away the prize for the first adventurer to complete the entire Ket trilogy.

This involved playing three different games and solving hundreds of puzzzles. He started the first of the games a year ago as soon as it was released. After the release of the last part it took him three months to get past the five guardians.

Rex Taylor of Milton Keynes also cracked the game, but his

answer arrived whilst Tom's was being checked.

Incentive often give a prize to the first player to finish it's puzzles and games. The latest cassette is a licenced version of the Moon Cresta arcade game: the winner of this competition will be given the actual arcade machine.

Incentive appears to be slightly confused over the prize which will be offered with it's new game Confuzion. A spokesman said: 'We haven't thought of anything for that one yet.'

BBC, Commodore 64 and Dragon users can look forward to a year of mystery. Incentive will soon be releasing versions of Ket for their machines.

Incentive, 54 London St, Reading RG1 4SQ

Free upgrade

Oric's latest add-on will be supplied free to all Oric-1 and Atmos owners on request.

This 'engineering improvement' is a protective cover for the expansion bus connector at the back of these machines. It's major purpose is the prevention of power shorting due to careless insertion of the power lead, but it will also protect the interface from coffee, dust and other foreign bodies.

Any owner who would like to have one of the new protectors should send a stamped addressed envelope to:

Tansoft, Techno Park, Newmarket Road, Cambridge

Hey, good looking

Good looks and 'optimised circuitry' are the star features of Binatone's new data recorder.

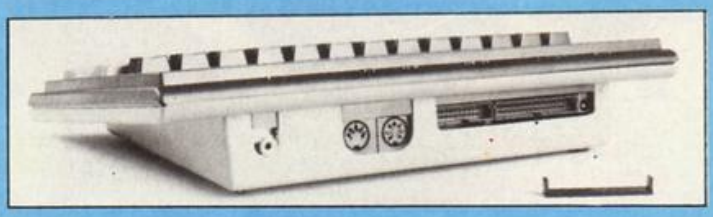
The machine has a stand-up cassette slot which Binatone claims 'makes old shoebox-shaped' recorders look out of place next to today's computers'.

Two models will be available: for machines accepting a standard cassette input lead, such as the Spectrum, BBC, Electron and MSX at £29.95, and a dedicated version for the Commodore VIC-20 and 64 models at £34.95.

One feature is a monitor for audio verification of tapes, cue and review for fast winding to particular programs and a tape counter. The aim is to take the guesswork out of buying a cassette recorder, as each model should give a perfect match to your computer.

Binatone, Binatone House, 1 Beresford Avenue, Wembley, Middx

Tom Frost (right), first to crack the Ket trilogy



Now you see it... now you don't

Binatone data recorder

Superior prizes

There were eight titles in our Superior Software wordsquare and 25 winners will each receive four Superior games. The winners are: Steve Bennett, BFPO 41; Adrian Hall, Cowes; Richard Poaton, Southwater; George Carrick, Wallsend; Joseph Toomey, London; Karen Haggerty, Blyth; M Newton, Newquay; W Finlay, Ivybridge; David Reynard, Bradford; J D Howe, Romford; M Brazell, Rye; T J Williams, Rusuden; Rakesh Patel, Crawley; Rachel Maote, S Croydon; K Chua, Birmingham; J Gay, Aylesbury; Paul Warren, Doncaster; Janet Gibson, Rossington; Gary Taylor, BFPO 39; Darren Nisbett, Leicester; Chris Whitehead, Manchester; Chris Gibson, Nottingham; Andrew Clarke, Atherstone; P M Green, Farnborough; Sean Harrison, Rotherham.

Shuttle winners

There were six Activision titles in our Space Shuttle competition. Fifty winners will each receive a copy of Space Shuttle.

The winners are: Andrew Bell, Southampton; Richard Brown, Nottingham; Paul Torpey, London; Gary Everett, Middx; D Sanderson, Tyne & Wear; Richard Few, London; Colin Kidd, Peincuik; C Dolan, Middx; D Roebuck, Lymington; C Huggett, Gt Yarmouth; Mark Coopet, Winsford; Matthew Hayward, Selsey; Andrew Diddle, Richmond; S Hill, Hempstead; R Barlow, Scunthorpe; C Price, Surbiton; R J Henthorn, Newport; Andrew Kempson, Luton; Ian Campbell, Glasgow; Ewen Campbell, Dingwall; A Donovan, Plymouth; David Porter, Rochford; Andrew Morrison, Alloa; M O Hook, Pontypool; S M Dunne, Upminster Bridge; Robert Stokes, Maidstone; Alexander Grant McNabb, Bromley; Robin England, Thetford; G M Corbett, Dingwall; C Crane, Trentham; F H Reed, Hoddesdon; B D Everingham, Romford; Stephen Allen, Enfield; Paul French, Edmonton; Timothy Salter, Ivybridge; P M Williams, Barry; Sean Conway, Kilkenny; Jonathan Bell, Salisbury; Harvey Whiteman, Loughborough; Carlo Somers, London; Nicola Gilmour, Paisley; Gordon Ross, Dundee; Atholl Grant, Stonehaven; Christopher Bosk, Walsall; Paul Martin, Washington; John Howe, Romford; Neil Rose, London; G R Holton, Benfleet.

Treasure hunt

There's a £200 jewellery voucher to be won this week — plus games galore — in our INTERCEPTOR SOFTWARE competition

Ever wanted to be rich beyond your wildest dreams, or wander the world in search of jewels? Well, we can't do anything about the riches and the world, but we can send you on a search for real jewels.

The week one lucky reader will win £200-worth of jewellery. The prize will be a voucher which can be exchanged at any branch of H. Samuel. This means you can choose your own prize, to a value of £200, from H. Samuel's range of gem-encrusted merchandise.

There will also be 25 runners up who will each receive one of Interceptor's range of computer games. Owners of Spectrum and Amstrad machines will win a copy of Jewels of Babylon, priced at £5.50 and £6 respectively. C64 and VIC-20 owners will win an alternative title from Interceptor.

Interceptor's Jewels of Babylon for the Amstrad CPC464 and Spectrum computers, is a fascinating, adventurous romp through the Indian Ocean in search of Queen Victoria's lost jewel.

The jewel collection concerned was created 3,000 years ago by a skilled Babylonian craftsman. It was brought to Britain and then sent as a present to an Indian pricesss on the occasion of her wedding. During the journey from Africa to India the ship was attacked by pirates and you are the sole survivor from the crew.

Taking a vow to recover the lost gems, you set off by ship to the island which the pirates use as their base. This is where the game starts. You have to find your way past a whole host of nasty creatures and devious puzzles before you can meet the sleeping pirate.

You will encounter lions, fish, spears, fruit — poisoned, of course, — a talking parrot, crowbars and the pirates themselves. What's more, you must find a different way back once you have the treasure in your hands.

Our competition is at least a little easier. All you have to do is read this week's HCW carefully. As you do so you will see a number of jewel symbols like the one on this page. To win this week's prize you must count the number of jewels, including the one on this page, and enter this number on the coupon.

All entrants are eligible to join the Interceptor Software club at no charge. You will then be sent a free poster and a regular newsletter containing competitions, discount offers and full news of Interceptor's expanding range. This offer is available to everyone entering, but, if you don't wish to accept, please indicate on the entry coupon.

How to enter

Look at the jewel symbol on this page. It's very distinctive and there are others exactly the same scattered throughout this week's HCW.

Go carefully through the magazine and count all the jewel symbols you can find. When you are sure you have found them all, fill in the number on the entry coupon.

Complete the coupon clearly and fully — if you are a winner it will be used as a label. Send the coupon to us.

Important: write the number of jewel symbols you find on the back of your envelope.

Send your entry to: Interceptor Software Competition, Home Computing Weekly, No. 1 Golden Square, London W1R 3AB. Closing date is first post on Friday 8 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 Interceptor Software within 28 days of the publication of the results of the competition.

The rules

Entries will not be accepted from employees of Argus Specialist Publications, Interceptor 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.

Interceptor Software Competition

Entry Coupon

Name _____

Address _____

_____

_____

_____ **post code** _____

Number of jewels found _____

Type of computer (Spectrum/Amstrad/C64/VIC-20)) ____

I do/do not wish to join the Interceptor Software Club (delete as applicable).

Complete clearly and fully — if you are a winner this will act as a label for your prize. Post to Interceptor Software Competition, Home Computing Weekly, No. 1 Golden Square, London W1R 3AB. Closing date: first post, Friday 8 March, 1985. Don't forget to follow closely the advice in the How to Enter section, including writing the number of jewels found on the back of your envelope.

The making of 4 Computer Buffs

Genevieve King reports on behind the scene action at Channel 4's newest computer programme

Channel 4's new computer series is now well under way. Entitled 4 Computer Buffs, it is described by Channel 4 as a programme for the 'serious computer user'. Home Computing Weekly was invited to sit in on the rehearsals for the first programme.

The series is being produced by the team responsible for Thames Television's Database and viewers will already have recognised many familiar faces. Presented by Magpie veteran Tony Bastable, the rehearsals took on a very professional feel, although there were some hiccups.

Tony is assisted by Jane Ashton and Dr Mike Thornes, while computer journalist Guy Kewney deals with the news, views and comment section. There is also a regular modem item presented by Ben Knox.

Channel 4 describes 4 Computer Buffs as a series which is 'tailored for the serious home computer user'. At the rehearsal Tony Bastable was heard to remark jokingly: "This is Database with absolutely incomprehensible content!"

Hopefully, home computer users won't have cause to agree with this!

According to Channel 4, the programme is aiming to report on the latest in new technology and features many practical demonstrations of how home computer users can utilise the full potential of their micros.

During the series there will be a number of television innovations. These include the first ever transmission of software, the first interactive bulletin board and the first TV comparative bench test for hardware. The series will also launch Prestel's new school service, Schoollink.

The light transmission of software was featured in the first programme of the series. Viewers were shown how to assemble a light pen which can read data off a flashing light at the corner of the screen. The process, described as telesoftware via light pen, was certainly a first, and Channel 4 seems very conscious of the pioneering nature of the series.

The interactive bulletin board will the most lasting aspect of the series, since it is to continue after the seven half-hour programmes come to an end in a few weeks' time. It is an addition to the telectronic direct mailbox to the production office, which has already proved popular with followers of the Database series. It is being organised through the Nottingham Building Society's mainframe computer and can be contacted on Prestel 7776.

The bulletin board will provide news, not only about the programmes, but also concerning general subjects of interest to the computer user. It will also enable users to contact each other with information about ideas and activities. Channel 4 is also hoping that the bulletin board will provide a forum for debate on subjects which are important to those involved in the computer industry.

The comparative bench test which has been devised for television by David Tebbut is another revolutionary item. Spotlighting BBC, Amstrad CPC464 and QL computers at first, each machine is dealt with in seven minutes of viewing time, although many hours of research are said to have gone into the feature.

The programme will also preview an important development in the world of so-called telesoftware. 4-Tel is Channel 4's equivalent of Oracle, the ITV teletext service. In a few weeks' time the new 4-Tel service will begin transmitting software which can be downloaded by users. Users will need a new decoder, developed by OE Limited. It is called the 4-Data adaptor and at first will be available for the 48K Spectrum only, although versions for other popular micros will follow soon.

The adaptor is endorsed by Channel 4 and allows users to receive not only teletext information from 4-Tel, Oracle and Ceefax, but also the free software that is to be broadcast by the 4-Tel service. According to OE Limited, it has been designed to fit neatly under the Spectrum and includes special features which enable you to store teletext information on microdrives and print the data using a Spectrum compatible printer.

Transmission of telesoftware will be broadcast on Channel 4 on Tuesday mornings between 10 and 10.30 and 11 and 11.30 am. This will consist of commercial software which can be downloaded using the OEL adaptor, and the programs will be accompanied by rolling teletext information.

CHANNEL FOUR TELEVISION

OEL's telesoftware adaptor

Space blasters

Space games galore. Five alien blasting games for the addict

3D Star Strike 48K Spectrum

Real Time Software

When I first saw this, I was less than impressed, but as I played it a little more it's started to grow on me and my fellow players. It is a space battle game with three distinct phases.

In the first you are speeding through the galaxy to take on your enemy at his home base. You have to destroy the enemy ships whilst at the same time avoiding their fire.

The second phase has you flying over the planet surface to destroy enemy buildings. On the third you approach the enemy power plant through a duct and avoid catwalks that are at various levels around you.

Finally, there is the power plant to destroy. This takes great accuracy. The game is fast, the graphics, based on wire frame animation, are good and interesting and there is some variety between the different screens. having said that, I feel that this isn't one of those games that I would want to play again and again. Perhaps I'm just getting old and jaded with all this killing in space. **D.C.**

instructions	65%
playability	75%
graphics	85%
value for money	75%

★ ★ ★

3D Lunattack C64 £7.95

Hewson Consultants, 56B Milton Trading Est, Milton, Abingdon, Oxon OX14 4RX

This is a sort of flight simulator, as you would expect from Hewson. You fly around the moon, attacking the Seiddab land and air forces while protecting your own fuel base. It's very complicated, and a glance at the instructions would be enough to put off anyone but a real enthusiast, which I must confess I am not.

There is a lunar map which shows your position and the enemy's. Unfortunately, it's difficult to tell which is which. Your craft can operate in three different modes, determined by the shape of your gunsight — square, octaconal or diamond shaped. It's difficult to stay in the right mode, the craft switched from one to another by means beyond my control.

There are seven enemy weapons systems; hard to identify and harder to shoot. There are also lunar mountains and craters. I wasted time trying to shoot these, having mistaken them for tanks.

Overall, I felt the graphics were not good enough to make a game of this complexity workable — but you may well disagree. **M.N.**

instructions	70%
playability	40%
graphics	50%
value for money	50%

★ ★

Moon Cresta 48K Spectrum £6.95

Incentive, 54 London St, Reading RG1 4SQ

If you like the arcade game you'll love this Spectrum version. Incentive have bought the rights and has produced a version as close to the original as possible in the Spectrum.

For those not familiar with Moon Cresta, the game involves blasting successive sheets of aliens that are trying to destroy you. However the aliens don't just sit there and let you shoot them, they rush around the screen in circular patterns and will also dodge bullets if they can. Once a certain number of sheets have been exterminated the player gets a chance to dock his section of ship with the next section. If he is successful, the new ship has increased fire power. This can be done twice at which stage the ship fires five bullets at once!

Naturally the aliens also get faster, dodge more and even split into two when hit.

The program is well done with very fast action and impressive graphics. It has a colourful loading screen that is replaced by a menu that has 'Icons' rather like those used on expensive business machines. The menu gives the player the choice of keyboard control or any of the major joystick interfaces. **J.G.D.**

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

★ ★ ★ ★ ★

Space Shuttle C64 £9.99

Activision, CGL Hse, Goldings Hill, Loughton, Essex IG10 2RR

This is a very realistic simulation of a space shuttle flight. It has been designed after close consultation with NASA and incorporates many features. You are provided with a 31 page Flight Manual specifying how you fly the shuttle. This is very well produced and contains high quality colour pictures of the screen displays. A cardboard overlay is provided to customise the function keys.

There are three flight modes. Mode 1 gives a demo of a complete space flight, from take off to re-entry and touch down. During this you can exercise limited control via the joystick but the computer overrides errors so the mission is completed safely. In Mode 2 you have unlimited fuel and the onboard computers can take over. Mode 3 is a full fledged flight.

During launch the screen vibrates and shakes, on attaining the correct altitude you set up a stabilising orbit and try to dock with a satellite. You then start a de-orbit burn and attempt re-entry, finally touching down.

The flight simulator to end all flight simulators. **L.C.**

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

★ ★ ★ ★ ★

Defend or Die Amstrad CPC464 £7.95

Alligata, 1 Orange St, Sheffield S1 4DW

Earth is being invaded by aliens whose aim is to abduct your fellow human beings. At the helm of your trusty starfighter you skim the planet's surface picking off the alien craft as they kidnap your commrades and head for outer space.

Even when an alien has a human in his grasp, all is not lost. One clean shot between the eyes will dispatch the green meanie, but it will also leave the human to fall to his death. Using every last ounce of your flying skills you intercept the man in mid air and return him safely to the ground, gaining 1000 points in the process.

The scrolling action that has become the trade mark of defender is executed impeccably, and the characters are identical to the originals. One of the Alligata's own trade marks is the excellent use of the Amstrad's stereo sound capabilities when used with a stereo amplifier. The dog dived for cover every time my starfighter unleashed a volley of electric death at the alien hoardes.

If there was ever a program that you should buy for your Amstrad then it has to be this one. **J.R.**

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

★ ★ ★ ★ ★

HCW — present and future

HCW is 100 today! No telegram from the Queen, I'm afraid, but lots of good wishes from friends and readers, I hope. As the new editor of the magazine, the 100th issue seems an appropriate moment to look back at the past and tell you about our plans for the future.

Past

HCW burst on the streets on March 8, 1983, with a lead story about the challenge the new Dragon machine was posing to the (then) well-established Colour Genie. Interesting, isn't it, that just two years later both of these machines have had great troubles and seem to have vanished from today's home computer scene of today. I know there are lots of contented owners still using the machines, but it can't be claimed that the sales are earth shattering today.

Another feature of the first issue was an opinion column by Henry Budgett, then editor of Computing Today. In it he railed against the poor documentation often supplied with new computers and the number of bugs found in new machines. I have a feeling that I could run the piece again this week and it might be just as relevant. I'm sure that manufacturers have improved the care that they take over such details, but there are still machines being released to an unsuspecting public with little niggles and bugs waiting to be cleared up.

Home Computing WEEKLY

NEW

No. 1 March 8-14, 1983

PLOT TO KILL DRAGON

Colour Genie boss Alan Whitford is just back from talks in Hong Kong on how to slay the Dragon.

His problem is that, at £199 for 32K of RAM, the Welsh-made Dragon 32 has twice the memory of the standard Colour Genie, priced at £224, although his company, Lowe Electronics, says the Genie has far more features.

There is, however, a higher priced 32K Colour Genie, or 16K can be added internally for about £39.

The answer Mr Whitford brought back from makers EACA was: we can add more memory as standard if more Colour Genies are sold, so bringing down production costs.

Since the November launch, 2,500 Colour Genies have been purchased and a £150,000 advertising campaign begins in June with a new advertising agency, chosen from a list of 18.

Mr Whitford, who will now be holding talks with his fellow directors, faces a second difficulty — the increasing value of the Yen is making imports more costly.

He said: "It may be done in two stages. We can add 16K as standard now without any other changes. Going to 48K or even 64K would mean a redesign job and would be a MkII version.

"I'm a little worried that this might not happen for two to three months."

Mr Whitford visits Hong Kong every year, along with distributors from Germany, Spain, Sweden and Italy. As well as three lengthy meetings, they attended a spring banquet with EACA's 1,000 employees to mark the Chinese New Year.

He brought back with him samples of two plug-in games

Continued on page 3

Trouble for computer ads

Complaints about advertising claims by three home computer companies have been upheld.

All three, Sinclair, Dragon and Acorn made amendments, says the Advertising Standards Authority.

Two people objected to an advertisment for the Sinclair ZX81 which showed three casseties but failed to point out that a 16K RAM memory expansion was needed to run them.

Another complaint was about the phrase: "All you need... is a portable cassette recorder." Several makes of recorder are not compatible with the ZX81. Sinclair said it did not claim all recorders could be used and that it would supply a list of those which did work if a customer requested it.

One complainant wrote in about a claim that the Dragon 32, with 32K was twice as powerful as its competitors and included the 16K Spectrum in a comparison.

Dragon told the ASA that at the time they understood the 48K Spectrum was not readily available so it could not be compared.

The complaint faced by Acorn was about a brochure for its Atom which said any UHF TV set could be used. Acorn agreed some TV sets were incompatible.

INSIDE

ZX Microfair: first report

Pages of news

Reviews of programs for ZX81, Spectrum, VIC-20, BBC

Programs to type in for: VIC-20, BBC, TI-99/4A, Oric-1

Articles on VIC-20, Atari

Profile of software house

ARCADIA

SCHIZOIDS

WACKY WAITERS

Three mind benders from

...the name of the game

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WIN

On to the present...

I was working for the magazine even before it's first issue. I had been asked to write my first software reviews and articles a couple of weeks before the first issue appeared and was very excited by the prospect of a weekly magazine featuring news, software reviews and programs. The emphasis was always that HCW would be the first and best magazine for software. We have featured more software reviews in a week than most monthlies can manage in three months.

Another feature of HCW at it's launch, which we still adhere to today, is it's emphasis on **home** micros. The magazine doesn't flirt with business machines or programs. We feel our readers are interested in games, educational and utility programs, but don't want to know about the best spreadsheet since the duvet was invented.

Many things have changed since the first issue. The industry has certainly changed a great deal. The BBC, VIC-20 and Spectrum were with us then, but the Commodore 64, Amstrad, Atari XL and the Electron were just twinkles in their designers' eyes. Software was mainly sold by mail order and computers usually came from specialist shops. Now 25 per cent of all computers are sold by one high street retailer with the other multiple stores making over 50 per cent of the market. Quite a change, I'm sure you'll agree.

HCW hasn't remained unchanging over this period either. Issue 29 was the first to feature a full colour cover and had the cassette cards of reviewed software splashed

· past, nt and ure

HCW Editor Dave Carlos takes a look back at the first 100 issues. He compares HCW at its birth with its centenary, and reveals exciting plans for the future

across the front. This continued for a year until Sinclair surprised us all by releasing the Spectrum Plus. This was so important that for the first time HCW had a piece of hardware across it's cover. About a month later it was decided that the logo needed a brush-up and today's logo was seen for the first time. This isn't the final change, though.

Coming soon

Issue 102 is the start of something really new. HCW is to be completely redesigned and relaunched on March 5, 1985, just two years after the first issue.

Those who read regularly will know that last Autumn we had a reader's survey so that we could know what our readers wanted from a magazine like ours. In response to this, things are really changing at HCW.

The new magazine will look very different; new cover, new page designs and a whole host of new features. There will still be plenty of news, software reviews and programs for you to type in, but just look at the list of new regular features.

There will be a new Readers' Page with puzzles, comments, jokes and hi-scores, including photographs of the best players. We really need your ideas for this one; which games do you want us to include? Do you know any funny jokes or computer stories. Are you the best dragon slayer in the town? If you are, then we need to hear from you soon.

Hardware and peripherals are becoming more important as people keep their micros longer and want to extend the ways in which they use them. Although we have had occasional reviews of these products we will be featuring a whole page of reviews each week in future. We occasionally have letters asking us to review certain items, but we would like more. If there is a product you would like us to review, tell us about it. We aim to please!

The software review pages will be looking different too. There will be longer reviews of star programs, and look out for Dauntless Dave. In the future Dave will be telling you just what he thought of all the new programs. He tends to react in rather strange ways to the programs he sees, but more of him in Issue 102. By the way, BBC and Electron owners can have a sneak preview of Dave by typing in Jon Revis's program in this issue.

There will also be changes to almost every other page in the magazine, but I daren't reveal too much at this stage. The boss might realise how much all this will cost and then I'm in trouble.

Make sure you don't miss your HCW each week. Order it from your newagent or by post from the address on the contents page.

P.S. Want to save money on software? Or do you want an obedient robot of your own?

Issue 102, at your newsagent on 5th March, has offers that you won't want to miss!

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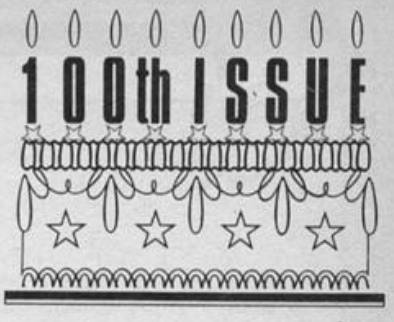


1984 hi-score

This week our experts look at Amstrad and Oric games: the best and the worst are all here

The Oric has been neglected by the large software houses in favour of more popular micros such as the Spectrum and the Commodore 64. Therefore there aren't any games which could be classed as mega-games for the Oric. However, that doesn't mean there aren't any good games. It's been hard, but the good (and the not so good) games released during 1984 have been grouped together here.

Game of the year

In all honesty, there weren't many contenders for this title. I considered the Oric classic Xenon-1, but it was released too long ago. The only other game deserving this title was a strategy game called Classic Racing by Salamander. This may come as a surprise for those who've never seen it, since strategy games are, on the whole, awful! This particular title is an exception. It has brilliant graphics, beautiful animation and, of course, you need to think!

Best shoot-'em-up

It was difficult to decide which game should receive this title, because there are quite a few fantastic shoot-'em-ups; for instance Xenon-1, Marc, Defence Force and Hellion to name but a few. They are as good as each other, but I decided to award the title to Hellion by Orpheus, purely because the others will be mentioned in other sections. Hellion, with it's very professional presentation, detailed characters, awesome speed and a mind-boggling 101 screens, certainly deserved this title.

Best adventure

With a relatively large RAM capacity, the Oric is in fact very suited for adventure games, but all the best adventures seem to be written for the Spectrum! One software house renowned for the quality of it's adventures is Level 9. Level 9 is supporting the Oric with it's massive, but logical adventures. Probably my favourite is Colossal Adventure. Another adventure worth a mention is The Hobbit by Melbourne House. It certainly supports one of the best sentence analysers, and the graphics are stunning.

Most difficult game

This award must go to Marc by PSS. You are required to manipulate no more than seven of your digits simultaneously. The animation of the characters is absolutely first class and the presentation cannot be faulted. All in all, a brilliant game which is impossible to play.

Loudest game

Defence Force — a Defender derivative by Tansoft — will literally deafen you, but who cares with such an addictive shoot-'em-up?!

Video nasty

There were quite a number of games suitable for this title. However, it must surely go to Killer Caverns by Virgin. This game, written totally in BASIC, has the worst graphics I've ever seen on a micro, non-existent sound and is totally unplayable. Need I say more?

S.S.

Defence force: loudest game of the year

1984 Amstrad CPC464 games

The high standard of the first ever Amstrad awards bodes well for the future of home computing.

Now available in most high street stores, the Amstrad CPC464 has become well established, and the Software Awards for 1984 have been chosen from among the best programs to reach the shelves this year.

The inaugural year of the CPC464 has seen the introduction of all manner of programs from the frivolously flightly to the seriously sober.

With rare exception these have been thoroughbreds of their kind — thanks largely to Amstrad's software subsidiary Amsoft.

Value for money

Taking the top award was Matcal from Camel Micros.

With four useful toolkit programs on one cassette for less than a fiver, it wins the value for money award hand down and is an invaluable aid to the home programmer.

Other software houses would do well to research the marketing strategy of a product which retails so cheaply.

Best graphics

Streets ahead of all its competitors, Star Avenger from Kuma Computers wins best graphics of 1984.

But, sadly, it also takes the tut-tut award for not having a joystick option. Control from the keyboard is nearly impossible in the faster challenging levels.

Most humorous

Most humorous program of the year was Er*bert, from Microbyte Software, whose endearing characters Coily and Boris could surely melt the heart of the most ardent joystick joggler. A nicer pair of nasties would be hard to find.

Worst game

Undoubtably the worst program award goes to Solid Evaders from Solid Software. This bug-ridden shoot-out had to be played on top of the instruction page — which needed to be shot away first.

Premier adventure

Interceptor Software pushed Jewels of Babylon under the portcullis of the old year to rescue the premier adventure award from under the noses of their nearest rivals Level 9.

Software house of 1984

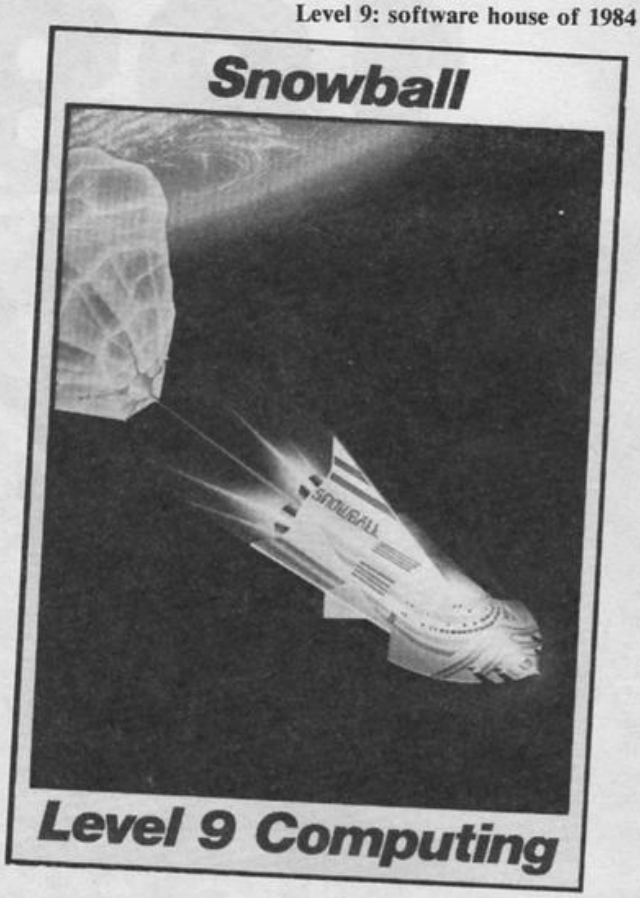
Level 9 doesn't go away empty handed. Specialising in adventure games, Level 9 takes the software house award for continuing to strive for even better quality with each new release.

Critic's choice

Easi-Amsword saves hours of work and innumerable typewriter rubbers.

D.H.

Level 9: software house of 1984



ATLANTIS. (Basic) Over 80 entirely different scenes. Even has a title screen while loading. Fully animated keyboard or joystick. Can you discover the secret of Atlantis. Take a dive for £6.95

BENEATH THE STARS (Basic) Multi Space game. 5 skill levels. See the review in Jan. issue of Games Computing. Only £5.95.

SNOUT OF SPOUT (Ext. Basic) On the planet Spout the inhabitants are all called Snout. Can you walk a Snout and save the planet Spout.

INTRIGUE PENTHALON. (Ext basic) 5 Exciting track and field events. 1 or 2 players. Packed full of real time action and **INTRIGUE ANIMATION.** Everyone will want to compete. Take your marks. Only £5.95.

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ADVENTUREMANIA. (Basic) The only TI cassette game chosen by Games Computing listed in the Top 100 for 1984. Probably the most enjoyable graphic and text adventure available. 30 locations of Dungeons, Casinos, Computers, etc. £5.95 will let you decide for yourself.

Access

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INTRIGUE SOFTWARE

Cranbrook Road, Tenterden, Kent TN30 6UJ

This singalong program for the TI-99/4A will play Happy Birthday whilst showing the cake and candles on screen.

You might choose to use it as a birthday surprise and ask those celebrating to blow out the electronic candles on screen.

After a few blows and when everyone is going blue in the face, a press of any key will do the job for you.

Blow away

Celebrate our birthday with this sound and graphic program from 15 year old James Wright

```
6 REM  THIS PROGRAM IS FOR THE TI99/4A
7 REM  BY JAMES,D,WRIGHT
8 REM    "HAPPY BIRTHDAY"
10 CALL CLEAR
20 CALL SCREEN(2)
30 CALL CHAR(64,"FFFFFFFFFFFFFFFFFFFF")
40 CALL COLOR(5,5,2)
50 CALL VCHAR(5,16,64,5)
60 CALL VCHAR(5,13,64,5)
70 CALL VCHAR(5,19,64,5)
80 CALL CHAR(112,"18183C3C3C3C7E7E7E7E")
90 CALL COLOR(11,11,2)
100 CALL HCHAR(4,16,112)
110 CALL HCHAR(5,16,113)
120 CALL CHAR(113,"FFFFFF7E7E3C3C1818")
130 CALL HCHAR(4,13,112)
140 CALL HCHAR(5,13,113)
150 CALL HCHAR(4,19,112)
160 CALL HCHAR(5,19,113)
170 CALL CHAR(152,"FFFFFFFFFFFFFFFFFFFF")
180 CALL COLOR(16,16,2)
190 CALL HCHAR(10,11,152,11)
200 FOR I=1 TO 8
210 CALL COLOR(I,9,1)
220 NEXT I
230 CALL HCHAR(18,4,104)
240 CALL HCHAR(11,10,152,13)
250 CALL HCHAR(12,9,152,15)
260 CALL HCHAR(13,9,152,15)
270 CALL HCHAR(14,9,152,15)
280 CALL HCHAR(15,9,152,15)
290 CALL CHAR(40,"FFFFFFFFFFFFFFFFFFFF")
300 CALL HCHAR(16,8,40,17)
310 CALL HCHAR(17,9,40,15)
320 CALL COLOR(2,5,2)
330 CALL CHAR(41,"FF7F3F1F0F070301")
340 CALL HCHAR(17,8,41)
350 CALL HCHAR(16,7,41)
360 CALL CHAR(42,"FFFEFCF8F0E0C080F")
370 CALL HCHAR(17,24,42)
380 CALL HCHAR(16,25,42)
390 CALL CHAR(153,"0103070F1F3F7FFF")
400 CALL HCHAR(10,10,153)
410 CALL HCHAR(11,9,153)
420 CALL CHAR(154,"80C0E0F0F8FCFEFFF")
430 CALL HCHAR(10,22,154)
440 CALL HCHAR(11,23,154)
441 CALL CHAR(56,"8142241818244281")
442 CALL COLOR(4,5,16)
443 CALL HCHAR(18,1,56,224)
450 CALL SOUND(300,262,0)
460 CALL SOUND(300,262,0)
470 CALL SOUND(600,294,0)
480 CALL SOUND(600,262,0)
490 CALL SOUND(600,349,0)
500 CALL SOUND(1200,330,0)
520 CALL SOUND(300,262,0)
530 CALL SOUND(300,262,0)
540 CALL SOUND(600,294,0)
550 CALL SOUND(600,262,0)
560 CALL SOUND(600,392,0)
570 CALL SOUND(1200,349,0)
580 CALL SOUND(300,262,0)
590 CALL SOUND(300,262,0)
600 CALL SOUND(600,262,0)
610 CALL SOUND(600,440,0)
620 CALL SOUND(600,349,0)
630 CALL SOUND(600,330,0)
640 CALL SOUND(600,294,0)
650 CALL SOUND(300,494,0)
660 CALL SOUND(300,494,0)
670 CALL SOUND(600,440,0)
680 CALL SOUND(600,349,0)
690 CALL SOUND(600,392,0)
700 CALL SOUND(1200,349,0)
720 CALL SOUND(300,262,0)
730 CALL SOUND(300,262,0)
740 CALL SOUND(600,294,0)
750 CALL SOUND(600,262,0)
760 CALL SOUND(600,349,0)
770 CALL SOUND(1200,330,0)
790 CALL SOUND(300,262,0)
800 CALL SOUND(300,262,0)
810 CALL SOUND(600,294,0)
820 CALL SOUND(600,262,0)
830 CALL SOUND(600,392,0)
840 CALL SOUND(1200,349,0)
860 CALL SOUND(300,262,0)
870 CALL SOUND(300,262,0)
880 CALL SOUND(600,262,0)
890 CALL SOUND(600,440,0)
900 CALL SOUND(600,349,0)
910 CALL SOUND(600,330,0)
920 CALL SOUND(600,294,0)
930 CALL SOUND(300,494,0)
940 CALL SOUND(300,494,0)
950 CALL SOUND(600,440,0)
960 CALL SOUND(600,349,0)
970 CALL SOUND(600,330,0)
980 CALL SOUND(1200,349,0)
981 CALL KEY(0,K,S)
982 IF S=0 THEN 981
983 IF K=30 THEN 984
984 CALL COLOR(11,2,2)
985 CALL COLOR(11,11,2)
986 CALL COLOR(11,2,2)
987 CALL COLOR(11,11,2)
988 CALL COLOR(11,2,2)
990 FOR DELAY=1 TO 900000000000000
1000 NEXT DELAY
```

BASIC utilities for the BBC

Shingo Sugiura reviews five ROMs and explains what they do and how well they do it. Read before you buy — this could be an invaluable guide

The BBC has an excellent dialect of BASIC. It is fast and has many strucure commands not found on other BASICs. However, once you've been programming for a while, you realise that even BBC BASIC hasn't got everything the programmer needs.

This is where toolkit ROMs come in. There is a plethora of these utility ROMs for the Beeb, and they all sound tempting; in fact, quality varies greatly. The ROMs reviewed in this article are: **Toolkit** by Beebugsoft; **Addcomm** by Vine Micros; **U-Tools** by Intersoft; **Toolstar** by Pace and **Caretaker** by Computer Concepts.

Search/Replace

Have you ever had to change a long variable name to a shorter one to save memory? You probably had to go through the whole program with the COPY and DELETE keys.

A facility to search and replace certain strings is an invaluable one and not surprisingly, all the toolkits had some sort of find facility. A good find/replace facility should be able to locate and replace keywords as well as strings and should also support wild card facilities. BASIC keywords could be located by all the ROMs.

In most cases the screen display was well thought out. On Toolstar and Toolkit, the line containing the string is listed and the acual string is highlighted. On Caretaker and Addcomm, the line is listed with multiple statements broken down to aid legibility. The problem with Caretaker's find (*EXCHANGE) facility is that in order to locate keywords, you must look up the token value for that particular keyword! When replacing strings, Toolkit and U-Tools didn't have the facility for selective replacement, only global. Also, keywords couldn't be replaced by Toolstar.

Verify

A surprising omission from BBC BASIC was that of verify. The ability to check the contents of memory with that on tape/disc is very comforting, especially to tape users. A verify facility was only implemented on Toolkit and Addcomm. On Toolkit, when verification failed, the memory address at which it failed was given so that it may be corrected with a memory editor (if you had one!); on Addcomm, the offending line was listed and the memory address of that line was also given.

Merge

Merging programs on the Beeb may be achieved by *SPOOL or *LOADing at TOP-2. However, all the toolkits had some sort of MERGEing facility which attempts to be better than the above solutions. On Toolkit, you must make sure that the line numbers of the original program and the appended program don't clash. When they do, you're informed but I felt that was rather pointless because the original line was overwritten anyway!
On the others however, the appended program could have clashing line numbers.

Variable list

When debugging a program, it is often very helpful to list the active variable names and their contents. Apart from Toolstar, all the ROMs had a variable lister. On Toolkit, you are given the option to dump the resident integer variables or only the active variables. In both cases, the names are listed together with their values in decimal and hexadecimal. On Addcomm, you can list variables but not their values! Rather disappointing. On U-Tools and Caretaker you can dump variables in a similar fashion to Toolkit.

Renumber

The command 'Renumber' is thoughtfully built into Beeb BASIC, the limitation is that you can only renumber the whole program and not parts, if for example you wanted to insert some extra code but keep the rest of the program intact. Only Toolkit, Caretaker and Toolstar had a selective renumber command. The Toolstar implementation was rather weak when compared with the other two.

Move lines

When developing a large program, it often becomes necessary to move a number of lines to another part, when you want to make a program more modular, for example. I was disappointed to find that only Toolkit had such a facility.

Program compactor

One of the most annoying features of the BBC is lack of memory. If you have a disc-based machine, in MODEs 0-2, you have less than 6K to play with! So programs must be as compact as possible.

In BASIC, this may be achieved by avoiding unnecessary spaces, REM statements and using plenty of multiple statement lines. All but Toolstar had some sort of facility to shorten a BASIC program. Toolkit allowed you to remove REM statements and/or unnecessary spaces. However, it didn't create multiple statement lines.

Addcomm has the most flexible compact facility of the lot. Not only does it remove unnecessary spaces and REM statements, it also creates as many multiple statement lines as possible and allows you to specify which part of the program you wish to compact. U-Tools and Caretaker allow you to remove unnecessary spaces, REM statements and create multiple statement lines. None of the compactors attempted to check whether a REM statement to be removed was referenced by a GOTO statement.

Expand

Once the program is compacted, it becomes impossibly difficult to read. A facility to split multiple statement lines and insert spaces would come in useful here and only Toolkit and Toolstar lacked such a facility. All the other ROMs had a lister which separated multiple statement lines. On Addcomm however, it was rather limiting in that you could only list one line at a time!

Repair bad program

Surely all BBC programmers must have come across the hideous message 'Bad program' at some time or another. All the ROMs supported some sort of repair facility. On Toolkit, Addcomm, U-Tools and Caretaker, the repair facility worked with varying degrees of success. The most flexible was Toolstar's. The command *FLIST allows you to list bad programs with all the corrupted bytes highlighted and the memory address at which those lines reside. Using this facility, the user may edit the program himself.

Function key lister

One of the most useful features of the Beeb is the function keys. One problem is, once you've programmed them, there's no easy way to reprogram them

apart from retyping the definition. Apart from Toolkit and Caretaker, the others allowed you to list the function key definitions and then edit them with the COPY key. On Caretaker, there were commands to load and save function key definitions.

Move program

If you have a disc-based machine, you may need to move your BASIC program down to &E00. All the ROMs had some sort of memory mover. On Toolstar however, you had to specify the start and end address of the program as well as the destination address, then issue an OLD command. On all the others, the BASIC program from the current value of PAGE to TOP was moved to the destination address and PAGE was set appropriately.

Memory status

It is often helpful to know the value of certain memory locations. For example the current value of PAGE, HIMEM, LOMEM, program length etc. On all but Toolstar, there was a facility to display certain memory locations. On Toolkit, free memory, program size, next location, PAGE, LOMEM, TOP and HIMEM are displayed. Also, there is a facility to display information on such things as LISTO, WIDTH etc. On Addcomm and Caretaker, the information given was rather limited. On U-Tools, a useful variety of information is displayed, but they weren't presented in a neat fashion like Toolkit.

Manual

Toolkit comes with a 32-page A6 manual. Despite it's small size, it contains all the necessary information and the individual commands are explained in detail. There is also a section on technical information such as memory usage. However, there is no index.

Addcomm comes with a 72-page A5 ring bound manual with a bright green cover. There is a brief introduction to it's general use and then a description of each command. The descriptions are good and there is also an index.

U-Tools comes with a 30-page A5 ring bound manual. After a three-page introduction, each of the commands are explained in detail. There is a full index and a complete list of errors together with their full meanings.

Toolstar comes with a beautiful 136-page A5 ring bound manual. It starts with an introduction followed by detailed fitting instructions and then an introduction to machine code! The rest of the manual is divided into sections covering machine code programming aids, toolkit commands, disc commands and the use of these commands within your own programs. Each section is coloured so that you may find your way around the manual without even using the very comprehensive index. How all manuals should be produced.

Caretaker comes with a 30-page A5 ring bound manual. After a brief introduction, each command is explained adequately. There is a complete list of error messages, but an index would have been nice.

Miscellaneous

A feature unique to Toolkit is it's program editor. This allows you to insert or overwrite parts of a line quickly and easily. Although it is nowhere near as good as the full screen editors as used by MSX systems or IBM, it turned out to be extremely useful for correcting a small part of a long line. Toolkit also has a very useful memory dump facility.

It must be mentioned that Addcomm supports many powerful graphics and Logo-type commands as well as the general toolkit commands. Also a very useful facility of Addcomm is 'CHAR' which allows you to define a user defined character on a large grid. There were some rather trivial commands such as POPFOR and POPGOS which allows you to jump out of FOR-NEXT loops and GOSUBs, something a good programmer would never do in the first place.

Perhaps most important of all, Addcomm doesn't use the conventional star command system. Instead, the commands are used in a similar manner to BASIC keywords, i.e. they don't have to be preceded by stars, can form part of a multiple statement line and can incorporate expressions.

U-Tools has some interesting commands not implemented by any of the others. For instance, there is a command to save a block of memory as LOCKed file, useful for protecting your machine code programs. '*ROMS' lists the names of the ROMs in your machine, while a memory dump facility and full printer dump routine for the Epson range of printers were supported.

Toolstar supports many machine code programming aids and disc commands as well as BASIC toolkit commands. Some useful commands are '*RESTART' to clear memory and '*CONV' to convert decimal to hexadecimal and binary.

	Toolkit £27	Addcomm £28	U-Tools £27	Toolstar £34	Caretaker £34
Number of commands	25	40	28	22	18
Find	•	•	•	•	•
Replace	•	•	•	•	•
Verify	•	•			•
Merge	•	•	•	•	•
Variable dump	•	•	•		•
Renumber	•			•	•
Move lines	•				
Compact program	•	•	•		•
Expand		•	•		•
Bad program fix	•	•	•	•	•
Function key list		•	•	•	
Shift program	•	•	•	•	•
Memory status	•	•	•		•

Caretaker was the only ROM to have a facility for one-key entry (allows you to enter keywords with one key stroke as on the Elk) and a tab facility. this would be most useful for the non-touch typists; the tabbing facility is useful for all assembly language programmers who like nicely formatted source code.

Conclusion

Toolkit was one of the first toolkit ROMs on the market. However, it still remains one of the best. Admittedly, some of the expected commands are missing, but all the implemented commands are extremely user-friendly. It's obvious that a lot of thought has gone into the design of each of the commands. As such, it is highly recommended, especially to Beebug members who may obtain it at a very reasonable price.

Addcomm is definitely the best value for money ROM on the market. As well as lots of useful toolkit commands, it supports many powerful graphics commands. I felt that some of the commands weren't as 'polished' as Toolkit or Caretaker but nevertheless, for those on a tight budget, this may be the right one.

U-Tools offers a useful range of commands, but has some striking omissions.

Toolstar is rather different in that it offers many machine code programming aids and disc related commands as well as toolkit commands. It misses quite a few of the 'standard' toolkit commands and, as such, can't be recommended to BASIC programmers. However, as a general utility ROM, it is only matched by Disc Doctor.

Caretaker is a very professional product. It's major disappointment was the cumbersome find and replace facility. If this was updated, Caretaker would probably be the best toolkit ROM available. As it stands, it's on a par with Toolkit and can also be recommended.

Addresses

Toolkit: Beebugsoft, PO Box 50, St Albans, Herts
Addcomm: Vine Micros, Marshborough, Nr Sandwich, Kent CT13 0PG
U-Tools: Intersoft, 26 Netherfield Rd, Sandacre, Notts NG10 5LN
Toolstar: Pace, 92 New Cross St, Bradford, W Yorks BD5 8BS
Caretaker: Computer Concepts, Gaddesden Place, Hemel Hempstead, Herts HP2 6EX

It's party time!

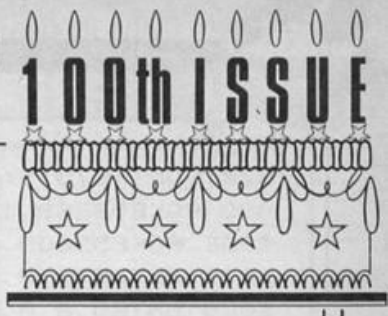
And parties mean party games — like this one from Mike Roberts. Blow out the candles within a time limit — but don't get out of puff

```
0 REM CLR
1 GOSUB391:GOSUB838:PRINT"■"
13 REM BLK GR1
14 J1=56321:SD=53248:MX=SD+2:MY=SD+3:BX=SD+4:BY=SD+5:TL=500:EC$="■":CL$="■"
27 POKE53280,15:POKE53281,15:X=PEEK(53278)
40 XP=230:YP=128:FX=103:FY=150:WX=SD:WY=SD+1
53 J=(NOTPEEK(J1))AND255:XD=0:YD=0
66 IFF1THEN144
79 IF(JAND1)AND(YP>50)THENYD=YD-4
92 IF(JAND2)AND(YP<200)THENYD=YD+4
105 IF(JAND4)AND(XP>50)THENXD=XD-4
118 IF(JAND8)AND(XP<250)THENXD=XD+4
131 IF(JAND16)THENGOSUB203:GOTO157
144 GOSUB261
157 XP=XP+XD:YP=YP+YD
170 POKEMX,XP:POKEMY,YP:POKEBX,XP:POKEBY,YP+21
183 GOSUB300
196 GOTO53
209 POKEWX,XP-24:POKEWY,YP:POKE53269,255
222 X=PEEK(53278)AND3:IFX=3THENSC=SC+1:GOSUB664
234 REM BLU
235 EF=EF+1:IFEF=10THENF1=1:EC$="■"
248 RETURN
261 POKE53269,254
273 REM BLK
274 EF=EF-1:IFEF<1THENEF=0:F1=0:EC$="■"
287 RETURN
300 FW=FX+(INT(RND(TI)*6+.5)-3):POKESD+6,FW
313 FW=FY+(INT(RND(TI)*4+.5)-2):POKESD+7,FW
325 REM HOM-TXT-WHT    5*CRL
326 PRINT"■■■■CORE:"SC,CL$+"| IME:      ■■■■■■"TL
```

Don't you just love party games? Well, you'll certainly get the chance to join in and have some fun here.

Help birthday boy blow out all the candles — within a time limit. But conserve your breath, or you'll have to have a rest.

Use a joystick in port one to move around, and the fire button to blow.




```
338 REM CRL
339 PRINTEC$+"■XHAUSTION ■ACTOR:"EF"■■ "
351 REM LRD
352 IFTL<50THENCL$="■"
365 TL=TL-1:IFTL=0THENGOTO755
378 RETURN
390 REM CLR-TXT-CTH-GR2
391 POKE53280,2:POKE53281,1:PRINT"■■■■                    ■IRTHDAY ■IME"
403 REM   2*CRD
404 PRINT"■■■ ■T'S ■. ■EE ■■'S BIRTHDAY TODAY."
417 PRINT"■E'S 100, AND LIKE ALL GOOD BOYS AND"
430 PRINT"GIRLS, HE HAS A PARTY."
443 PRINT" ■UT WHAT'S THIS. ■LL THE GUESTS HAVE"
456 PRINT"■ROUGHT HIM CAKES WITH CANDLES TO BLOW"
469 PRINT"OUT - THAT'S 100 CANDLES IN ALL, ■OSH!!"
481 REM CRD
482 PRINT"■ ■SE A JOYSTICK IN PORT 1 TO MOVE ME"
495 PRINT"AROUND AND THE FIRE BUTTON TO MAKE BE"
508 PRINT"BLOW OUT THE CANDLE."
521 PRINT" ■ON'T BLOW TOO MUCH OR ■ WILL GET"
534 PRINT"EXHAUSTED AND NOT BE ABLE TO MOVE FOR"
547 PRINT"A WHILE."
560 PRINT" ■HERE IS ALSO A TIME LIMIT ■TILL THE"
573 PRINT"END OF THE PARTY, WHEN ALL MY LITTLE"
586 PRINT"FRIENDS WILL GO HOME.. ■LEASE HELP ME"
598 REM CRD
599 PRINT"■                ■RESS ■NY ■EY"
612 GETA$:IFA$=""THEN612
624 REM CRD
625 PRINT"■■LEASE WAIT FOR A WHILE FOR THE GUESTS"
638 PRINT"TO ARRIVE....."
651 RETURN
664 X=INT(RND(TI)*175)+50
677 Y=INT(RND(TI)*175)+50
690 POKESD+6,X+13:POKESD+7,Y-20:FX=X+13:FY=Y-20
703 IFFR=1THEN729
716 POKESD+12,X:POKESD+13,Y:POKESD+8,X+12:POKESD+9,Y+5:FR=1:GOTO742
729 POKESD+14,X:POKESD+15,Y:POKESD+10,X+12:POKESD+11,Y+5:FR=0:GOTO742
742 X=PEEK(53278):RETURN
755 POKE53280,14:POKE53281,14:POKE198,0:POKESD+21,0
767 REM CLR-BLK-  6*CRD
768 PRINT"■■■■
```

```
976 FORI=0TO15:READA:POKE53248+I,A:NEXT
988 POKE53269,1:POKE53264,0:POKE53285,9:POKE53286,8:POKE53276,2+4+8+64+128
1002 POKE53269,0+2+4+8+16+32+64+128
1015 DATA0,0,0,128,0,0,120,0, 248
1028 DATA0,0,0,0,15,128,0,192, 335
1041 DATA0,0,0,248,0,112,0,0, 360
1054 DATA14,3,240,0,224,0,0,224, 705
1067 DATA31,14,0,0,112,3,240,0, 400
1080 DATA248,0,192,0,0,15,128,0, 583
1093 DATA0,0,0,0,0,0,56,0, 56
1106 DATA0,128,0,0,0,0,0,0, 128
1119 DATA0,0,0,0,0,0,0,0, 0
1132 DATA0,0,0,0,0,0,0,0, 0
1145 DATA0,0,1,64,0,15,80,0, 160
1158 DATA60,80,0,63,80,0,15,208, 506
1171 DATA0,15,192,0,3,0,0,2, 212
1184 DATA0,0,10,128,0,10,128,0, 276
1197 DATA10,128,0,10,128,0,10,128, 414
1210 DATA0,10,128,0,11,128,0,0, 277
1223 DATA0,16,0,0,16,0,0,16, 48
1236 DATA0,0,84,0,0,100,0,0, 184
1249 DATA100,0,1,101,0,1,169,0, 372
1262 DATA5,185,64,5,185,64,6,186, 700
1275 DATA64,6,186,64,6,254,64,6, 650
1288 DATA254,64,6,254,64,6,186,64, 898
1301 DATA5,185,64,1,185,0,1,185, 626
1314 DATA0,1,185,0,0,152,0,0, 338
1327 DATA0,126,0,0,126,0,0,126, 378
1340 DATA0,0,126,0,0,126,0,0, 252
1353 DATA126,0,0,126,0,0,126,0, 378
1366 DATA0,126,0,0,126,0,0,126, 378
1379 DATA0,0,126,0,0,126,0,0, 252
1392 DATA126,0,0,126,0,0,126,0, 378
1405 DATA0,126,0,0,126,0,0,126, 378
1418 DATA0,0,126,0,0,126,0,0, 252
1431 DATA0,0,0,0,0,0,0,0, 0
1444 DATA0,0,0,0,0,0,0,0, 0
1457 DATA0,0,0,0,0,0,0,0, 0
1470 DATA0,0,0,3,255,192,62,170, 682
1483 DATA188,234,170,171,170,170,170,234, 1507
1496 DATA170,171,190,170,190,171,255,234, 1551
1509 DATA170,170,170,170,170,170,234,170, 1424
1522 DATA171,62,170,188,3,255,192,0, 1041
1535 DATA11,128,0,10,128,0,10,128, 415
1548 DATA0,10,128,0,2,0,0,2, 142
1561 DATA0,0,2,0,0,2,0,0, 4
1574 DATA2,0,0,2,0,0,5,64, 73
1587 DATA0,0,0,0,0,0,0,0, 0
1600 DATA0,0,0,0,0,0,0,0, 0
1613 DATA0,0,0,0,0,0,0,0, 0
1626 DATA0,0,0,0,0,0,0,0, 0
1639 DATA0,0,0,0,0,0,0,0, 0
1652 DATA1,6,2,2,4,3,1,1
1665 DATA0,1,5,2,3,3,4,4
1678 DATA0,0,230,128,250,249,103,150
1691 DATA102,75,102,175,90,70,90,170
1704 RETURN
1717 END
1730 A$="BIRTHDAY.FIN":OPEN1,8,15,"S0:"+A$:CLOSE1:SAVEA$,8:VERIFYA$,8:END
```

100th ISSUE

QL Bookware

This week, Colin Wilton-Davies looks at books of games listings for the QL. There's good and not so good in his selection

I can think of three main reasons for buying books of games listings for a particular computer. Firstly, to demonstrate the capabilities of the machine in one way or another; secondly, to pick up useful programming techniques for that computer; thirdly, and not least, to enjoy playing the games after you have keyed them in. With these thoughts in mind, I have been looking at two recent books.

A QL Compendium by Martin Gandoff and Robin Kinge, £7.95 from Addison-Wesley Publishing, was obviously written to satisfy all three of my criteria. The first two chapters are taken up by hints and tips on using the QL and some highlights of Super-BASIC. The time it took to read these was well spent, and I don't recomend skipping this section: for instance, did you know there is a three-key combination which will crash the QL so thoroughly when pressed that only a RESET will restore it to action? The authors' recommendations on keying in programs and making backups are very sound.

After a useful short program to explore the peculiarities of the QL BEEP instruction, the book continues with an 'art' section which demonstrates many of the QL's graphic capabilities and allows the reader to draw pictures on the screen. The next section is on games of skill, and the one I chose to key in was a variation of Hangman with a guillotine instead of a scaffold. I have to confess to missspelling easy words just to watch the guillotine working! In the 'weapon' games section, I chose Depth Charge, which demands either a joystick or faster reactions than mine; I was confused at first because my ship only appeared after I moved it. I enjoyed the game, in spite of finding lines like:

```
430 IF INKEY$ = "" THEN
    GO TO 430
```

when

```
430 PAUSE
```

would do the same job. I chose Noughts and Crosses from the 'traditional' section, liked the graphics, but was disappointed when I found I could win every time. I haven't tried either of the two-user games yet.

I gave the book two out of three for demonstrating, two out of three for educating, and three out of four for amusing — seven out of ten over all.

I kept **Tim Hartnell's QL Games Compendium**, £5.95 from Interface Publications, until last, as I was expecting a real treat from this author of so many good books for the ZX81 and Spectrum. The introduction told me I should be using the book for fun, and that increasing my programming skills and decision-making ability was just a side-effect, so Tim Hartnell might disagree with the weighting of my three criteria. Tough.

Tim's version of one of my favourite computer games is called Othello, and was a great disappointment. I lost a turn for attempting an illegal move, but won the game because the program's strategy was so poor that I could take all the pieces. The program can only tell if the game is over if all squares are covered — this is not the only way this game can end. There was also a really classic endless loop in the program: print board, if end then print board, if end then print board; delete line 920 to remove this bug.

Next I tried Magician's Maze, a nine-room text adventure with no hazards which was bug-free but dull. Orbit purported to show a planet in orbit around a sun, but in fact this was a better demonstration of quantum leaps. For those misled by advertising hype, a quantum leap is characterised by a move from one orbit to another so abrupt that the object does not traverse the intervening space; it disappears from one orbit and appears in the other.

Finally, I tried Detective Q, which unaccountably reminds me of some board game, and which I really enjoyed.

The book ends with a number of ideas for computerising existing games, a good bibliography of computer games and a rather irrelevant glossary (who wants to meet COBOL in a games book — or anywhere else, for that matter?). By the way, if anyone can find an example of the use of the SELect On instruction in this book, I'll buy Tim a drink when I meet him.

Now to quantify. One out of three for demo, one out of three for education, two out of four for enjoyment, add up to four out of ten. Watch out for better things from Tim Hartnell.

Take the strain from your digits

A numeric keypad will make life easier for most BBC owners. HCW editor Dave Carlos checked the Softlife keypad out and gives you his verdict

Softlife Numeric Keypad BBC B £69.30

Serious users of the BBC will be aware of the problem of entering numbers from the keyboard. The number keys are spread out in a long line and you have to move around a great deal to get from one end to the other.

Softlife has decided there is a better solution, in the form of a numeric keypad. It comprises 16 keys in a four by four arrangement all contained in a plastic case 5 cm high, 8 cm wide and 15 cm deep. If you open up the case there is more space, filled with air rather than with any working parts, but this size allows you to place the pad at the side of the BBC and have the keys at just the correct height for easy use.

The keys are arranged rather like a calculator pad with 0 on the bottom line and the other numbers above in sets of three. This is likely to make it very easy for those who use adding machines to adapt to this pad. The extra keys perform functions which are likely to be of use to those wanting fast data entry. There is an ENTER key, which performs a return, a DELETE key and a DELETE LINE key that clears everything back to the start of the current line.

The others are numerically biased with a minus for negative values, a capital E for exponent values and a full stop for decimal values. All told this is a very well thought out and executed design. The keys have a very positive feel and should please most users.

As with most hardware add-ons, there is a software component to this product and this is supplied on a chip to fit the BBC sideways ROM system. It is easy to install, although I do think that the documentation could have included a diagram, and works very well indeed if you put it into a high priority socket.

One of the extra features of this pad is the programmable software which is also contained in the chip. This means that you can make the keys perform any function you need instead of the set functions. This is likely to be of great value to anyone wanting to customise a BBC machine and only have a small number of functions available. I can see uses for this in schools, hospitals, museums and industry. It provides a cheap and simple viewdata system, in a store for example, and the BBC need not be on public view at all.

The only quibbles I have are that there is no facility for auto repeat keys and the software does like to be very high in a priority system. Both of these are unlikely to deter serious users from what is a good and well designed product; it might even prevent keyboard failure due to over exposure to some games.

100th ISSUE

Block moves

David Nowotnik shows you how to copy blocks of memory from one place to another. You can modify his instructions to run on any Z80 machine

One of the most powerful set of machine code commands available to the Z80 CPU are those which allow the programmer to copy a block of memory from one location to another. By using just one command, which is only two bytes long, it is possible to copy a block of several kilobytes of memory to another area of RAM.

In this article I'll show you how to use these commands. There will be some examples to try on the Spectrum computer; there is no reason why these examples could not be modified to run on another Z80 micro, provided appropriate changes are made to memory addresses.

The mnemonics of the Z80's four block move commands are LDI, LDIR, LDD and LDDR. All commands use the HL and DE register pairs to point to addresses in memory. In general, the value held in the byte whose address is contained in the HL register is copied to the byte whose address is in the DE register. The shorthand used for this is (HL) - (DE). This feature is common to all four commands, but each command does something slightly different having carried out this basic copy procedure.

LDI: After (HL) - (DE), the values in HL and DE are incremented (e.g. HL = HL + 1), and the value in BC is decremented (i.e. BC + BC-1).

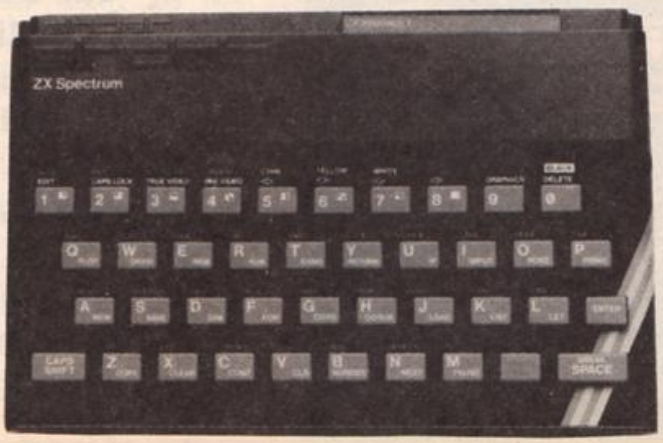
LDD: After the byte copy, all the values in HL, DE, and BC are decremented.

LDIR: This is like LDI, except that the operation is repeated until BC holds the value of zero.

LDDR: Like LDD, but the operation is repeated until BC holds the value of zero.

LDI and LDD will copy only one byte value at a time, whereas LDIR (LoaD Increment Repeat) and LDDR (LoaD Decrement Repeat) will move a large number of byte values. In all cases the register pair BC is used as a counter. For LDIR and LDDR, BC is used automatically as a counter, as the command will not stop until BC equals zero. In the case of LDI and LDD, you would use these commands in a loop, with appropriate commands to measure the value in BC, and loop back if not zero.

	Mnemonics	Byte values	Comments
25000	LD HL,16384	33,0,64	Display file start
	LD DE,25200	17,112,98	Save file start
	LD BC,6912	1,0,27	No. of bytes to move
	LDIR	237,176	Move them and
	RET	201	return to BASIC
25012	LD HL,25200	33,112,98	Saved file start
	LD DE,16384	17,0,64	Display file start
	LD BC,6912	1,0,27	No. of bytes to move
	LDIR	237,176	Move them and
	RET	201	return to BASIC



To use any of these commands, you would first load the desired values into HL, DE and BC, then use the appropriate block load command. For LDI and LDIR, the start addresses of the source and destination blocks are loaded into HL and DE, respectively.

For LDD and LDDR, the corresponding end addresses are placed in these registers. If the block move is straightforward, that is, simply copy a block of values from one location to another, then the Repeat instructions should be used. If the block move is more complex, e.g. if you want to move a block until a certain byte value is found, then you should opt for the single byte copy commands, with appropriate check routines.

If there is no overlap between the block of bytes being copied, and those to which the block is being moved, then there is no reason why either LDDR or LDIR should be used. However, if the source and destination blocks do overlap, then the correct choice of LDIR or LDDR is vital to ensure no errors in transfer. Figure 1 shows which command is appropriate, depending where the overlap exists.

You may have noticed that in most arcade games on the Spectrum you get instant changes of screen display — from the instructions to the first scene, for example. These use the Z80 machine code block moves. There is no reason why you shouldn't use this effect yourself, and the following example shows you how.

In Table 1 you'll find the assembly language listing and basic machine code loader of two block move routines. The first stores the display and attribute files in an area of RAM, while the second reverses the operation.

Type in the BASIC loader and SAVE it. After RUNning the program, list the program, then call the first machine code routine with the direct command — RANDOMIZE USR 25000. Clear the screen with CLS, then copy the saved block back to the screen with the command — RANDOMIZE USR 25012. The listing (the saved display) should be instantly returned to the screen. You can save and return any display you want by this method.

The routine is designed to run on both 16 and 48K Spectrums. You'll find there isn't much space for a BASIC program if you want to expand my loader routine. If you have a 48K Spectrum, you can move the machine code routine and the storage area up in RAM, with appropriate changes to the CLEAR command, the USR and storage area start addesses.

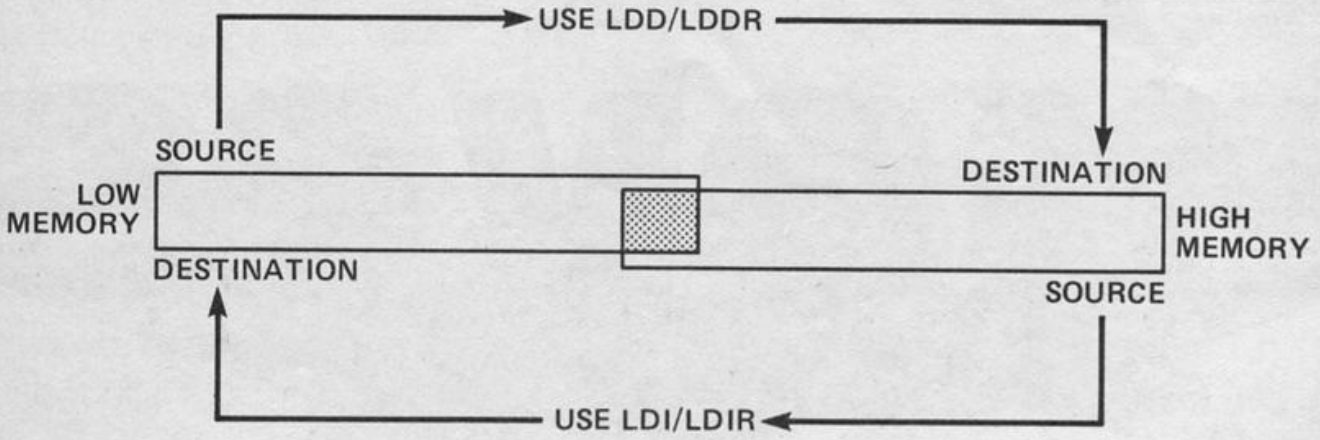


Figure 1. Choice of block load command with overlapping blocks.

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Jack and Ben

Sample these new arcade games featuring Jet-Power Jack and Big Ben

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

There are plenty of games around where you have to jump your character from one platform to another across the screen. What is different about this one is that Jack can not only jump, but also fly with the help of his turbopak.

This means the platforms can be much further apart than is usually the case, and at the higher levels some very tricky manoeuvring is needed to get from one to the next.

There are five levels, and at each level you have to guide Jack from one side of the space garage in which he has been imprisoned to the other and back again five times, to collect fuel pods for his starship. You can choose to start at any level, a nice feature, but it is advisable to master the early levels before attempting the later ones.

The graphics and sound are up to the high standard I have come to expect of Commodore games, though not in any way exceptional. The game, though not conspicuously original, is a very good one of it's type, and great fun to play. **M.N.**

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

★ ★ ★ ★

Smuggler
C64
£7.95

Superior, Dept C, Ground Floor, Regent Hse, Skinner La, Leeds

From the illustration on the packaging I assumed I was going to have fun sneaking barrels from ship to shore under the ever watchful eyes of the coastguard. Well, I was mistaken: this is just another variant on the theme of moving platforms, vanishing steps and adversaries.

You must catch the barrels as they fall from the ship, negotiate the obstacles, get to the top of the screen and throw the barrels back on to the ship. The number of barrels you must put back varies from screen to screen, and is displayed at the top of the picture.

To add to the silliness your adversaries are kangaroos and penguins. I'm still trying to work this out; there must be some significance, but it's got me beaten.

There's a demo-screen which will run through all the available screens and the author has included the usual music while you play.

If this is your type of game you may wish to buy it, however, as far as I can see, nothing unusual. **M.W.**

instructions	70%
ease of use	70%
graphics	60%
value for money	60%

★ ★ ★

Big Ben
C64
£7.00

Interceptor, Lindon Hse, The Green, Tadley, Hants

Giz has been trapped by Jem the evil wizard, and has to collect thirty gold coins to open the tunnel leading to Big Ben's bell so he can ring the bell and free himself. He can travel around to collect the coins on foot or in a turbo plane. The plane is faster, but he has to get out of the plane to pick the coins up and the landing pads aren't easy to identify.

This is a variant on the platform type of game. There are platforms, moving staircases, chains to climb and other assorted obstacles. There are also detonators dotted around, and standing on one of these causes Giz to jump upwards, so if you want to stay on a particuarl level you have to jump over the detonators, a reversal of the usual situation where you jump to change levels.

Collecting the first few coins is comparatively easy, but it gets harder. Collecting all 30 will take a lot of practise. It's an attractive and entertaining game and, though not startlingly original, it's worth looking twice at. **M.N.**

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

★ ★ ★ ★

Henry's House
C64
£8.95

English Software, Box 43, Manchester M60 3AD

This arcade game loaded easily and quickly and then went through a demonstration mode. These screens have been photographed and reproduced on the cassette inlay so you get an idea of what to expect.

The aim is to guide young Prince Henry around his royal household exploring and investigating every corner. It is a ladders and levels game, but not straightforward. Each screen is different, set in another room, and for each new room a new strategy must be discovered.

The instructions do not explain any of the strategies, but give hints as to which article in the room is important as far as gaining access to the next room is involved.

Overall this is a good game with increasingly difficult levels. The graphics are well done and the music passable.

Using the birth of Price Hal to sell a computer program is questionable, but the game has suffficient originality to make it a best seller. I have just one query. Why is Prince Henry wearing an Arthur Scargill hat? **M.W.**

instructions	75%
ease of use	70%
graphics	85%
value for money	80%

★ ★ ★ ★

Mutant Monty
Amstrad
CPC464
£8.95

Amsoft, 169 Kings Rd, Brentwood, Essex

Stunning graphics and a multitudinous array of screens provide a colourful display throughout the entire duration of this amazingly clever game.

Guiding Monty by using either the keyboard or a joystick through a complex variety of fast moving hazards is a challenge indeed.

I found it difficult to stop playing the game long enough to write this review, which serves to emphasise just how compulsive it can become.

Lightening fast reactions are essential in trying to avoid awful nasties like the Parallelians and the rarer Quantum Leapies.

Having secured all the gold, Monty then has to rescue a maiden in distress. Although desperate to see just what the distress looks like (!), and not having reached that part of the game yet, I can't comment on it.

There is no reason to believe the graphics will be any less appealing, than all the other pages shown on the demonstration sequence.

Played against the clock for bonus points your five lives are at risk. Trying to beat the clock leads to inevitable errors that a more cautious approach might well have avoided. Alternatively, caution takes time! **D.H.**

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

★ ★ ★ ★ ★

I'll puff and I'll puff...

Are you a wind-bag? If so, you should have no trouble with Andrew Bird's fun game for the Spectrum. You must be full of hot air to succeed

Here are two programs to get you into the party spirit.

Program one draws a birthday cake with flickering candles and asks you to press any key and blow. Once you've done this, the candles go out and more are drawn in the shape of 100, accompanied by the song Happy Birthday to You.

Program two is an observation game to test your speed at counting. You're shown a brief glimpse of a pile of presents, and a cake with candles on it.

Then you're asked how many presents Sue or Pete had and how old they are, judging by the number of candles.

Program one
How it works

5-6 graphics
8-15 set up arrays
20-50 draw cake and candles
60-80 animate candle flame
90-110 flame goes out
500-530 candle display
1000-1100 happy birthday tune and message

Program two
Variables

Dim c, Dim a co-ordinates for candles
w selects candle to have flame flicker
x,y used to position candles in oval shape
n used to draw two oval shapes
tu,ne used to read musical data
t number of times note is played
p,q,r length of note
f general purpose loop
d delay loop

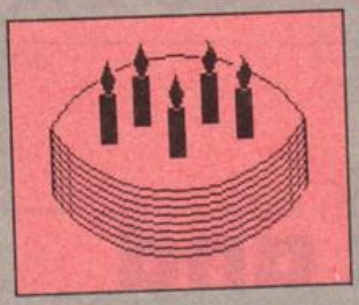
Program two
How it works

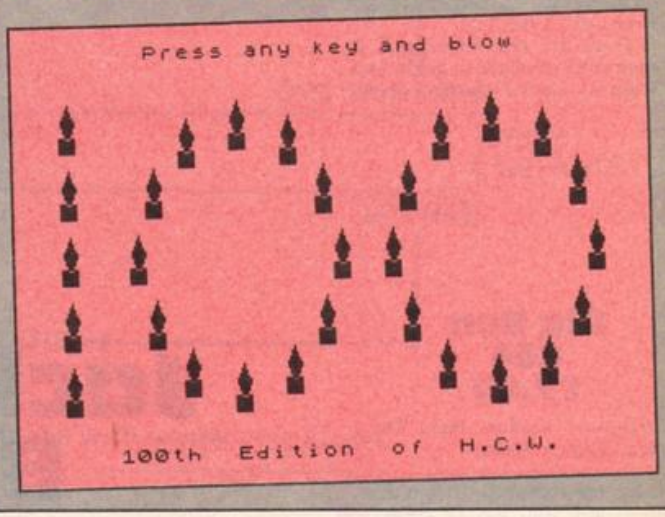
10-110 dimension, set up arrays
120-140 set up random numbers
160-180 instructions
190-320 draws game
340-500 asks question, checks answer
9000-9010 graphics

Program two
Variables

Dim p, Dim r present co-ordinates
Dim ca, Dim d candle co-ordinates
Dim n$ names
da, ta used to read data
pr number of presents displayed
ca number of candles displayed
na name displayed
an your answer
f general purpose loop
d delay loop

Program 1 screen dump



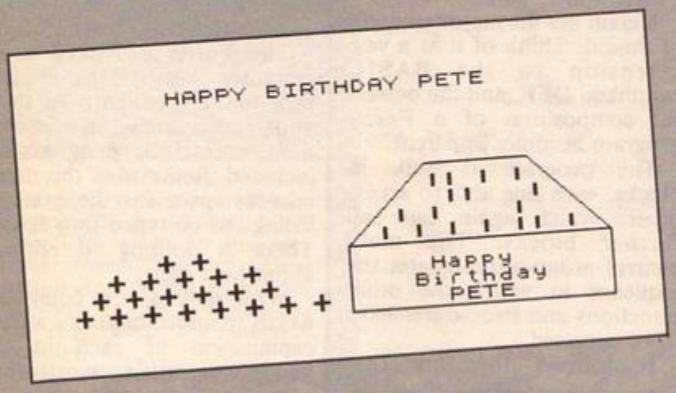


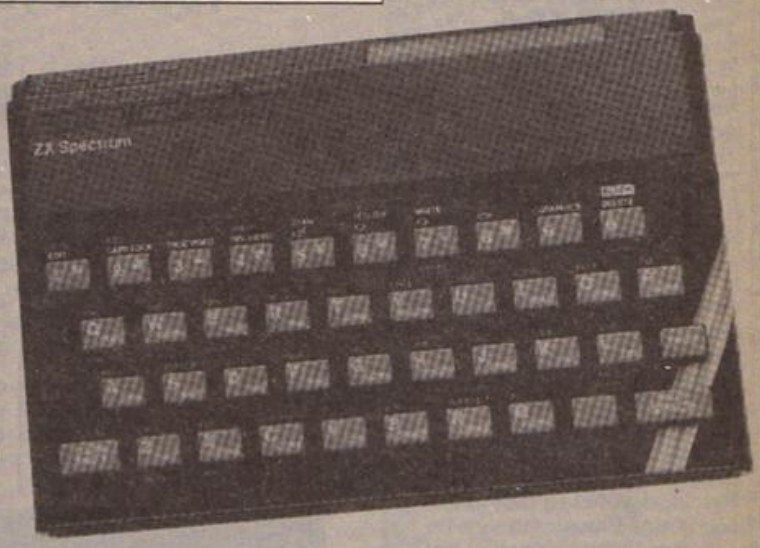
Listing 1

```
   0>REM 100 Editions of H.C.W.                By And
rew Bird
   5 FOR f=USR "a" TO USR "e"+7: READ a: POKE f,a:
 NEXT f
   6 DATA 8,8,24,28,28,60,62,126,16,8,8,12,14,30,3
1,63,2,2,6,14,14,31,31,63,127,127,127,62,62,62,28,
28,227,255,255,255,255,255,255,255
   8 DIM c(5): DIM a(5)
  10 FOR f=1 TO 5: LET a(f)=9+f*2: NEXT f
  15 LET c(1)=4: LET c(2)=3: LET c(3)=5: LET c(4)=
3: LET c(5)=4
  20 BORDER 0: PAPER 0: INK 5: BRIGHT 1: CLS
  30 PLOT 64,112: DRAW 0,-32: DRAW 120,0,2: DRAW 0
,32: DRAW -120,0,2: DRAW 120,0,2
  35 FOR f=80 TO 110 STEP 4: INK (f-63)/10: PLOT 6
4,f: DRAW 120,0,2: NEXT f
  40 INK 6: FOR f=1 TO 5: PRINT AT c(f),a(f):"A";A
T c(f)+1,a(f);"D";AT c(f)+2,a(f); INK 3;"E";AT c(f
)+3,a(f):"■";AT c(f)+4,a(f);"■": NEXT f
  50 PRINT AT 21,0:"     Press any key and blow
  "
  60 LET w=INT (RND*5+1)
  70 PRINT AT c(w),a(w):CHR$ (144+INT (RND*3))
  80 IF INKEY$="" THEN  GO TO 60
  90 PRINT AT 21,0:"
  "
 100 FOR d=1 TO 150: NEXT d: FOR f=1 TO 5: PRINT A
T c(f),a(f);" ";AT c(f)+1,a(f);" ": NEXT f
 110 FOR d=1 TO 600: NEXT d: CLS
 500 FOR f=0 TO 16 STEP 4: PRINT AT f,0;"A";AT f+1
```

```
.0;"D":AT f+2,0; INK RND*5+1;"E": NEXT f
 515 FOR n=1 TO 16 STEP 15
 520 FOR f=1 TO 12: LET x=8-8*COS (f/6*PI): LET y=
n+9+6*SIN (f/6*PI)
 530 PRINT AT x,y;"A";AT x+1,y;"D";AT x+2,y: INK R
ND*5+1:"E": NEXT f: NEXT n
1000 LET p=6: LET o=2: LET r=8
1010 RESTORE 1030: FOR f=1 TO 25: READ tu,ne: FOR
t=1 TO tu: BEEP .05,ne: NEXT t: FOR d=1 TO 10: NEX
T d: IF f=6 OR f=12 OR f=19 THEN  PAUSE 15
1020 NEXT f
1030 DATA q,0,q,0,p,2,p,0,p,5,r,4,q,0,q,0,p,2,p,0,
p,7,r,5,q,0,q,0,p,12,p,9,p,5,p,4,r,2,q,10,q,10,p,9
,p,5,p,7,r,5
1100 PRINT AT 21,0;"   100th  Edition  of  H.C.W.
  ": PAUSE 0: GO TO 20
```

Program 2 screen dump





Listing 2

```
  0>REM Birthdays By A.G.Bird.
  5 RANDOMIZE : GO SUB 9000
  8 BORDER 0: PAPER 0: INK 6: BRIGHT 1: CLS
 10 DIM p(36): DIM r(36)
 20 DIM c(33): DIM a(33)
 30 DIM n$(10,4)
 40 RESTORE 50: FOR f=1 TO 36: READ da,ta: LET p(
f)=da: LET r(f)=ta: NEXT f
 50 DATA 19,6,19,8,19,4,19,10,18,5,18,7,19,2,18,9
,17,6,18,3,19,12,18,11,17,10,19,0,18,1,17,8,16,7,1
7,2
 60 DATA 17,4,19,14,16,5,15,6,18,13,16,9,17,12,16
,3,15,4,16,11,15,8,14,5,14,7,15,10,14,9,13,6,13,8,
12,7
 70 RESTORE 80: FOR f=1 TO 20: READ da,ta: LET c(
f)=da: LET a(f)=ta: NEXT f
 80 DATA 13,23,14,26,14,21,12,21,12,26,15,24,15,1
8,15,29,12,24,15,27
 90 DATA 14,19,13,22,15,26,13,27,15,20,15,22,12,2
2,12,25,13,26,13,21,14,24,15,28,15,25,14,27,15,19,
15,23,14,25
 100 RESTORE 110: FOR f=1 TO 10: READ a$: LET n$(f
)=a$: NEXT f
 110 DATA "BOB","SUE","TOM","KEN","JILL","MARY","A
NDY","PETE","DAVE","MIKE"
 120 LET pr=INT (RND*27)+10
 130 LET ca=INT (RND*15)+6
 140 LET na=INT (RND*10)+1
 160 PRINT AT 6,6;"HAPPY BIRTHDAY ";n$(na)
 170 PRINT AT 10,0;"YOU ARE ABOUT TO BE SHOWN ";n$
(na);"'S"''"PRESENTS AND CAKE AND WILL THEN"''"BE
ASKED AN OBSERVATION QUESTION"
 180 FOR d=1 TO 900: NEXT d
 190 FOR f=10 TO 14: PRINT AT f,0;"
                ": NEXT f
 200 PLOT 130,46: DRAW 38,38: DRAW 48,0: DRAW 38,-
38: DRAW -124,0: DRAW 0,-32: DRAW 124,0: DRAW 0,32
 210 PRINT AT 17,21;"Happy";AT 18,20;"Birthday";AT
 19,22;n$(na)
 300 FOR f=1 TO pr: PRINT AT p(f),r(f); PAPER INT
(RND*3)+4: INK INT (RND*4);"B": NEXT f
 310 FOR f=1 TO ca: PRINT AT c(f),a(f); INK 5;"A":
 NEXT f
 320 FOR d=1 TO 900: NEXT d: CLS
 340 IF RND>.5 THEN  GO TO 400
 350 PRINT AT 9,0;"HOW MANY PRESENTS DID ";n$(na);
" HAVE?": INPUT an
 360 IF an=pr THEN  GO TO 500
 370 PRINT AT 15,13;"NO ";pr: BEEP 2,0: CLS
 400 PRINT AT 9,9;"HOW OLD IS ";n$(na);" ? ": INPU
T an
 410 IF an=ca THEN  GO TO 500
 420 PRINT AT 15,14;"NO ";ca: BEEP 1,0: RUN
 500 PRINT AT 15,13;"CORRECT": FOR f=30 TO 60: BEE
P .05,f: NEXT f: RUN
9000 RESTORE 9010: FOR g=USR "a" TO USR "b"+7: REA
D r: POKE g,r: NEXT g: RETURN
9010 DATA 0,24,24,24,24,24,24,0,24,24,24,255,255,2
4,24,24
```

Basically improving

HiSoft Pascal 4T Amstrad CPC464 £34.95

Amsoft, 169 Kings Rd, Brentwood, Essex

One for the Amstrad, to improve the capabilities of you and your micro

This implementation of Pascal is supplied on cassette and is accompanied by a handbook.

The book is primarily an insight into the features particular to this version of the language. Like most other computer languages there are numerous dialects and the handbook does not set out to teach you the language.

Separately available is the Tutorial Guide to HiSoft Pascal, devoted to teaching this version of Pascal.

Loaded by pressing ctrl/enter, the cassette writes the Pascal as a resident foreground RAM program.

From here on all access to the computer is throuugh the new language, until a reset is invoked or the computer is switched off, when BASIC is reinstated.

After being compiled and translated (both options at the press of a key), your complete program can be saved to cassette in machine code.

More excitingly, after returning to the BASIC start-up screen, the machine code program can be loaded with ctrl/enter. Your program is then RUN with all the speed and security of a professional program!

The Pascal language is decidedly more difficult to master than BASIC, especially for newcomers to computing. Nevertheless, experienced computer linguists will find Pascal an exciting and worthwhile addition, ideally suited to a wide range of applications.

Routines are defined as Functions and Procedures that are either user defined or predefined within the language, like READ and WRITE, the main Input and Output Procedures.

Herein lies the major strength of Pascal. Think of it as a vast extension to the BASIC command DEF, and the powerful composition of a Pascal program becomes apparent.

The program is built in blocks, each one able to access others which again can call further blocks. The main control program designates the sequence in which the other Functions and Procedures have to be accessed.

It follows therefore that programs have to be designed from the top down. With the main control part being written first, all the Functions and Procedures can be written later. This makes for comparatively simple program design.

Accompanying the Pascal language program is a HiSoft Turtle Graphics program on the same cassette.

The Turtle is loaded using ctr/enter whilst the Pascal program is resident. A short and ludicrously inadequate demonstration program is included. Removal of this demo releases space for the example listings to be typed into RAM. There is nothing to enthuse about here either.

With only a few command words to understand and a clear explanation of each in the handbook, writing worthwhile programs is the next step after mastering Pascal.

Incidentally a listing of the resident Turtle Procedures can be sent to either a the Monitor or to a Printer, where all will be revealed. An analysis of the numerous user calls is contained in The Complete Firmware Manual (Soft 158).

Experienced programmers looking for another language will find plenty of power in this pricey package. **D.H.**

instructions	90%
ease of use	100%
value for money	90%

★ ★ ★ ★ ★

It's a first!

To mark our 100th birthday, we're pleased to present our first ever MSX program. It's a sound editor by Colin Wilton-Davis, and there's full explanations, too

When I began playing with my new Sanyo MSX computer (MPC-100), one of the first things to impress me was the quality of sound which could be generated.

There are three MSX BASIC statements for generating sounds; BEEP, PLAY and SOUND. The first two are comparatively easy to use, but the SOUND statement is rather complex; so much so that the author of the Sanyo MSX-BASIC programming manual has made some mistakes in the section dealing with it.

If you key in the following program you will find it much easier to experiment with SOUND statements. When you have generated a sound you like, make a note of the values displayed on the screen for use later on in your own programs.

How it works

The sounds in MSX machines are generated by the AY-3-8912 PSG chip (PSG stands for Programmable Sound Generator). These sounds are controlled by entering numbers into the 14 registers of this chip, which are numbered from 0 to 13.

Lines **40** to **70** initialise the program by setting up two arrays; one of these holds the contents of the 14 registers; the other holds the maximum values for each register which affect the performance of the PSG.

Lines **80** to **130** display the current states of the registers and their functions on the screen.

Lines **140** to **210** are data statements specifying the maximum values to be entered into each register.

Line **230** generates the resulting sound.

Lines **260** to **360** accept keyboard input to allow you to repeat the sound or change the contents of any register and thus alter the sound.

Lines **370** to **500** are one-line subroutines to give a brief description of each register's function.

Variables

The array SM holds the maximum values which may be input to each register. You won't have to worry about these in your own programs; you can make SOUND statements puting 255 into each register without crashing the program, but numbers above the maxima merely repeat the effects of numbers below them.

The array SR holds the current values of the 14 PSG registers. When you run the program, these start at all zeroes, and surprise, surprise, no sounds come out. You must start the ball rolling!

The variable C is just used as a pointer to the register that is currently being changed.

```
10  ' Sound Editor
20  ' (c) C.C.Wilton-Davies
30  ' 13 Jan 1985
40  DIM SR(13),SM(13)
50  FOR C=0 TO 13
60  READ SM(C)
70  NEXT C
80  CLS
90  PRINT "Reg";TAB(5);"Max";TAB(10);"Contents"
100 FOR C=0 TO 13
110 PRINT C;TAB(5);SM(C);TAB(10);SR(C);
120 ON C+1 GOSUB 370,380,390,400,410,420,430,440,450,460,470,480,
    490,500
130 NEXT C:PRINT:PRINT"Sound"
140 DATA 255,15
150 DATA 255,15
160 DATA 255,15
170 DATA 31
180 DATA 63
190 DATA 16,16,16
200 DATA 255,255
210 DATA 15
220 ' make sound
230 FOR C=0 TO 13
240 SOUND C,SR(C)
250 NEXT C
260 PRINT "Key 'r' to repeat, 'c' to change"
270 K$=INKEY$:IF K$="" THEN 270
280 IF K$="r" OR K$="R" THEN 90
290 IF K$<>"c" AND K$<>"C" THEN 270
300 INPUT "Change Register No. ";C
310 IF C<0 OR C>13 THEN PRINT "NO!":GOTO 300
320 PRINT "Change Register ";C;" from ";SR(C)
330 INPUT "To ";X
340 IF X<0 OR X>SM(C) THEN PRINT "NO!":GOTO 320
350 SR(C)=X
360 GOTO 80
370 PRINT TAB(15);"Chan A Freq (fine)":RETURN
380 PRINT TAB(15);"Chan A Freq (coarse)":RETURN
390 PRINT TAB(15);"Chan B Freq (fine)":RETURN
400 PRINT TAB(15);"Chan B Freq (coarse)":RETURN
410 PRINT TAB(15);"Chan C Freq (fine)":RETURN
```

Using the program

The sounds produced by the MSX machines come out of your TV set, so don't forget to turn the volume up above zero (but not too far!) before you wonder why nothing is happening. Before you start the program (or any other new program) by keying RUN, you should save it on cassette by keying CSAVE 'edson', switching the recorder to 'Record' and pressing the ENTER key on the MSX.

Now key RUN and press the ENTER key; on the Sanyo MPC-100 you can just press the F5 key to do this. The screen should display a table of information about the PSG register contents, but you won't hear anything until you alter some of the registers.

I'll leave register 7 until next to last, otherwise we can look at them in numerical order. The first three pairs (0 to 5) control frequencies on the three channels A, B and C — yes, you can produce three-note chords if you like. The second of each pair gives coarse control of frequency, the first gives fine control. Low numbers in these registers give high notes, and vice versa.

Register 6 does the same thing for the white noise generator. Registers 8 to 10 control volumes on the three output channels; high numbers give high volumes, with a number of 16 giving control of volume to the envelope registers. Registers 11 and 12 are fine and coarse controls for the timing of one 'envelope cycle' with high numbers giving long times (slow). Register 13 selects the shape of the 'envelope', which is just the way the volume varies with time — see the diagram.

Register 7 is a switching register which controls all your outputs; perhaps strangely, when a bit is set (1), it switches OFF and vice versa. In this program, the initial state is zero, so everything is ON. The Least Significant Bit (Bit 0) controls tone output to channel A, so to switch OFF the tone output on channel A, add 1 to the contents of this register.

I'll leave register 7 until next to last, otherwise we can look at them in numerical order. The first three pairs (0 to 5) control frequencies on the three channels

```
420  PRINT TAB(15);"Chan C Freq (coarse)":RETURN
430  PRINT TAB(15);"Noise Freq":RETURN
440  PRINT TAB(15);"Select Noise/tone Chan":RETURN
450  PRINT TAB(15);"Chan A Vol":RETURN
460  PRINT TAB(15);"Chan B Vol":RETURN
470  PRINT TAB(15);"Chan C Vol":RETURN
480  PRINT TAB(15);"Env.Period (fine)":RETURN
490  PRINT TAB(15);"Env.Period (coarse)":RETURN
500  PRINT TAB(15);"Env.Shape":RETURN
```

A, B and C — yes, you can produce three-note chords if you like. The second of each pair gives coarse control of frequency, the first gives fine control. Low numbers in these registers give high notes, and vice versa.

Register 6 does the same thing on the three output channels; high numbers give high volumes, with a number of 16 giving control of volume to the envelope registers. Registers 11 and 12 are fine and coarse controls for the timing of one 'envelope cycle' with high numbers giving long times (slow). Register 13 selects the shape of the 'envelope', which is just the way the volume varies with time — see the diagram.

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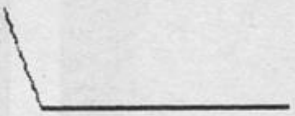
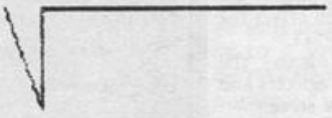
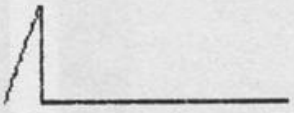
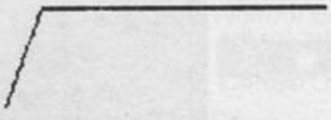
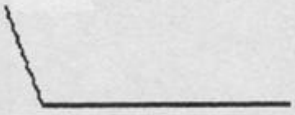
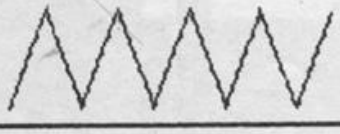
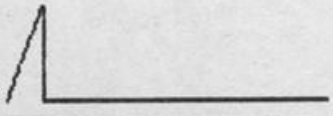
Next up, Bit 1 controls tone out on channel B, and Bit 2 controls tone out on channel C. Bits 3 to 5 control white noise out on channels A, B and C. You can do interesting things in your programs by setting up different sounds on each channel, then switching them on and off independently with this register 7. Adding 16 to the register contents switches off white noise on channel B (*if* it was on!). To switch off white noise altogether, set register 7 to 56.

Now let's make some noises. Chane R8 (short for register 8) to 4 and R1 to 4. Result is a buzzing. Now change R7 to 56, switching off the white noise, and a tone takes it's place. Change R7 to 63 and silence; back to 56 and the tone reappears. Now change R3 to 2 and R9 to 8; this superimposes a louder, higher tone on your existing lower tone. You must be getting the hang of this now, so play around. Just a few interesting combinations to start you off (unmentioned registers to zero).

R1=1, R7=56, R8=16, R12=1 and R13=14. Now play with R12 and 13 to familiarise yourself with the different envelopes. R6=31, R7=55, R8=16, R12=4 and R13=8 gives a steam train in a hurry; now change R7 to 53, R9 to 12 and R2 to 200 to make the whistle blow. Varying R7 between 55 and 53 switches the whistle on and off without stopping the engine noise. Varying R12 will make the train change speed. I'm sure your imagination will take you on from here. Once you have built up a library of these simple sound combinations, incorporate some of them in a program which changes pitch for even more MSX sounds.

MSX SOUND Envelope Control (Register 13)

Data	Envelope Shape	Data	Envelope Shape
0 to 3		11	
4 to 7		12	
8		13	
9		14	
10		15	

The Metron Audio speech synthesiser has proved remarkably easy to use. HCW editor Dave Carlos tells you what it does and what he thinks of it

Throw your voice

Speech Synthesiser 32K BBC £37

7 Delilah Rd, Hamworthy, Poole, Dorset BH15 4NR

The synthesis of speech is a fascinating area for the home computer user to explore. The BBC machine was always designed to have the possibility of speech output and therefore provision was made on the main board for the chips which are required. Acorn's own speech system has, by far, the best quality of speech that I have heard. The problem is that this system has only a limited number of words and to get any more you have to resort to machine code.

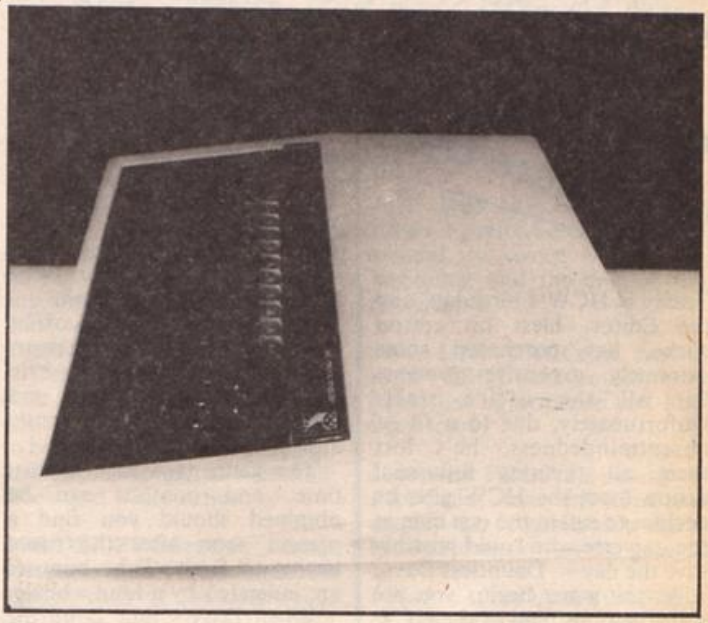
This system doesn't suffer from any of these problems and like the Currah unit, which it resembles outwardly, it uses allophones to create speech. These allophones are the actual sounds we use to make up our words and there is a separate allophone for each of these speech components, so there is one for the 'a' in 'hay' and another for the 'a' in 'act'. By combining these you should be able to make the machine say anything you want.

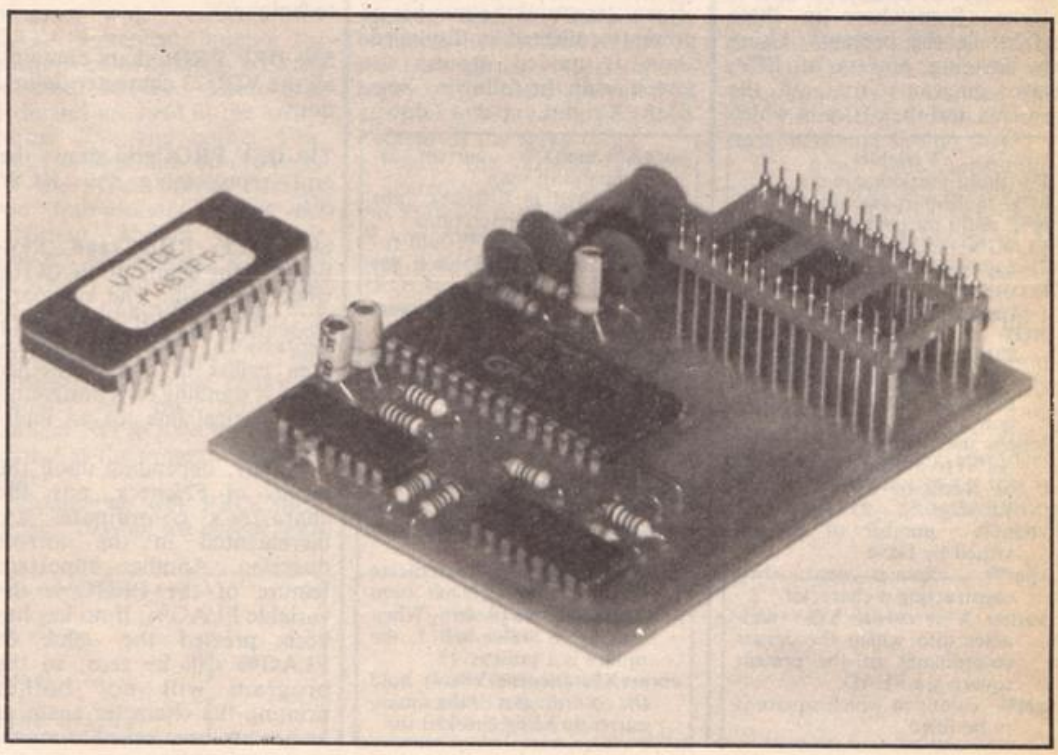
What is different about this product is its simplicity of use. There are just two components to be fitted to the BBC itself: a chip in the sideways ROM socket and the synthesiser circuit on the BBC's main board. The manual contains very simple instructions which make fitting a two-minute task. In the ROM there are the driver routines which make it so simple to use. Typing *SAY -0 and the speech flows on. One item that isn't in the manual is how to make it shut up if the program is stopped by pressing ESCAPE. You type *SAY -0 again and that does the trick.

The rest of the space in the 8K ROM is used to give the synthesiser a large whole word vocabulary. This means that it can say more words than the Acorn but still retains the flexibility of the Currah unit. There are about 700 words in the ROM and most are very clear and easy to understand. Each word can also be given a pitch setting and this means that you can have a high voice or a lower one. We found that setting 2 was the clearest but the others were quite acceptable too.

Overall this unit is well designed, simple and easy to use. The eight-page manual is good but could have been better designed; I found myself searching all over for the information I needed. It is a little overpriced when compared with the Currah unit but much simpler and easier to use so this might be justified.

D.C.





Track the bi tre

Turn the office upside down to find the mislaid birthday presents. The star of this game by Jon Revis is Dauntless Dave — and he's not got long to locate these missing gifts!

Today is HCW's birthday, and the Editor, bless his cotton socks, has purchased some extremely expensive presents for all the office staff. Unfortunately, due to a fit of absentmindedness, he's lost them all. Fearing industrial action from the HCW girls he decides to call in the one man in the universe who could possibly save the day — Dauntless Dave.

As the game begins you are shown a floor plan of the HCW offices. Somewhere in these offices lie the presents. Using his amazing powers of ESP, Dave pinpoints one of the presents and the office in which it is hidden begins to flash.

Moving swiftly to the office Dave, complete with scissors and sellotape, takes a look in each of the four corners, and then the present miraculously appears.

The game is a race against time, and bonuses can be obtained should you find a present soon after the room begins to flash. Time bonuses are indicated by a loud whistle.

When Dave's time is up the screen clears and the number of presents collected is displayed. Dave is guided around the screen using the following keys: **Z** left; **X** right; **:** up and **/** down.

Variables

I% multi-purpose counter
M% multi-purpose counter
N% multi-purpose counter
FLAG% indicates whether a key has been pressed
G used with GET to check for space bar
NOW used in conjunction with TIME to determine length of time taken to collect a present; for awarding a bonus
base% used with the offset value (sq%) to indicate the number of items of DATA to be READ
count% number of corners visited by Dave
char% counter used when constructing a character
corner X%, corner Y% variables into which the corner co-ordinates of the present square are READ
col% colour in which square is to be filled
manX%,manY% current co-ordinates of man
man% used in FNcheck_pos to find grid intersections
oldmanX%,oldmanY% old co-ordinates of man, used for wiping the old image
present% number of presents collected
square% flag which indicates whether a flashing square is present upon the grid
a$ temporary string
bow$ holds the character for the bow
man$ holds the character Dave
C%(4) array used to signal whether a corner has been visited by Dave
SQ(16) array used to indicate whether an office has been changed into a present. When holding a value of 1 the square is a present
cornerX%(4),cornerY%(4) hold the co-ordinates of the square currently being checked for

Procedures and functions

330 DEF PROCcharacters repeatedly calls PROCdefine_character(Z%) specifying the number of items of DATA to be READ. Finally it assigns the characters created to their correct variable names.

400 DEF PROCdefine_character(Z%) creates the multi-coloured user defined characters using a string concatenation technique.

530 DEF PROCchars contains all the VDU23 character definitions.

730 DEF PROCgrid draws the grid representing the HCW offices.

880 DEF PROCread_keyboard is the engine room of the whole program. The keyboard is scanned for any key depressions. FNcheck_pos is then called to check whether Dave is standing on a horizontal line, vertical line, or an intersection.

Finally, depending upon the results of FNcheck_pos, the character's co-ordinates are incremented in the correct direction. Another important feature of the PROC is the variable FLAG%; if no key has been pressed the value of FLAG% will be zero, so the program will not bother printing the character again as he has not been asked to move.

1020 DEF PROCprint_man when using exclusive OR printing as we are doing in this case, one can erase the old image of a character by printing the same character on top of itself. This is much less destructive than using the old wipe string technique, where the old image of the character is erased using a square character of the same colour as the background.

To use this technique for Dauntless Dave it would be necessary to re-draw the grid each time the character Dave was moved. This is because the wipe character would erase both Dave and the lines of the grid over which he was moving.

Dave is reprinted at the co-ordinates manX%,manY%. These values are then passed to oldmanX% and oldmanY% for use the next time around.

1100 DEF PROCinit here we dimension all the arrays to be used, and also set all the variables to their initial values.

1270 DEF FNcheck_pos(man%) is the part which ensures that Dave walks around the walls only and doesn't go tearing across the middle of an office. To make the calculations easier, the grid around which he moves is drawn along co-

down rthday ats

ordinates of whole hundreds, e.g. the vertical lines are drawn at 100,300,500,700,900 respectively.

Dave is therefore only allowed to move vertically if his manY% co-ordinate corresponds to one of these numbers. FNcheck_pos ensures that Dave is stood at a co-ordinate which is a whole hundred, and also that it is an odd whole hundred before allowing him to travel vertically.

The odd whole hundred part is important, otherwise he could walk up the middle of an office as they are 200 screen co-ordinates wide.

FNcheck_pos also does this for the horizontal co-ordinates — what a busy little FN it is. Should all the conditions be fulfilled, the FN returns a value of TRUE and Dave's co-ordinates are incremented in the correct direction.

1310 DEF PROCselect_square chooses a random number between 1 and 16 and checks whether that particular square has been used before. This is done by examining the array SQ(N%). If an element contains a zero, then that particular square has not been used before. Having chosen a blank square, the number of this square is passed to the PROCsquare_coords.

1400 DEF PROCsquare_coords using the value passed from PROCselect_square, we RESTORE to the line of the program which contains the DATA statement holding the corner co-ordinates of the selected square. These co-ordinates are held in the arrays corner X% and corner Y%, only holding the co-ordinates for the office that is flashing two four-element arrays are sufficient. Should we decide that the co-ordinates would all be READ into one large array at the beginning of the program, we would need two 64-element arrays. This represents one huge chunk of memory and may cause the familiar NO ROOM message to appear as the program becomes larger.

Finally we call PROCfill_square, passing the colour with which it is to be filled at the same time.

1510 DEF PROCfill_square (col%) the main task of this procedure is to fill the square selected in the correct foreground colour. The colour variable col% performs two tasks in this procedure: it's main one is determining the colour of the square, but it also indicates to the PROC whether the square has been changed into a present or not.

If it is called with a col% value of 8 then it is a flashing black and white room, if it is called with a col% value of anything else, then the square is filled with cyan and a bow is printed in the middle.

The flag variable square% is reset to zero at this point, allowing PROCselect_square to be called from the main loop, and setting up another flashing black and white office.

1640 DEF PROCcheck_corner compares manX% and manY% against each of the corner co-ordinates of the flashing square. Should Dave's co-ordinates be identical to any of the four corners, then this is registered by placing a value of 1 into the corresponding element of the array C%.

Finally the variable count% is incremented by one. When this variable reaches four, each of the four corners will have been visited and we can call PROCfill_square with a value other than eight.

The TIME at which count% reaches a value of four is used in conjunction with the value of TIME when the square was first selected in PROCselect_square (NOW), to ascertain whether or not you checked all four corners of the flashing square fast enough to be awarded a time bonus. Having drawn the present with PROCfill_square we can now increase our tally of presents by one.

1370 DEF PROCbackground draws a pretty border of Daves around the screen at both the beginning and the end of the program.

1870 DEF PROCend having used PROCbackground, we insert the appropriate text and your score.

2040 DEF PROCtitle similar to PROCend, but this time we display the program title and a brief explanation of the game.

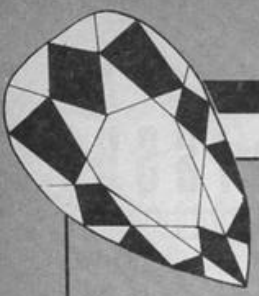
I tried to speed up the execution of the program by replacing many of the variables by resident integer variables. However, the increase in speed was so minimal that I decided that the more informative long variable names should stay.

The most time consuming part of the program is probably the drawing of Dave, as he is a 2 x 2 character consisting of 12 superimposed characters, and requires the manipulation of 47 items of DATA each time he is drawn on screen.

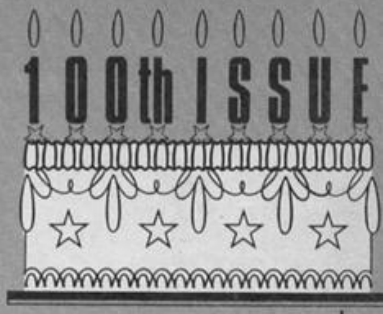
I doubt whether the programmers at Acornsoft will be quaking in their boots when they see Dauntless Dave, but I hope the techniques employed may be of some use to you in your future programming ventures.

```
10 REM*********************************
20 REM*                               *
30 REM*        Dauntless Dave         *
40 REM*             by                *
50 REM*          Jon Revis            *
60 REM*             for               *
70 REM*   Home Computing Weekly       *
```

```
80 REM*                               *
90 REM*********************************
100 MODE 2
110 VDU5
120 GCOL0,135
130 CLS
140 PROCinit
```

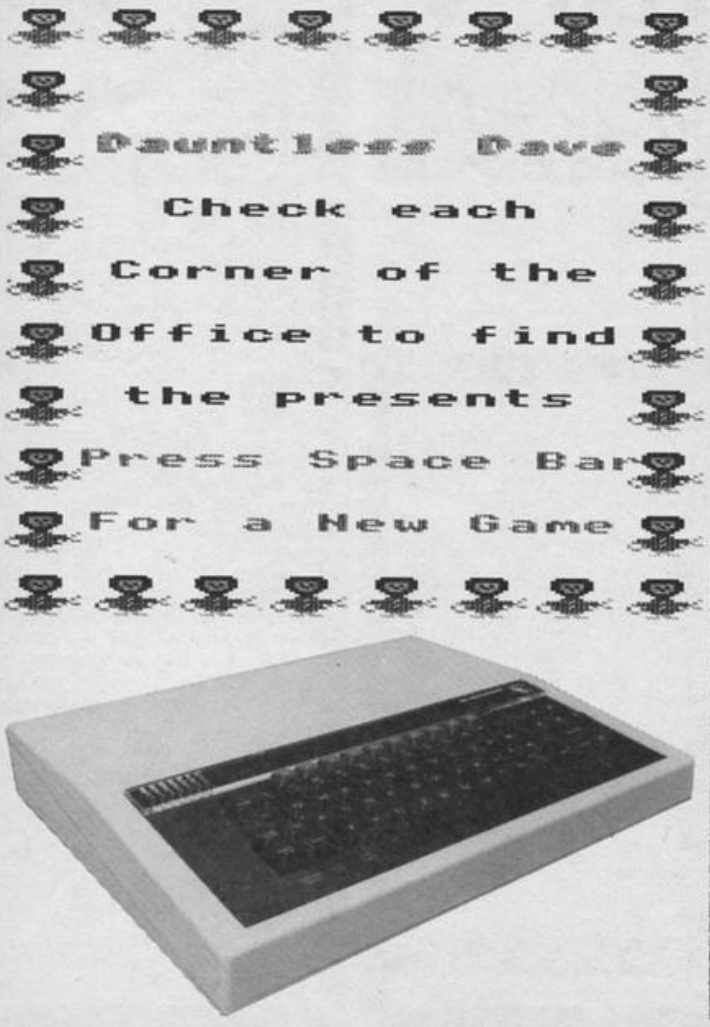


```
  150 PROCchars
  160 PROCcharacters
  170 PROCtitle
  180 PROCgrid
  190 MOVE100,100:PRINTman$
  200 TIME=0
  210 REPEAT
  220 PROCread_keyboard
  230 IF square%=0 THEN PROCselect_square
  240 UNTIL TIME>5500
  250 SOUND0,1,50,50
  260 NOW=TIME
  270 REPEAT
  280 UNTIL TIME-NOW>200
  290 PROCend
  300 END
  310
  320
  330 DEF PROCcharacters
  340 RESTORE 490
  350 PROCdefine_character(46):man$=a$
  360 PROCdefine_character(14):bow$=a$
  370 ENDPROC
  380
  390
  400 DEF PROCdefine_character(Z%)
  410 a$=""
  420 FOR N%=0 TO Z%
  430 READ char%
  440 a$=a$+CHR$(char%)
  450 NEXT
  460 ENDPROC
  470
  480
  490 DATA18,3,7,224,8,228,8,18,3,2,232,234,8,18,3
,7,226,8,230,8,8,10,18,3,3,233,8,18,3,6,225,8,18,3
,5,229,231,8,18,3,6,227,8,18,3,3,235
  500 DATA18,3,5,236,8,18,3,7,237,239,8,18,3,5,238
  510
  520
  530 DEF PROCchars
  540  VDU 23,224,15,31,24,24,24,12,7,3
  550  VDU 23,225,0,0,64,144,144,96,0,0
  560  VDU 23,226,224,240,48,48,48,96,192,128
  570  VDU 23,227,1,2,4,11,16,0,0,0
  580  VDU 23,228,0,0,0,2,1,0,0,0
  590  VDU 23,229,0,1,0,1,0,0,3,14
  600  VDU 23,230,0,0,0,128,0,0,0,0
  610  VDU 23,231,0,0,0,0,0,0,128,224
  620  VDU 23,232,0,0,7,5,6,3,0,0
  630  VDU 23,233,7,62,63,14,15,7,0,0
  640  VDU 23,234,0,0,192,64,192,128,0,0
  650  VDU 23,235,192,248,248,224,224,192,0,0
  660 VDU23,236,192,224,240,252,252,240,224,192
  670 VDU23,237,0,0,3,3,3,3,0,0
  680 VDU23,238,3,7,15,63,63,15,7,3
  690 VDU23,239,0,0,192,192,192,192,0,0
  700 ENDPROC
  710
  720
  730 DEF PROCgrid
  740 GCOL3,6
  750 MOVE160,60
  760 FOR N%=60 TO 860 STEP 200
  770 MOVE160,N%
  780 DRAW960,N%
  790 NEXT
  800 MOVE160,60
  810 FOR N%=160 TO 960 STEP 200
  820 MOVEN%,60
  830 DRAWN%,860
  840 NEXT
  850 ENDPROC
  860
  870
  880 DEF PROCread_keyboard
  890 FLAG%=0
  900 IF INKEY(-98) AND FNcheck_pos(manY%) THEN ma
nX%=manX%-25:FLAG%=1
  910 IF manX%<100 THEN manX%=100
  920  IF INKEY(-67) AND FNcheck_pos(manY%) THEN m
anX%=manX%+25:FLAG%=1
  930 IF manX%>900 THEN manX%=900
  940 IF INKEY(-105) AND FNcheck_pos(manX%) THEN m
anY%=manY%-20:FLAG%=1
  950 IF manY%<100 THEN manY%=100
  960 IF INKEY(-73) AND FNcheck_pos(manX%) THEN ma
nY%=manY%+20:FLAG%=1
  970 IF manY%>900 THEN manY%=900
  980 IF FLAG%=1 THEN PROCcheck_corner:PROCprint_m
an
  990 ENDPROC
 1000
 1010
 1020 DEF PROCprint_man
 1030 MOVEoldmanX%,oldmanY%:PRINTman$
 1040 MOVEmanX%,manY%:PRINTman$
 1050 oldmanX%=manX%
 1060 oldmanY%=manY%
 1070 ENDPROC
 1080
 1090
 1100 DEF PROCinit
 1110 DIM SQ(16),cornerX%(4),cornerY%(4),C%(4)
 1120 square%=0
 1130 base%=3000
 1140 count%=0
 1150 present%=0
 1160 manX%=100:manY%=100
 1170 oldmanX%=manX%:oldmanY%=manY%
 1180 ENVELOPE1,2,127,-1,-2,1,50,50,100,0,-2,-2,12
7,80
 1190 FOR N%=1 TO 16
 1200 SQ(N%)=0
 1210 NEXT
 1220 *FX9,2
 1230 *FX10,2
 1240 ENDPROC
 1250
 1260
 1270 DEF FNcheck_pos(man%)
 1280 IF man%/100=INT(man%/100) AND man%/200<>INT(
man%/200) THEN=TRUE ELSE=FALSE
 1290
 1300
 1310 DEF PROCselect_square
 1320 NOW=TIME
 1330 REPEAT
 1340 M%=RND(15)+1
 1350 UNTIL SQ(M%)<>1
 1360 PROCsquare_coords(M%)
 1370 ENDPROC
 1380
 1390
 1400 DEF PROCsquare_coords(sq%)
 1410 RESTORE base%+sq%
 1420 FOR N%=1 TO 4
 1430 READ cornerX%:cornerX%(N%)=cornerX%*100
 1440 READ cornerY%:cornerY%(N%)=cornerY%*100
 1450 C%(N%)=0
 1460 NEXT
 1470 PROCfill_square(8)
 1480 ENDPROC
 1490
 1500
 1510 DEF PROCfill_square(col%)
 1520 GCOL3,col%
 1530 MOVEcornerX%(1)+68,cornerY%(1)-43
 1540 MOVEcornerX%(2)+55,cornerY%(2)-43
 1550 PLOT85,cornerX%(4)+68,cornerY%(4)-35
 1560 PLOT85,cornerX%(3)+55,cornerY%(3)-35
 1570 MOVEcornerX%(2)+55,cornerY%(2)-43
 1580 DRAWcornerX%(4)+68,cornerY%(4)-35
 1590 IF col%<>8 THEN MOVEcornerX%(1)+105,cornerY%
(1)-130:PRINTbow$
 1600 IF col%=8 THEN square%=1 ELSE square%=0:coun
t%=0
 1610 ENDPROC
 1620
 1630
 1640 DEF PROCcheck_corner
 1650 FOR I%=1 TO 4
 1660 IF manX%=cornerX%(I%) AND manY%=cornerY%(I%)
 AND C%(I%)=0 THEN count%=count%+1:C%(I%)=1
 1670 NEXT
 1680 IF count%=4 AND TIME-NOW<1100 THEN TIME=TIME
-750:SOUND1,1,100,2
 1690 IF count%=4 THEN PROCfill_square(41):SQ(M%)=
1:present%=present%+1
 1700 ENDPROC
```

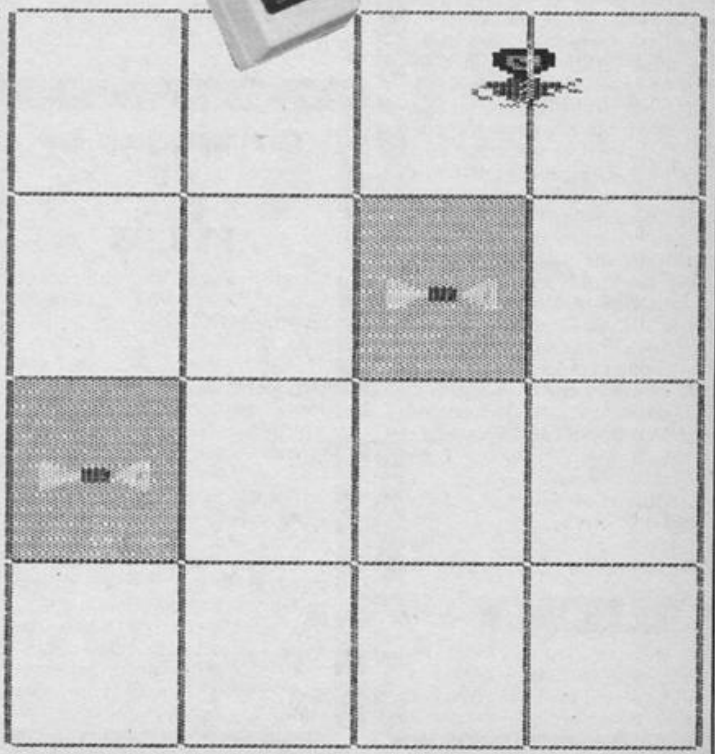



```
1710
1720
1730 DEF PROCbackground
1740 CLS
1750 FOR N%=50 TO 1200 STEP 150
1760 MOVEN%,1000:PRINTman$
1770 NEXT
1780 FOR N%=900 TO 150 STEP -100
1790 MOVE50,N%:PRINTman$:MOVE1100,N%:PRINTman$
1800 NEXT
1810 FOR N%=50 TO 1200 STEP 150
1820 MOVEN%,100:PRINTman$
1830 NEXT
1840 ENDPROC
1850
1860
1870 DEF PROCend
1880 *FX15,0
1890 *FX9,10
1900 *FX10,10
1910 PROCbackground
1920 GCOL0,1:MOVE220,800:PRINT"You Collected"
1930 GCOL0,11:MOVE600,700:PRINT;present%
1940 GCOL0,1:MOVE400,600:PRINT"Presents"
1950 GCOL0,0:MOVE170,400:PRINT"Press Space Bar"
1960 MOVE190,300:PRINT"For a New Game"
1970 REPEAT
1980 G=GET
1990 UNTIL G=32
2000 RUN
2010 ENDPROC
2020
2030
2040 DEF PROCtitle
2050 PROCbackground
2060 GCOL0,1:MOVE195,800:PRINT"Dauntless Dave"
2070 GCOL0,2:MOVE205,805:PRINT"Dauntless Dave"
2080 GCOL0,0:MOVE310,700:PRINT"Check each"
2090 MOVE220,600:PRINT"Corner of the"
```

```
2100 MOVE190,500:PRINT"Office to find"
2110 MOVE240,400:PRINT"the presents"
2120 GCOL0,1:MOVE170,300:PRINT"Press Space Bar"
2130 MOVE190,200:PRINT"For a New Game"
2140 SOUND0,1,10,75
2150 REPEAT
2160 G=GET
2170 UNTIL G=32
2180 CLS
2190 ENDPROC
2200
2210
3000 REM*** Corner Coordinates ***
3001 DATA1,9,3,9,3,7,1,7
3002 DATA3,9,5,9,5,7,3,7
3003 DATA5,9,7,9,7,7,5,7
3004 DATA7,9,9,9,9,7,7,7
3005 DATA1,7,3,7,3,5,1,5
3006 DATA3,7,5,7,5,5,3,5
3007 DATA5,7,7,7,7,5,5,5
3008 DATA7,7,9,7,9,5,7,5
3009 DATA1,5,3,5,3,3,1,3
3010 DATA3,5,5,5,5,3,3,3
3011 DATA5,5,7,5,7,3,5,3
3012 DATA7,5,9,5,9,3,7,3
3013 DATA1,3,3,3,3,1,1,1
3014 DATA3,3,5,3,5,1,3,1
3015 DATA5,3,7,3,7,1,5,1
3016 DATA7,3,9,3,9,1,7,1
```



Screen dump



Mix and match

Here's an assortment for you to browse through. The experts have assessed them all

The Jewel of Power
48K Spectrum
£7.50

Slogger, 215 Beacon Rd, Chatham, Kent

I slogged my way through the house, collected lamp, matches, food, flask, note, key, fragment of wand and had the game-quest explained in the cellar, opened the front door, walked through the deserted village to the Parkland Crossroad and... nothing.

I couldn't go NE to the Woodland Barrier. I tried NW and ended up in the maze, dead. I then reLOADed to restart this BASIC adventure to recover the priceless jewel and the fragments of smashed magic wand. You haunted castles, forests and deserts in the 120 locations and answer puzzles and problems using a vocabulary of 700 words.

Accompanying the cassette are fourteen A4 pages of instructions that are the fullest and easiest to understand that I have ever seen. A simple tutorial explains communication and Play Test explains moves to follow to complete the task. Each of the eight areas is described in full, with clues to answer problems set, and in map form.

The colourful scenes are well-drawn, movement and acceptance of instructions is speedy and the adventure is quite addictive. **T.W.**

instructions	80%
playability	70%
graphics	65%
value for money	60%

★ ★ ★

Jester
TI-994A
£7.95

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

I had great difficulty in loading this program due to the inordinate amount of tape flutter. I hope this defect is confined to the review copy.

The object is to escape from the castle of the evil Prince Mayvar. You, Jester, must guide yourself from left to right across each screen, avoiding numerous hazards. These include rocks thrown by the prince, arrows fired by the guards, and the guards themselves. There are gaps in the battlements to be crossed by hitching a lift on a balloon.

Your score is shown on screen, and there is a bonus value which reduces as the game proceeds. As this bonus is added on completion of a screen, the faster you reach the end of the screen, the higher your bonus.

Documentation is adequate, and the cassette inlay contains some loading instructions. Some screen text is multi-coloured due to poor colour control, and although you have four lives, there are in effect only three.

This is probably best suited to the younger player as it lacks the sophistication which older players demand.

This needs Extended BASIC and joysticks. **P.B.**

instructions	75%
playability	75%
graphics	80%
value for money	60%

★ ★ ★

Kamikaze
TI-99/4A
£6

Stainless, 10 Alstone Rd, Stockport, Cheshire

Watch out — the aliens are on the attack again, and these are the worst kind — kamikaze aliens. They descend from the skies in UFOs, to crash into your city, unless you have the skill and reflexes to stop them.

The screen shows a profile of your city, plus the current score, high score and status. The aliens come down from the top, the number, formation and speed of which depends on which screen you are playing and the skill level employed. Using your joystick, you must position the sights of your laser on the alien craft. A quick flick of the fire button and he will be blasted from the air, but if you miss he will crash into your city. The game ends when ten of the aliens have penetrated your defences.

Invaders from outer space is hardly the most original theme, but if you still have the appetite for this then you'll find it fun. Personally speaking, I'm rather tired of zipping and zapping in this hostile manner. Surely there must be something more peaceful and serene to do? This needs Extended BASIC and a joystick. **J.W.**

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

★ ★ ★ ★

Dungeons of Ba
C64
£12.95

Quicksilva, Palmerston Park Hse, 13 Palmerston Rd, Southampton SO1 1LL

This is described as a real time interactive film — a grand name for a graphic adventure game. You guide Norman the warrior through subterranean caverns to find the Ba stone.

The use of a disc allows much more data to be provided than is possible with a cassette game, but the drawback is the lengthy delays while the notoriously slow disc drive chunters away. Every time you die the first stage of the game has to be reloaded.

You wander along passages and through rooms, probing walls at regular intervals to discover secret rooms, and trying to avoid the guards, spider-like monsters and other hazards. Movement is controlled by joystick, but you can use the function keys to select four different modes: shield mode — where arrows don't inflict harm, arrow mode — to despatch armaments, fight mode, and take mode — for picking up objects.

It's quite challenging and should take a while to complete, but doesn't live up to the extravagant claims on the packaging. This game needs a disc drive. **M.N.**

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

★ ★ ★ ★

Titan
BBC B
£10

TDS, Richmond House, 1b Sydenham Rd, Cotham, Bristol BS6 5SH

Titan is a utility mainly for the machine code programmer, and offers full monitor and debugging facilities.

The utility works by setting up 'windows' which correspond to addresses in memory, and also displaying the contents of the registers at each point. There are a variety of commands enabling the user to alter the 'Field Pointer' to the various windows, to move and alter memory blocks, and to alter or read individual locations.

There are arithmetic routines to calculate combinations of location values, and a complete hexadecimal and ASCII dump facility. Most of the facilities seem standard, but several have interesting functions. The machine-code relocation routine alters code to run at the new address, and a single-stepping graphics mode is provided, which is invaluable. Also in the package is a complete intelligent disassembler which can distinguish between data and code.

This has bad points, but it does offer a range of useful functions. Anyone needing a utility of this kind will be unlikely to do better. **D.A.**

instructions	80%
ease of use	69%
display	55%
value for money	75%

★ ★ ★ ★

Mad dogs

Mad dogs are among the rabid animals on the rampage in France. Can you survive the journey to Paris in Nicholas Rust's original game?

This game is based on a novel idea. You find yourself in Toulouse, in the south of France, and you must journey north to reach Paris. You have one very big problem: many of the animals that you meet in the countryside are infected with the killer disease, rabies.

You have no way of knowing which animals are dangerous so you must decide when you can take risks. At the start of the game you have two vaccines which last for only one encounter with an animal so they are really only to be used in dire emergencies.

To reach Paris you must travel 20 roads north, so if you have to travel south this will make the trip longer and more risky.

When you meet an animal you have three options. You can run — but most of the animals are faster than you. You can vaccinate yourself — but this only lasts for one encounter. You can kill the animal by shooting it — if you miss you will have to make yourself scarce pretty quickly!

How it works

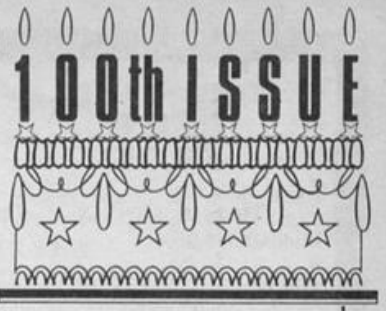
10-200 set up arrays
210-340 set up screen display
1000-1020 routine for north road selection
1200-1220 routine for south road selection
1400-1440 routine for farmyard selection
1600-1650 routine for meadow selection
1800-1850 routine for wood selection
2000-2050 routine for river-bank selection
2500-2540 routine for finding bonus equipment
2600-2630 routine for use of vaccine
2700-2730 routine for firing shot
3000-3070 routine for player running
3300-3340 routine to tell player when no vaccine or bullets
4000-4090 routine to show position
5000-5045 routine for player becoming rabid
6000-6030 routine for reaching Paris
7000-7120 routine for instructions on meeting animal
8000-8060 play again?
9100-0150 ask player's name
9200-9250 variables

Variables

L roads progressed from start
N FOR-NEXT loops
A$ dimensioned string containing destinations
B$ dimensioned string containing bonus instructions
C$ dimensioned string containing names of animals
BULL number of bullets left
VACC number of vaccines left
O$ player's name
S$ string containing 32 spaces
F,G,H,R,T,Y,YY,ZZ random numbers

```
  0 REM MAD FRANCE (C) N.RUST
  2 GOSUB 9000
  3 CLS
 10 DIM A$(5,10)
 20 DIM B$(6,10)
 30 DIM C$(6,10)
 35 LET A$(1)="ROAD NORTH"
 40 LET A$(2)="ROAD SOUTH"
 50 LET A$(3)="FARMYARD"
 60 LET A$(4)="MEADOW"
 70 LET A$(5)="WOOD"
 80 LET A$(6)="RIVERBANK"
 90 LET B$(1)="1 BULLET"
100 LET B$(2)="1 BULLET"
110 LET B$(3)="2 BULLETS"
120 LET B$(4)="1 VACCINE"
130 LET B$(5)="2 VACCINES"
140 LET B$(6)="1 VACCINE"
150 LET C$(1)="GREYHOUND"
160 LET C$(2)="DOG"
170 LET C$(3)="CAT"
180 LET C$(4)="FOX"
190 LET C$(5)="WOLF"
200 LET C$(6)="SHEEPDOG"
210 FOR N=1 TO 50
211 NEXT N
213 CLS
214 LET F=INT (RND*6)+1
220 LET G=INT (RND*6)+1
230 LET H=INT (RND*6)+1
240 PRINT AT 1,0;"
"
245 PRINT "
"
250 PRINT A$(F);"";A$(G);"";A$(H)
255 PRINT "
"
260 PRINT "  LEFT  FORWARD  RIGHT  "
270 PRINT AT 7,0;"WHAT DIRECTION (S FOR STATUS)"
280 IF INKEY$="" THEN GOTO 280
290 LET Z$=INKEY$
300 IF Z$="L" THEN GOTO ((F-1)*200)+1000
310 IF Z$="F" THEN GOTO ((G-1)*200)+1000
320 IF Z$="R" THEN GOTO ((H-1)*200)+1000
330 IF Z$="S" THEN GOTO 4000
340 GOTO 290
350 IF L=20 THEN GOTO 6000
360 GOTO 210
1000 REM ROAD NORTH
1010 LET L=L+1
1020 GOTO 350
1200 REM ROAD SOUTH
1210 LET L=L-1
1220 GOTO 350
1400 REM FARMYARD
1410 PRINT AT 7,0;S$
1420 PRINT AT 7,0;"YOU ARE IN THE FARMYARD."
1425 LET R=RND
1430 IF R<.8 THEN GOSUB 7000
1435 IF R>=.8 THEN PRINT AT 8,0;"IT'S ABANDONED,";D$
1437 IF RND>.7 THEN GOSUB 2500
1438 FOR N=1 TO 25
1439 NEXT N
```

```
1440 GOTO 350
1500 REM MEADOW
1510 PRINT AT 7,0;S$;AT 7,0;"YOU
 ARE ON A MEADOW."
1520 LET R=RND
1530 IF R<.4 THEN GOSUB 7000
1540 IF R>=.4 THEN PRINT AT 8,0;
"THERE ARE NO ANIMALS HERE,";TAB
 8;D$
1545 IF RND>.7 THEN GOSUB 2500
1547 FOR N=1 TO 25
1548 NEXT N
1550 GOTO 350
1600 REM WOOD
1610 PRINT AT 7,0;S$;AT 7,0;"YOU
 ARE IN A WOOD."
1620 LET R=RND
1630 IF R<=.3 THEN GOSUB 7000
1640 IF R>.3 THEN PRINT AT 8,0;"
THERE ARE NO ANIMALS HERE,";TAB
8;D$
1645 IF RND>.7 THEN GOSUB 2500
1647 FOR N=1 TO 25
1648 NEXT N
1650 GOTO 350
2000 REM RIVERBANK
2010 PRINT AT 7,0;S$;AT 7,0;"YOU
 ARE ON A RIVERBANK."
2020 LET R=RND
2030 IF R<.5 THEN GOSUB 7000
2040 IF R>=.5 THEN PRINT AT 8,0;
"THERE ARE NO ANIMALS HERE,";TAB
 8;D$
2045 IF RND>.7 THEN GOSUB 2500
2047 FOR N=1 TO 25
2048 NEXT N
2050 GOTO 350
2500 REM BONUS EQUIPMENT
2505 LET T=INT (RND*5)+1
2510 PRINT AT 16,0;"YOU COME ACC
ROSS ";B$(T)
2520 IF B$(T,3)="B" THEN LET BUL
L=BULL+VAL B$(T,1)
2530 IF B$(T,3)="V" THEN LET VAC
C=VACC+VAL B$(T,1)
2540 RETURN
2600 REM VACC
2605 IF VACC=0 THEN GOTO 3300
2610 PRINT AT 13,0;"YOU CANNOT B
ECOME RABID THIS     TIME,";D$
2620 LET VACC=VACC-1
2630 GOTO 7100
2700 REM FIGHT
2701 IF BULL=0 THEN GOTO 3300
2705 PRINT AT 9,0;S$
2707 LET YY=RND
2710 IF YY<.7 THEN PRINT AT 13,0
;D$;",YOU SHOT THE ";C$(ZZ);TAB
0;"WELL DONE."
2720 LET BULL=BULL-1
2725 IF YY>=.7 THEN PRINT AT 13,
0;"OH DEAR,";D$;TAB 0;"YOU MISSE
D THE ";C$(ZZ);TAB 0;"YOU HAD BE
TTER RUN."
2726 IF YY>=.7 THEN FOR N=1 TO 3
5
2727 IF YY>=.7 THEN NEXT N
2730 IF YY>=.7 THEN GOTO 3000
2740 GOTO 7120
3000 REM RUN
3001 FOR N=10 TO 16
3002 PRINT AT N,0;S$
3003 NEXT N
3010 LET Y=RND
3015 PRINT AT 10,0;S$
3020 IF Y<.5 THEN PRINT AT 10,0;
"OH DEAR,";D$;",THE ";C$(ZZ);AT
11,0;"CAUGHT AND BIT YOU. YOU AR
E NOW RABID."
3030 IF Y<.5 THEN GOTO 5000
3040 IF Y>=.5 AND Y<.7 THEN PRIN
T AT 10,0;"PHEW,";D$;",THE ";C$(
ZZ);AT 11,0;"CAUGHT AND BIT YOU
BUT IT WAS    NOT RABID."
3050 IF Y>=.5 AND Y<.7 THEN RETU
RN
3060 PRINT AT 10,0;"ITS OK,";D$;
",THE ";C$(ZZ);AT 11,0;"DID NOT
COME AFTER YOU."
3070 GOTO 7100
3300 REM NO VACCS LEFT
3310 PRINT AT 10,0;"YOU HAVE NON
E OF THESE LEFT.     CHOOSE AGAIN
,";D$
3320 FOR N=1 TO 25
3330 NEXT N
3340 GOTO 7040
4000 REM STATUS
4005 PRINT AT 7,0;S$
4010 PRINT AT 7,10;"STATUS"
4020 PRINT AT 9,0;"YOU ARE ";20-
L;" ROADS FROM PARIS"
4030 PRINT ,,"YOU HAVE ";VACC;"
VACCINE";("S" AND (VACC>1 OR VAC
C=0))
4040 PRINT ,,"YOU HAVE ";BULL;"
BULLET";("S" AND (BULL>1 OR BULL
=0))
4050 PRINT AT 16,7;"PRESS ANY KE
Y"
4055 IF INKEY$="" THEN GOTO 4055
4060 FOR N=7 TO 16
4070 PRINT AT N,0;S$
4080 NEXT N
4090 GOTO 270
5000 REM KILLED
5002 FOR N=1 TO 35
5003 NEXT N
5010 CLS
5020 PRINT AT 8,2;"THE ";C$(ZZ);
"BIT YOU,";D$;TAB 2;"AND HAS MAD
E YOU RABID."
5040 PRINT AT 12,2;"YOU SCORED "
;(L*500)+(VACC*50)+(BULL*100);"
POINTS."
5045 GOTO 8000
6000 REM PARIS
6001 CLS
6020 PRINT AT 8,0;"CONGRATULATIO
NS,";D$;TAB 0;"YOU MADE THE     G
RUELLING TRIP  TO THE SAFETY OF
PARIS.";AT 14,0;"YOU SCORED ";(L
*500)+(VACC*50)+(BULL*100);" POI
NTS."
6022 LET I$="  CONGRATULATIONS,
YOU MADE IT.  "
```




```
6023 PRINT AT 1,0;I$;AT 20,0;I$
6024 LET I$=I$(2 TO )+I$(1)
6025 IF INKEY$="" THEN GOTO 6023
6030 GOTO 8000
7000 REM QUESTION
7010 LET ZZ=INT (RND*6)+1
7020 PRINT AT 8,0;"HERE IS A ";C
$(ZZ)
7030 PRINT AT 10,0;"WHAT NOW ? (
RUN,SHOOT OR VACC)"
7040 IF INKEY$="" THEN GOTO 7040
7050 LET Z$=INKEY$
7060 IF Z$="R" THEN GOTO 3000
7070 IF Z$="V" THEN GOTO 2600
7080 IF Z$="S" THEN GOTO 2700
7090 GOTO 7040
7100 FOR N=1 TO 60
7110 NEXT N
7120 RETURN
8000 REM AGAIN
8010 PRINT AT 21,2;"AGAIN,";D$;"
? (Y/N)"
8020 IF INKEY$="" THEN GOTO 8020
8030 LET Z$=INKEY$
8040 IF INKEY$="Y" THEN RUN
8050 IF INKEY$="N" THEN GOTO 999
9
8060 GOTO 8020
9000 REM INSTRUCTIONS AND VARIAB
LES
9001 CLS
9010 LET L=0
9020 LET VACC=2
9030 LET BULL=1
9042 LET S$="
"
9100 PRINT AT 10,0;"HELLO,WHAT""
S YOUR NAME? (8 MAX)"
9101 INPUT D$
9110 IF D$="" OR LEN D$>8 THEN G
OTO 9101
```

```
9120 PRINT AT 12,8;"HI,";D$
9130 FOR N=1 TO 30
9140 NEXT N
9150 CLS
9200 LET V$="                RABID FRA
NCE                "
9210 PRINT AT 0,0;V$;AT 21,0;V$
9215 PRINT AT 1,4;"(C) NICHOLAS
RUST 1983"
9220 PRINT AT 3,3;"THE OBJECT OF
 THIS GAME IS TOTRAVEL FROM TOLO
USE IN THE SOUTH OF FRANCE TO TH
E SAFETY OF      PARIS AVOIDING R
ABID ANIMALS AS YOU GO."
9230 PRINT AT 9,3;"YOU NEED TO P
ASS ALONG TWENTYROADS NORTH TO R
EACH PARIS. YOU START WITH 2 VAC
CINES AND 1      BULLET FOR YOUR
REVOLVER.NOT ALLANIMALS ARE RABI
D."
9235 PRINT ,,TAB 2;"NB VACCINATI
ONS HAVE A LASTINGEFFECT FOR ONE
 ENCOUNTER WITH ANANIMAL ONLY."
9240 PRINT AT 19,2;"ANY KEY TO S
TART, ";D$
9250 IF INKEY$="" THEN GOTO 9250
9989 RETURN
9990 CLEAR
9991 SAVE "RABID FRANCE"
9995 RUN
```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BBC bonanza

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Apple Pie
BBC B
£6.95

CSM, Suite 40, Strand House, Great West Road, Brentford, Middx TW8 9EX

The setting for this colourful Mode 2 arcade game by Visions is a small mid-western American town, in reality a grid of coloured squares through which a variety of aliens swarm, attempting the rather improbable task of stealing the stars from the town's flag.

Your job is to control a blue Battle tank driving round the grid shooting the aliens before your supply of stars runs out. The flag itself is at the bottom, and each alien touching it removes one star. Remaining stars at the end of each wave give a bonus, and there is an additional bonus for shooting the five lettered droids in the correct sequence. Other nasties include Homers, which follow you round, Scythes and Packers, Tanks which shoot back and Ziggies which can only be shot broadside on.

Control of the tank is keyboard only, but the controls are fairly smooth and responsive. The graphics are faultless and fast, but the tank's manouvreability is limited and a reverse button would be useful. Nevertheless Apple Pie is a fairly original and playable game, and I recommend it unreservedly.

D.A.

instructions	70%
playability	80%
graphics	75%
value for money	69%

★ ★ ★ ★

Espionage
BBC
£8.95

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

Now I have to admit that this program is different! Written entirely in BASIC the aim is to find the spy that has moled his way into the management of MR Oil.

You enter the company as a detective, but you have a cover role in the business which you must maintain by not making too many mistakes in your work each day.

By keeping your wits about you as you read the memos that require replies, you should find a certain person requesting information that is not strictly in his area of responsibility.

This is your mole and as soon as you are sure you report to the directors and the company is secure again.

There are seven different roles for you to take and you learn a great deal about oil as you play this game. The constant rewinding of the cassette is a pain, you need to do this after each part of the game, in order to go on to the next part.

Interesting but not as enthralling as I had expected, overpriced too. **D.C.**

instructions	75%
playability	70%
graphics	55%
value for money	60%

★ ★ ★

Loco Motion
BBC/Electron
£6.95

BBC, 35 Marylebone High St, London W1M 4AA

All aboard! It's time to get up steam, put your Casey Jones hat on, and head out into the wild west as the driver of the cannonball express.

You are given the choice of two games, the first involves making a voyage of discovery through the fifty screens of railway track, collecting gold, avoiding outlaws, and dodging the runaway trains. The controls are simple: forward, reverse, and change the points. By carefully controlling your speed you can pick up trucks. A variety of items can be found in these; cattle, bridge parts, or, best of all, gold. Points are awarded for delivering these gold trucks to the bank, assuming you can find the bank!

In the second type of game you are at the helm of a runaway train tearing through the wild west at full speed. Unfortunately this version of the game soon became a little tedious as all you controlled was the points lever.

Overall I enjoyed the program, it was an opportunity to play a nice sedate game for a change, with not a laser in sight. **J.C.**

instructions	70%
playability	75%
graphics	60%
value for money	70%

★ ★ ★

Pantry Antics
BBC
£6.95

It has taken the BBC a long time to realise that it's computer is being used for the playing of arcade games.

This is the BBC's first truly arcade release and I don't think they've got it right yet. This is a mediocre game that wouldn't have been published by the big producers at all.

The aim is to cause havoc in the pantry and you play a rather small pink mouse. The pantry comprises a number of blue shelves that occasionally have gaps that you can jump or fall through.

This house has creatures that try to stop the mouse in his destructive behaviour. This involves birds, then frogs, cats and bats. All have their own patterns of behaviour that make them particularly difficult to avoid.

The graphical animals are very good but the various bits of crockery that fall off the shelves can only be described as rather boring and even shapeless.

What cannot be avoided is the complete boredom you tend to feel, caused by the lack of variety in the game. **D.C.**

instructions	70%
playability	50%
graphics	60%
value for money	60%

★ ★ ★

Doctor Who and the Warlord
32K BBC
£7.95

BBC, 35 Marylebone High St, London W1M 4AA

It was with apprehension that I examined this latest offering in the Doctor Who saga. I remember the first Doctor Who adventures in which second rate arcade games were packaged and sold as an adventure. This new program is a real adventure, and a sizeable one. It occupies both sides of the cassette, each half of the game being the same length as The Hobbit.

At the start you and the Doctor attempt to help King Varanger, however, you become separated from the Doctor and must carry on alone. From here on the story tends to become a little gory. Within the first 10 minutes I had died a thousand terrible deaths. Once I had both my arms and legs broken and was left to die. I think I would have prefered it if the BBC had stuck to good clean zapping and blasting.

A comprehensive vocabulary can be employed. Sentences such as 'Give the scroll to the Doctor' are allowed. It is this flexibility of language combined with a complex plot that are the strengths of the adventure. **J.R.**

instructions	60%
playability	70%
graphics	N/A
value for money	90%

★ ★ ★ ★

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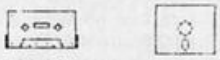

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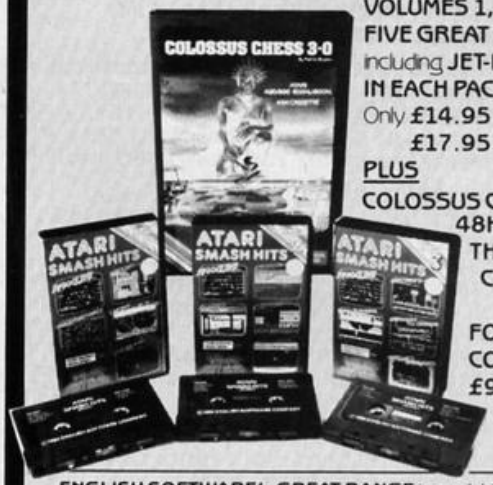

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Waste of time

With regards to David Tomkinson's letter (HCW 88), I also sent for the Texas tape and to become a member of the club. I waited about two months and got fed up.

I got the owner's phone number and rang him. I than waited another two months and phoned again. The man told me he had sent it to me. After my third phone call I finally got the tape, but it wouldn't load. I phoned the owner again, and he told me to send him one of my tapes which he would return to me.

I sent him a tape but haven't had the tape back. I have been waiting about three months now.

I think this club is a waste of time. This is at the same address, 41 Winchester St, London. I wish something would be done about this.

E Harvey, Nuneaton

Texas moan

Firstly I would like to congratulate you on producing a first class magazine. Every bit is worth reading. I have been an HCW reader ever since the first issue was produced, when I first had my TI-99/4A and I am glad to see it improving every issue.

However, to get to the main reason for me writing this letter: we Texas owners have been deprived of the limelight our computer deserves, especially after the domination of that little plastic piece of junk called a Spectrum. This is where the first of my criticisms comes in.

In one issue of HCW there were three considerably lengthy programs printed for the enjoyment of Spectrum owners, but not one for the TI-99/4A, not even a software review. So I had spent 45 pence on a magazine that wasn't much good for me, except for the odd usual advertisement!

I would like to see more Extended BASIC programs in your magazine — which don't require joysticks as we don't all have this small novelty — and more software reviews for the Texas. Why not try reviewing the many new cartridges released by Texas Instruments and Atari, such as Buck Rogers, MASH and Jawbreakers, which all have breathtaking titles, but are the games just as good? Imagine buying one of these cartridge games which retail in the region of £16 to £30 each (expensive aren't they, you Spectrum owners!) only to find the game's a flop.

I also think it would be a good idea to have more peripheral reviews for the Texas. This computer is way ahead of the Spectrum in technology. There are many peripherals available for the Texas which the Spectrum and other computer would like to get their over-run RAMs and ROMs on. This is one thing we can boast about, so take note you downhearted Texas owners. I haven't seen one review of the MB Voice Recognition system in any magazine yet.

Finally, when there have been Spectrum users' conventions I have seen big glossy centre spreads about it in HCW. There was a TI-99/4A computer exhibition in November, which was advertised in HCW, but what happened there? I haven't even seen it mentioned since then.

Darren Purdy, Langley Mill

This is an old but still thorny problem. But the fact is that there are more Spectrum users than anything else. We can't please all the people all the time — but we do try our best, and we support the TI as fully as we can.

TI wizard

In the 94 weeks I have been reading your magazine, I have read quite a lot of letters from your readers. Some with delighted interest, some unfortunately with disgust. I can't understand the many TI users who write in and complain about their computer. I have had my TI-99/4A for more than two years and I have never wanted to compare it with a BBC or any other machine for that matter.

When the time comes that I have to complain, it will be time to get another computer. I bet the users who write in haven't seen the full capabilities of their downcried TI. I agree that when using the TI console on its own, it leaves much to be desired, but with the right hardware and software, which obviously these users haven't got, the TI-99/4A is a very good computer.

The TI speech synthesiser is the best I have ever heard. How many home computers do you know which can sing or read out their own listings? With the Music Maker module the TI can play anything from the Beatles to Beethoven.

Together with Alan Frew, one of our local TI wizards, I formed the Maltby TI users club. Although I have had some details published on your Letters page, I feel your readers might like to know that there have been a few changes in the past couple of months. The club now produces a monthly newsletter, offers a 10 per cent discount off modules and hardware and up to 20 per cent off cassette software from most leading TI dealers

Subscription for 12 months is split into two groups: £10 for users who live close enough to attend our regular monthly meetings, £6 for postal members. We meet on the second Tuesday of every month in a local pub's back room. The meetings are just for TI users and usually there are five or six computers set up. Our meetings give users the opportunity to see what their computer is capable of.

For further details please write enclosing an SAE to the following address.

Mark Lee, Maltby TI users club, 89 Rotherham Rd, Maltby, S Yorks S66 8LZ

Thrash your micro

I'm writing to find out if anyone has thrashed the computer on Match Day for the 48K Spectrum. The lowest the computer has scored against me is 2-1 and 1-0. I was leading 1-0 in the first half but the computer scored two last 15-minute goals and in the other match the computer scored a last five-minute goal.

I think Match Day is great. You can see the players run on to the field. So, how have other readers done?

Andrew Musgrove, Ipswich

Gallup confusion

Your proudly published Gallup software chart of December 31 is, we are told, 'the one to believe in'.

What isn't clear is the unexplained list of eight columns showing various micros. If this is the popularity chart I find it cannot be believed as it doesn't correspond with Gallup's own published charts.

The conclusions must be the availability of each of the top 20 on other micros, but if this is so, the chart also can't be believed as both Blue Max and Beach-Head are available for the Atari, yet these aren't shown.

I suspect that once again the market researchers are omitting details which leaves the reader with the option of interpreting the facts any way he or she wishes. Please explain.

Michael Ayland, Gloucester

We're confused about your letter. Where else do you see the Gallup chart and deduce ours is wrong? We take a regular weekly chart which comes to us direct from Gallup and isn't altered in any way.

Incidentally, only Blue Max is available on the Atari, according to US Gold. Beach-Head isn't. As far as we can be humanly certain, the chart is credible and accurate. It's not devised from distributors' figures, but from high street sales. We beleive it's the most trustworthy chart.

Machine code needed

I get your magazine every week and I think it's great. I own a TI-99/4A and I'm glad you're continuing to print programs for it, which, on the whole, work well and are great fun.

Can anyone tell me where to find a book on machine code or assembler for the TI? I can't find one anywhere.

George MacRae, Blairgownie

Stuck on Pirate's Isle

I am nearly going mad. I own a TI-99/4A and I was given a game at Christmas, Return to Pirate's Isle. The cover price was $20, which works out at nearly £20.

When I play the game I get so far and then I come across a sign saying Keep out, and Sorry, to explore Pirate's Isle you'll need adventure number two.

This game is adventure number 14 and all the people I know who own a TI haven't got adventure two.

Anyone who has got adventure number two, please write to me before I go mad!

Kathleen Gaffney, 51 Gotham Rd, Yardley, Birmingham B26 1LB

Live on Daley!

I am a very proud Spectrum owner and I am boring you with this letter about a bug on Daley Thompson's Decathlon which gives you infinite lives.

To do this you must get 168.96 metres on the discus. This is done by letting the discus go, on the first turn at 36 degrees, when the main is facing directly out of the net.

If the speed is in the second block the discus should go through the screen twice and land in the crowd.

Your lives will then go down normally, but when your final score comes up, instead of going to the start of the game it will go back to where you left off.

Neil Rennis, Andover

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.

BMX Number Jump C64

Longman Software, Longman Hse, Burnt Mill, Harlow, Essex CM20 2JE

This is an educational program aimed at giving the six- to ten-year-old age groups experience with the basic number skills. to attract the attention of this age group Longman have used the current fad of BMX as their focal point. The child chooses a difficulty level and the game commences.

He must ride his bike around a maze-like course avoiding mutant kangaroos which want to push him off. At the side of the screen is a sum whose answer is displayed on one of the gates in the maze. The bike rider has to be manouevred over the correct answer gate at which point the kangaroo disappears; a new sum and kangaroo appear and the game continues. The skills tested in this program are addition, subtraction, multiplication and division.

The ideas behind this game are sound and in terms of screen presentaton it is good. I found that I didn't have the instantaneous control of the bike I would have liked. Consequently the game gave a high failure rate — not desirable in an educational game. Failure, not because of a wrong answer, but by reason of sluggish controls, may result in the game being left on the shelf.

M.W.

instructions	90%
ease of use	50%
graphics	85%

★ ★ ★

Magazine Bibliography BBC B £10 per part

McHugh Enterprises, 43 Hookstone Oval, Harrogate, N Yorks HG2 8QE

If you are a serious computer user you are likely to read a large number of magazines. Problems arise when you need a particular article but can't remember which magazine and which issue it was in! This product is an attempt to keep you up to date with the happenings in all magazines containing references to the BBC.

The bibliography was started in December 1981 and has been kept up to date. Each program has about a thousand references and can be searched in minutes. If you have more than one part on a disc, it will load that section and carry on the search.

What disappointed me was that the programs don't use random access, each reference is contained in a DATA statement and it is these that are searched.

Having said that the programs are very useful and can save hours of work. The two string search facility is good and this enables you to find only graphic articles in one magazine which can make life much more simple.

D.C.

instructions	90%
ease of use	75%
graphics	N/A
value for money	70%

★ ★ ★ ★

Get those cogs whirring!

Programs to make you think, assessed by our team of experts

Bridge Player Amstrad CPC464 £9.95

CP Software, 2 Hawthorne Rd, Leeds LS7 4PH

The future of computerised card games is assured high ratings, if the excellent standard set by this one is maintained.

The rules are not included nor need they be. A huge literature, devoted to the method and skills of Bridge, fills the shelves of your library or bookshop.

The game is incorporated within three main screens, using well chosen colours and graphics that are adequate even on a Green Screen Monitor.

The bidding screen, the purpose of which is to establish the trump suit, accepts both Gerber and Stayman conventions.

The playing screen depicts the four hands in play, with the north/south partnership's cards revealed.

Around the perimeter are an indicator to show the lead hand and trump suit bid, a count of the tricks won and a pointer to the winning card which determines the next lead.

A boon to the less experienced player is the scoring screen. This computes the scoring system for each hand.

Control is through the keyboard, simply explained on the cassette inlay, along with details of the bidding. **D.H.**

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

★ ★ ★ ★ ★

Exmon 64 C64 £7.99

Interceptor, Lindon Hse, The Green, Tadley, Hants

Exmon 64 is a machine code utility for the C64. It comes in a smart package with the statement 'a full user manual is included...' The six page manual only gives a brief description of each command. The manual won't teach you how to program in the 6510 machine code, a prior knowledge is required in order to use this utility.

The utility is fairly easy to use providing a black background with white lettering. However I felt the extra commands required to edit the machine code, add an unnecessary complication to the process of changing instructions.

The use of the transfer command is incomplete without a relocation command, but it is possible to read, edit and write a block to disc. This is useful when trying to recover data on the 1541 disc. Another useful function is the ability to call the registers and change them directly.

In all Exmon 64 will enable the user to write machine code programs in a limited way and has a good set of disc maintenance commands. **M.T.**

instructions	75%
ease of use	80%
display	80%
value for money	70%

★ ★ ★

Pitman Typing Tutor Amstrad CPC464 £9.95

Amsoft, 169 Kings Rd, Brentwood, Essex

This educational program starts with several explicit pages of instructions.

Clearly and concisely explained is the method adopted to improve the speed and accuracy of your typing skills.

As a forerunner to the main program, these herald an expertly designed series of practical keyboard exercises.

Each lesson requires you to copy-type a series of letters which are seen flashing on an imitation keyboard display on the screen.

The second part of each lesson displays a list of short phrases, each incorporating the letters previously learned. Again these have to be copied.

Your skills are then measured and a mark is given for both speed and accuracy. Also shown is the suggested minimum standard required, before moving on to the next more advanced lesson.

The screen presentation is good, tastefully using a variety of inks and pens, to brighten and enhance what could easily have become a rather lifeless display. A thoroughly useful program that can only serve to achieve it's objective.

Looking forward to more proof that learning can be fun, especially in the home environment. **D.H.**

instructions	100%
usability	100%
graphics	90%
value for money	75%

★ ★ ★ ★

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