

Home Computing WEEKLY

Every week: your best buy for software reviews and listings

An Argus Specialist Publication

No. 74
August 7-13, 1984

45p

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Software reviews for:
Spectrum, BBC,
Sord, TI, Electron,
Memotech

CBM 64
Two listings to
type in

Spectrum
Make a musical
masterpiece

Atari
Test your skill as a
rally driver

PLUS
U.S. Scene,
your letters,
software charts,
news...



Sinclair's summer giveaway

In a bid to boost summer sales, Sinclair Research is giving away £56-worth of software with every 48K Spectrum sold.

It was one of a series of announcements made to dealers.

The six software titles to be given away are: Chequered Flag, Scrabble, Survival, Chess, Make-a-Chip and Horace Goes Skiing.

Retail business manager Anton Boyes said: "We have chosen the best from our range. We are not — as some manufacturers have done — clearing our stocks of old programs."

Sinclair is spending £14m advertising the six-pack offer, which ends in late October, and another £4m in the run up to Christmas.

The other announcements:

- For existing Spectrum owners, Sinclair is packaging a Microdrive, Interface 1 and
- Continued on page 5*

Software while you wait

New software could be in the shops faster — by phone.

Retailers are being offered a computer which will load cassettes, discs or cartridges from a hard disc containing 1,000 titles.

A central computer, based in Edinburgh, is to update by phone line the range of stored programs as well as log sales for billing.

Program Express, which is importing the system from America, says John Menzies will have five installed from October.

The benefits, says Program Express, include cutting costs on stock and manufacturing and eliminating unsold goods.

However, each shop has to keep blank cassettes, discs and cartridges along with inlay cards and any manuals the software may need.

The Software Machine costs £95 a week on a three-year lease, including service, and one

Continued on page 5

The Key To Success!

Now, with the new Stonechip Spectrum Keyboard, the user has no worry of damaging the Spectrum itself as improved designing enables it to fit the case perfectly.

Assembling the case is simple as it consists of two halves, the top half containing the keyboard, with a small printed circuit board, attached by ribbon cable, plugging into the rear of the Spectrum. The lower half fits precisely around the Spectrum, thus preventing any risk of damaging through movement.

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Home Computing WEEKLY

THE JOURNEY

**THE ADVENTURE
OUT SOON**

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Top of the class	33
...programs for the BBC, and all highly rated	



PROGRAMS

Commodore 64	16
A bonus for 64 owners — two listings to type in. Play a game of Space Shuttle and then test your geography	
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A sophisticated music making program for you to try. Compose a musical masterpiece the easy way	
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You've only got one chance in our car rally game, so drive carefully and avoid the trees	

Readers: we welcome your programs, articles and tips — see the panel in this issue for details

**HOME COMPUTING
WEEKLY
BRITAIN'S BRIGHTEST**

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Argus Specialist Publications Ltd.
No.1 Golden Square, London W1R 3AB. 01-437 0626

Home Computing Weekly is published on Tuesdays. Subscriptions and back issues: Infonet Ltd, 10-13 Times House, 179 Marlowes, Hemel Hempstead, Herts HP1 1BB. 0442 48432. Trade distribution: Argus Press Sales and Distribution Ltd, 12-14 Paul Street, London EC2A 4JS. 01-247 8233. Printed by Alabaster Passmore & Sons, Ltd, of London and Maidstone, Kent. Design and origination: MM Design, Circus House, 26 Little Portland Street, London W1N 5AF

You could be on our pages

We welcome programs, articles and tips from our readers. If you feel that your work meets our standards, please submit it to us for consideration for publication.

- Programs must always be sent on cassette. Listings are helpful, but not necessary. Check carefully that they are bug-free. Include details of what your program does, how it works, variables you have used and hints on conversion.
- Articles on using home computers should be no longer than 2,000 words. Don't worry about your writing ability — just try to keep to the style in HCW. Articles most likely to be published will help our readers make better use of their micros by giving useful ideas, possibly with programming examples. We will convert any sketched illustrations into finished artwork.
- Tips are short articles, and brief programming routines. Your hints can aid other computer users.

All submissions will be acknowledged and the copyright in such works which will pass to Argus Specialist Publications Ltd will be paid for at competitive rates.

Keep a copy of your work and include an SAE. Label everything clearly and give a daytime and home phone number if you can.

All work for consideration should be sent to:

Paul Liptrot, Home Computing Weekly,
No.1 Golden Square, London W1R 3AB

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Cascade Games Ltd.,
Suite 4, 1-3 Haywra Crescent, Harrogate,
North Yorkshire, HG1 5BG, England.
Telephone: (0423) 504526.

HCW 7/8/84

Giveaway

From front page

four Microdrive cartridges as an Expansion System, for £99.95. On the cartridges: Tasword II for word processing, Masterfile, and Quicksilver's 3D Ant Attack and Games Designer, plus demonstrations and utilities.

● The Sinclair QL goes on retail sale from September 1 and all mail order will end then. The company's pocket TV will be in the shops from mid-September at £99.95.

Although production had been increased, Sinclair managing director Nigel Searle warned that demand for the QL and TV would probably exceed supply.

Two new subcontractors had been appointed to make Spectrums which, he said, would double production to more than 2000,000 a month by the end of the year.

Sinclair Research, Stanhope Rd, Camberley, Surrey GU15 3PS

Software

From front page

estimate is that the retailer would have to sell 55-60 products from it to break even.

An expansion to the machine uses colour graphics to attract attention and offer demonstrations.

● A similar idea is used by a system called Romox, but this only takes electrically reprogrammable cartridges.

Program Express, 23 Dalmeny St, Edinburgh EH6 8PG

US prize-winner

Precision's Superbase 64, the programmable database for the CBM 64, recently won the top Showcase Award in its category at the Consumer Electronics Show in Chicago, Illinois.

Superbase 64 has been on the US market for seven months and Precision claims its sales are running in excess of 3,000 units a month.

Superbase 64 is a database management and information retrieval system which uses B+ tree indexes. It offers menu-driven operation, direct commands to the database or use of a user programmable interface.

Precision, 6 Park Terrace, Worcester Park, Surrey KT4 7JZ

Prizes all round

This is the solution to our Silversoft wordsquare. **Horizontal:** Exterminator, Slippery Sid, Alien Dropout, Zorbiter, Sam Spade. **Diagonal:** Muncher. **Vertical:** Asteroids, Robot Riot, Freez Bees.

These are our 84 winners who will each receive software to the value of £12 from Silversoft: J. Alba, London SW1; E R Robinson, Norfolk; Gregory Smith, Lincs; Ian Powell, Norfolk; S Phillimore, W Yorks; T J Ferrett, Surrey; N F Owen, Gt Missenden; Mr S Summerscale, Staincliffe; Mr P Taylor, Northfield; Andrew Beard, Cannock; P J Willcox, Cardiff; Mrs T M Britton, Llantwit Major; Fiona Sturrock, Edinburgh; Derek Ward, Nottingham; Frank Winand, Brentwood; Kevin Grieves, Hitchin; B Cairncross, Tyne & Wear; R D Taylor, Birmingham; Carlos Abrahams, Derbyshire; Mr E Richmond, Selby; Glenn Parry, Cardiff; S Cook, Bradford; Tim Prince, Cumbria; A M Spayes, Abingdon; T J Slater, Chessington; Stephen Anderson, Dunbartonshire; David Gerrish, Basildon; Mark Pepperrell, Feltham; Gregory Wisken, Hockley; G Collins, Redcar; A B Coope, Notts; Toby Robinson, London W4; Anthony White, East Ham; Ross McDonald, Uttoxeter; Jonathan Cooper, Melton Mowbray; Mrs J Smith, Birmingham; Peter Teare, Newcastle upon Tyne; William J Fox, Matlock; Jennifer E Anderson, Ayrshire; Peter Atkins, W Sussex; Joseph Harper, Erskine; Simon Thompson, Abingdon; Svend Falck, Shape, BFPO 26; J R Allison, Suffolk; David Walker, Hedsnesford; C Beveridge, Dumfriesshire; Brenvil Brown, Birmingham; David Black, Glasgow; Colette Campbell, Dunleer Co Louth; Mark A G Kent, Lincs; Brian Buckley, Dungannon; N Lucas, Edinburgh; Alan Taylor, Merseyside; Mr G E Morris, Portsmouth; Mr C Hale, Newport; J A Drennan, Ayrshire; P Wardell, Colne; Andrew Fox, N Yorks; Mr R A Abramson, Suffolk; Simon Heather, E Grinstead; Andrew D Gardner, W Sussex; T V Jones, Worcs; Michael Slater, Lancashire; Stephen Cartwright, W Midlands; Mr D Kinsella, Greater Manchester; Christopher White, Worcs; S G Mitchell, Basingstoke; Robert Amey, Norfolk; Terry Newman, Norwich; Mr P W E Camp, Cowley; Andrew Cross, Bristol; Michael Bond, Manchester;

Christopher Hall, N Ireland; Peter Gent, London SE9; Richard Kunzer, Durham; Jason Leitch, Strathclyde; J Newman, Ryde; Adrian Davis, Dublin 14; Upendra Manandhar, London W1; Mr Nigel Mortimer, W Yorks; Michael D Pugh, Lincs; W T Abram, Cheshire; Marcus Prescott, Burton-on-Trent; Mark Pettifer, Wantage, Oxon.

Round of applause

The answers to our Romik wordsquare were: **horizontal:** Loch Ness Monster, Zorgons Kingdom, Fools Gold, Atom Smasher, Multisound Synthesizer. **Vertical:** Shark Attack, Cyclops, Birds of Prey, Pottit, Caterpillar, Alien Break in. **Diagonal:** Zappy Zooks, Silicon Romik Cube, Floyds Bank, Quadrant, Animal Magic, Colour Clash, Forth, Sub.

Dicks Diamonds, Romik's best selling game, was on the second line but was missed out from the list of titles. Well over half the winners discovered Dicks Diamonds. Well done.

These are the 116 winners of Romik Software: A Tulett, Petworth; G Davis, D O'Callaghan, S Hulme, Southampton; J McWilliam, Runcorn; J Roche, Poole; J Brennan, Waterford; W Asghar, R Banks, H Bray, G Chiu, P Cross, E Desequ, G Lam, K Moghadam, A Samworth, P Scott, G Theodorou, G Tong, London; R Foster, Doncaster; K Frost, Luton; P Moloney, Dublin; A Brain, P Serbert, Harrogate; A Turner-Howe, Basingstoke; A Cartwright, Hull; S Esterbrooke, Rochester; I Newton, Chesham; K Ferguson, R Mahoney, Blackpool; M Perkins, Wallington; G Summerfield, Newcastle; F Reed, Hoddesdon; A Denby, Alcester; P Fairbairn, Stockport; W Bolt, Plymouth; R Tester, Hurstpierpoint; A Clarke, Atherstone; C Bidmead, Gosport; C Garbutt, Harlepool; M Hunt, Milton Keynes; P Shepherd, R Sisson, Nottingham; N Clark, Bracknell; S Clegg, Colne; N Collier, A Goode, D Ohren, P Taylor, A Waller, Birmingham; C Gee, Chorley; O Hord, Welwyn; L Haley, S Hulme, K Tonge, Manchester; C Catchmole, Carnforth; D Allen, Warley; D Porter, Rochford; M Pitt, S Bamber, Norwich; C Cawley, C Crane, Stock-on-Trent; P Smithwhite, Jarrow; A Kempster, Heywood; A Blair, PFPO 42; R Gardiner, A Shirley, Leicester; G Beavis, Derby; D Parish, West Wickham; J Woffenden, St Albans; A Cairns, Surbiton; R Kingham, Reading; D Hughes, Bury; A Gould, Slough; R Waugh, North Shields; M Booker, Chesterfield; K Bardon, York; M Cordwell, Chelmsford; D Houghton, Mitcham; M Etienne, Belgium; R Edwards, P Robins, St Helens; M Mills, Clifton; P Poinson, Walsall; P Golding, Sudbury; K Wassell, Thetford; P Clothier, New Milton; A Jones, Coventry; G Holmes, Brighton; D Clark, Peterborough; N Hurst, Lewes; A Barrett, Meagood; R Henthorn, Newport; A Johnson, Northampton; R Lachin, J Lee, Gloucester; R Poston, Horsham; P Lee, Cheltenham; C Sevenoaks, Raynes Park; B Hackett, Blackburn; L Isbister, Biddleswade; I Powell, Liverpool; R Johnson, J Knapp, Stevenage; D Aucott, Wigston Magna; G Johnston, Bolton; A Acton, Stafford; C

Baker, Bridgwater; R Johnson, Portsmouth; J Church, Waltham Abbey; H Stephens, Maldon; M Whitaker, Doncaster; M Crossan, Stabane; M Cass, Aylesbury.

Sinclair winners

Here's the solution to our Sinclair Research wordsquare. **Horizontal:** Cyrus-is-chess, Planet of Death, Inca Curse, Backgammon, Ship of Doom, Maths, Music, Vu-Cal, Flight Simulation, Sabotage, Planetoids, Embassy Assault. **Vertical:** Chess, The Hobbit, Flippit, City Patrol, Spelling.

First prizewinner, Alex Patterson, of Berwickshire won £100 of Sinclair software. Second prize of £50 of Sinclair software went to Mr D Smith, of Slough.

These are our 34 winners of £25 of Sinclair software: Mr M Cooper, Letchworth; Mrs N Manji, Chelmsford; Master J R Wilson, Notts; Matthew Roach, Exeter; Mr D J March, N Yorks; David Richardson, Leeds; Mr K W Carr, Rhyl; Miss I J Moorshead; C Thompson, Notts; Mr A Butcher, Birmingham; Ian Lester, Cheshire; Mrs B Prowse, London NW5; Ian Caldwell, Cleveland; D T Pascoe, Gloucester; Mr C E Stones, Bracebridge; Michael Jordan, London N21; Matthew Carter, Cowcliffe; Andrew Howe, Wilts; Margaret Nobbs, Coatbridge; M J Trumper, Harrow; Mr D E Nicholls, London WC1; Jason Crawley, Basildon; Mr C F Turner, Scunthorpe; Mark Hamans, L/Spa; B Morris, Rochdale; Gary Moore, Cheshire; Mr I Field, Lincs; John Schofield, Blackburn; Graham Rowley, Workop; Mr I Joyce, Loneon E17; J Baldwin, Lincs; Koon Loong Chan, Oxon; D G Houghton, Surrey; Mark Pepperrell, Middx.

GOSH new recruit

Bubble Bus is the latest company to join GOSH (Guild of Software Houses). Mark Meakings, director, said: "Piracy is beginning to destroy our industry and GOSH gives us the opportunity to fight it with other software houses."

He continued: "Our industry is currently going through a shake out, and it will go on to mature and prosper. If any of us are to survive we must stop the pirates so we can ensure adequate investment in new products."

Spectrum Sprites 48K Spectrum £7.95

ISP Marketing, 15a Castons
Yard, Basingstoke, Hants

Shades of the music industry! Now software houses are putting out singles of hit tracks from their published programs. This is the Sprite Designer/Operating system which formed part of ISP's SCOPE-II. There's a 16x16 pixel grid for designing sprites, a facility to allocate them as sprites 0 to 7, and a display mode, showing actual size and reference number. A SAVE facility is offered and NEW clears the design program, leaving the operating system above RAMTOP.

Divorce from SCOPE-II creates problems. SAVE only

saves the sprites, not the operating system (in SCOPE-II, this was duplicated in the main program so it didn't matter). Here, you must always have the Designer program present, or find the memory position of the operating system, "Code" SAVE it and organise its addition to your program, if you have the expertise.

If, after running your sprites, you wish to alter them, at present you've got to start from scratch. A little re-programming will solve these problems. But the point is, ISP should have done it, not the customer. Or are programs now coming as DIY kits?

instructions	60%
ease of use	50%
display	70%
value for money	50%



Drum Kit 32K BBC £9.95

Quicksilver, 13 Palmerston Rd,
Southampton, Hants SO1 1LL

Having had no experience of music or rhythm synthesisers before I've been unable to make any comparisons, but I have been able to make a few personal comments about this one.

Drum-Kit is in fact a fully programmable rhythm synthesiser with four changeable voices, the snare drum, bass drum, the electro beat and sticks. The program comes with a 17-page manual which is comprehensive but unclear in places. If you follow the examples closely you should quite easily understand what is happening. It doesn't take long to grasp the basics, and after about half an hour you're constructing quite impressive rhythms, using the simple cursor

controlled input.

You define the length of each bar and the number of bars in the rhythm then the display is shown in chunks of 16 beats. Pressing the space bar will display the next page and the next 16 beats. All rhythms and voices can be saved.

My only criticism is that the keyboard is a little slow and sometimes frustrating. Besides this the results are often satisfying and easily achieved. A welcome change to arcade games.

M.B.

instructions	85%
ease of use	85%
display	100%
value for money	85%



Cu*Bert TI-99/4A £6

Stainless Software, 10 Alstone
Rd, Stockport, Cheshire

Having reviewed the Extended BASIC version of this game, Q Bono, I was pleased to see this adaptation for the unexpanded TI.

The screen displays a pyramid of cubes. You guide a man along them, diagonally only, and press the space bar to change the cube colour. The object is to complete the screen by changing all cubes to the specified colour.

Continually bouncing down the pyramid, however, is a white ball. A collision with this loses a life. There's also a black ball capable of transforming itself into various creatures that may move in any direction and change back the colour of the cube it occupies. This poses more of a threat to Cu*Bert as its moves are unpredictable at times.

Although the program worked without interruption for several runs, it subsequently crashed with a Bad Value — just as success was in sight, wouldn't you know it!

Overall, I found Cu*Bert to be just as much fun as Q Bono, but was surprised that the keys were not the same. They weren't as comfortable to use, I would have preferred an option to re-define them.

J.W.

instructions	80%
playability	75%
graphics	70%
value for money	60%



Take your pick

Sift through this varied
assortment of programs to
find one which fits your
needs. We've got a designer,
drum kit and cube games

Breakpoint TI-99/4A £5

Stainless, 10 Alstone Rd,
Stockport, Cheshire.

Dare you load this program in your TI? It may never be the same again after an encounter with the dreaded "byte bug".

A circuit board is displayed. Suddenly one of its components fails. Your task is to guide your man between the working components to find a replacement, then install it in place of the faulty one. But we all know that where computers are involved, it's not that easy.

For a start the byte bug is out to get you and he'll happily take a life if you're caught. Then there's the splatter zaps. These appear unexpectedly and crunch round the circuitry. Worst of all are the static zaps. Unless the Q

key is pressed the instant these start, you've no chance. If this weren't enough, there's the occasional "portron transportation medium" that blocks your path. These take you to another location, usually just where you don't want to go.

Detailed graphics make this enjoyable to play and watch. My only complaint is one game had to be abandoned because the failed component could not be reached.

J.W.

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



Screen Machine 48K Spectrum £8.95

ISP Marketing, 15a Castons
Yard, Basingstoke, Hants

Don't confuse this with Print'N'Plotter's program of the same title. With so many easy screen design competitors, ISP has decided to be 'different', abandoning the moving cursor line drawing favoured by others. Being 'different' seems to come down to being the same as BASIC.

There's little difference between "PRINT AT 10,10" and (10,10) or "PLOT 128,88" and "@(128,88)" except the extra effort required to learn the 'new' language.

ISP claims Screen Machine is 'suitable for five-year-olds'. Can they read this manual?

There's some non-BASIC extras, like changing overall ink or paper without CLS, off-screen circles and filled circles (a geometric pattern filling which would be useless for, say, a face). Arc refused to work, giving 'Number out of Range' report. Automatic edging can be done by any character or graphic.

You can rotate anything printed and enlarge letters to eight times their normal size as well as fill rectangles (explanation here omits the + signs).

There are 95 extra graphics, with a copyright notice which renders them useless. Many manual examples don't work.

There are easier designers on the market, with more facilities.

D.C.

instructions	60%
ease of use	55%
display	N/A%
value for money	50%



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AMSTRAD MSX	£6.95

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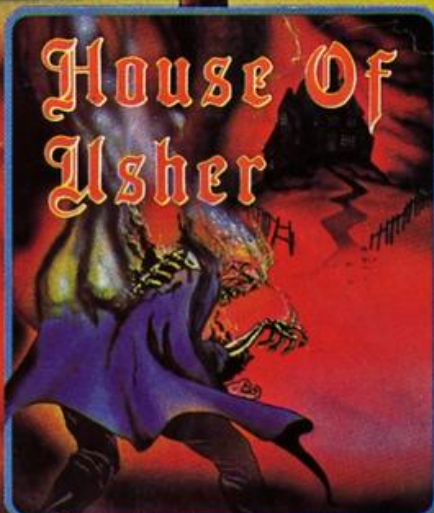
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CHARTS

by the ASP Market Research Group

ARCADE

1 Beach Head	US Gold	CBM 64 (1)
2 Match Point	Sinclair	Spectrum (2)
3 Sabre Wulf	Ultimate	Spectrum (3)
4 Trashman	Quicksilver	CBM 64 (5)
5 Jet Set Willy	Software Projects	Spectrum (4)
6 Son of Blagger	Alligata	CBM 64 (8)
7 Omega Race	Commodore	CBM 64 (6)
8 Munch Mania	Mastertronic	CBM 64 (10)
9 Frak	Aardvark	BBC (-)
10 Atic Atac	Ultimate	Spectrum (10)

NON-ARCADE

1 Valhalla	Legend	CBM 64 (3)
2 Lords of Midnight	Beyond	Spectrum (1)
3 Fall of Rome	APS	Spectrum (6)
4 Mugsy	M. House	Spectrum (2)
5 War of the Worlds	CRL	Spectrum (10)
6 Solo Flight	US Gold	CBM 64 (7)
7 Quizmaster	Commodore	CBM 64 (4)
8 The Inferno	R. Shepherd	Spectrum (5)
9 Sphinx Adventure	Acornsoft	BBC (8)
10 Mastermind	Commodore	CBM 64 (5)

Compiled with the assistance of Britain's leading software distributors, including: Pinnacle, SDL, PCE, Websters, PCS and Software Centre.

SPECTRUM

1 Match Point	Sinclair (2)
2 Stop the Express	Sinclair (3)
3 War of the Worlds	CRL (-)
4 World Cup	Artic (-)
5 Tornado Low Level	Vortex (-)
6 Full Throttle	Micromega (-)
7 Star Trader	Bug-Byte (-)
= Automania	Mikrogen (-)
9 Factory Break Out	Poppysoft (-)
10 Trashman	New Generation (-)

COMMODORE 64

1 Hektik	Mastertronic (-)
2 Gilligan's Gold	Ocean (-)
3 Squirm	Mastertronic (-)
4 The Election Game	Mastertronic (-)
5 Trashman	Quicksilver (-)
6 Sheep In Space	Llamasoft (-)
7 Encounter	Hi-Tech (-)
8 Incredible Hulk	Adventure Int. (-)
9 Space Walk	Mastertronic (-)
10 Son of Blagger	Alligata (-)

DRAGON 32

1 Hunchback	Ocean (1)
2 Ugh!	Softek (-)
3 Hungry Horace	Melbourne Hse (-)
5 Kriegspiel	Beyond (8)
6 Cuthbert In Space	Microdeal (2)
7 Dungeon Raid	Microdeal (10)
8 Skramble	Microdeal (-)
9 Cuthbert In the Jungle	Microdeal (-)
10 Devil Assault	Microdeal (-)

Compiled by W. H. Smith and Websters. Figures in brackets are last week's positions.

VIC-20

1 Bewitched	Imagine (-)
2 3D Maze	Mastertronic (9)
3 Chariot Race	Micro Antics (-)
4 Phantom Attack	Mastertronic (-)
5 Crazy Kong	Interceptor Micro (-)
6 Vegas Jackpot	Mastertronic (-)
= Undermine	Mastertronic (8)
8 Sub Hunt	Mastertronic (-)
9 Scrambler	Mastertronic (-)
10 Computer War	Creative Sparks (1)

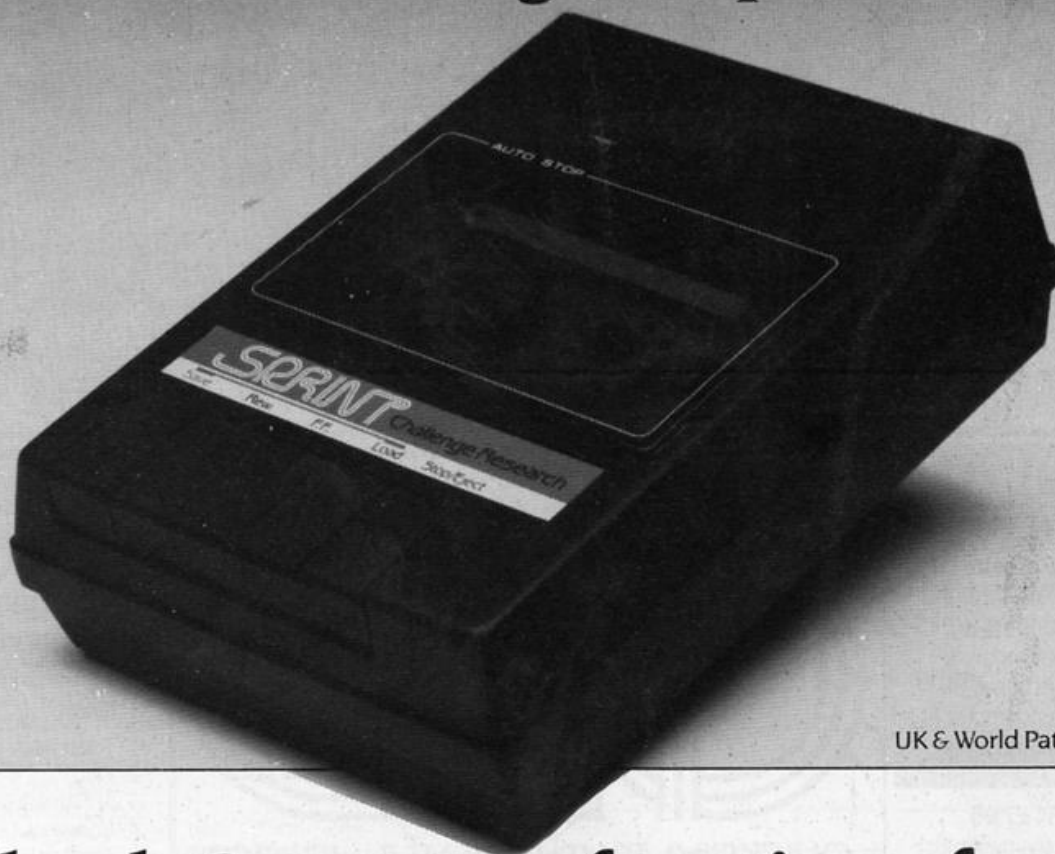
BBC

1 Football Manager	Addictive Games (-)
2 Spectipede	Mastertronic (1)
3 Ghouls	Micropower (-)
4 Battle Tank	Superior (3)
5 Rubble Trolley	Micropower (-)
6 O Man	MRM (-)
= Snooker	Visions (-)
8 Chess	BBC (10)
9 JCB Digger	Acornsoft (-)
10 3D Munchy	MRM (9)
= Frenzy	Micropower (-)
= 737 Simulator	Salamander (6)

ZX81

1 Crazy Kong	Interceptor Micro (-)
2 Krypton Ordeal	Novus (5)
= Planet Raider	Novus (6)
4 Alien Rain	CRL (10)
5 Walk the Plank	Novus (8)
6 Football Manager	Addictive Games (4)
7 Asteroids	Quicksilver (1)
8 Scramble	Quicksilver (9)
9 Mothership	Sinclair (-)
10 Space Raiders	Sinclair (7)

Introducing the Sprint



UK & World Patents Pending.

**It loads Spectrums four times faster
than an ordinary cassette player,
uses standard cassette software,
and has improved loading reliability.**

All for just £64.95.

The new Sprint from Challenge Research will load and save Spectrum programs at four times the speed of conventional cassette players, this even applies to standard program and games cassette software that has been pre-recorded at normal speed. All this plus improved loading reliability is available for just £64.95 inclusive of post, packing, VAT and a 12 month guarantee. The Sprint is dedicated to both the 16K and 48K Spectrum and provides an innovative but inexpensive new concept in cassette tape storage.

Use of the Sprint is simplicity itself:

- Retains the standard Spectrum commands and format.
- Advanced digital circuitry and signal processing improves loading reliability and eliminates volume setting.
- Simply plugs into the Spectrum port — no interface or external power unit is required, it even has it's own expansion slot so that you can still use other peripherals at the same time.
- A full 48K program will load or save in 75 seconds rather than five minutes with a conventional cassette recorder.

Spend less on a Sprint.
Spend more time working your

Spectrum and be the envy of your friends.
If you have Visa or Access cards you may phone your order to ensure faster delivery by calling Potters Bar (0707) 44063, or post the coupon below.
Please allow 28 days for delivery. If you are not delighted with your Challenge Sprint simply return it within 7 days and we will refund your money in full.

TRADE ENQUIRIES WELCOME

To: Challenge Research,
218 High Street, Potters Bar, Herts EN6 5BJ. Tel: Potters Bar (0707) 44063
Please supply 1 Challenge Sprint at £64.95 (inclusive of post, packing, VAT and 12 months guarantee).

Please tick box if you require a further 2 years guarantee at an additional cost of £7.50 ☐

Name (Please print) _____

Address _____

Signature _____

I enclose cheque/postal order made payable to Challenge Research for £
Please charge my Access/Visa No (delete as appropriate) the sum of £



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HCW7/8

CHALLENGE RESEARCH

A DIVISION OF A.E. HEADEN LTD.

218 High Street, Potters Bar, Herts EN6 5BJ Potters Bar Tel: (0707) 44063

No.2

LATEST NEWS

QUICKSILVA Computing SECTION

QUICKSILVA

All titles available from Quicksilva Mail Order, P.O. Box 6, Wimborne Dorset BA21 7PY.

Home of The Game
Lords Club

SEND FOR DETAILS OF OUR BBC/ELECTRON GAMES

EPYX SUMMER GAMES –

Commodore 64 Twin Cassette
pack £14.95 Disk £19.95

Produced under licence for CBS Software.
Opening ceremony and awards
ceremony – 8 events – Action &
Strategy – Play against a computer or an
opponent – Individual and team play.

FRED – Commodore 64 £7.95

Cartoon action beneath the pyramids!
Fearless Fred, the Intrepid Archeologist,
searches the creepy catacombs below
the torpid tomb of Tootiecarmoon!



TRAFFIC – Commodore 64 £7.95
Arcade/Strategy to challenge your
mind and reflexes. Control city traffic
during rush hour – an entirely original
game



QUICKSILVA EDUTAINMENT DIMENSION

Entertainment software with educational content.
Improve yourself as you play with our soon to be
released range of EDUTAINMENT programs.



*Home of the
Brain Lords!*

an Olympiad
spectacular
from
**Software
STUDIOS**

GAMES 84
48K Spectrum £9.95
Limited Gold Medal
Medalion edition contains
7 certificates, full instructions
and background information.

Selected titles available at:

WHSMITH



WOOLWORTH

John Menzies

and leading multiple retailers and specialist computer stores.



CHART ACTION

QUICKSILVA TOP 20 JUNE 1984

NAME	MACHINE	PRICE
1 Trashman*	– CBM 64 –	£7.95
2 Fred	– 48K Spec –	£7.95
3 Ant Attack	– 48K Spec –	£6.95
4 Boogaboo	– CBM 64 –	£7.95
5 The Snowman	– 48K Spec –	£6.95
6 Mined-Out	– Electron –	£6.95
7 Gatecrasher*	– 48K Spec –	£6.95
8 Sting 64	– CBM 64 –	£7.95
9 Bugaboo	– 48 Spec –	£6.95
10 Dragonsbane	– 48K Spec –	£6.95
11 Escape*	– CBM 64 –	£7.95
12 Aquaplane	– CBM 64 –	£7.95
13 Gatecrasher*	– BBC 'B' –	£6.95
14 Gatecrasher*	– Electron –	£6.95
15 Velnor's lair*	– Oric/Atmos –	£6.95
16 Mined Out*	– Oric/Atmos –	£6.95
17 Ultisynth	– CBM 64 –	£14.95
18 Drum Kit*	– BBC 'B' –	£14.95
19 Tornado	– Vic 20 –	£5.95
20 Quintic Warrior	– CBM 64 –	£7.95

*New Release

ORIC/ATMOS

Velnor's Lair £6.95

GAMES SPECTACULAR!

Mined Out £6.95

Got an original program?
Contact Quicksilva's Software
Studio to find out what we can offer.
Telephone (0703) 20169.

STOP PRESS

AVAILABLE NOW! GATE CRASHER
on the 48K Spectrum £6.95
Strategy and skill that will test your
mind to the limits

COMING SOON

**Quicksilva
Interactive Films**



WARNING: These programs are
sold according to QUICKSILVA
Ltd's terms of trade and
conditions of sale, copies of
which are available on request.

COMPETITION

Intrigue your friends with an Intrigue T-shirt.

We've got 75 to give away to each of our prizewinners — and there's £40-worth of great Intrigue games as well in the first prize.

Intrigue Software, run by father and son team Dennis and Martin Webb, launched in November and now has a range of graphic arcade adventures for the TI-99/4A.

The theme of our spot the difference cartoon is taken from Intrigue's latest release, Atlantis.

Set undersea, it features Lionel, who is the star of other Intrigue games. It costs £6.95 and runs on the standard TI-99/4A.

Another TI title, Snout of Spout, is due out soon.

And, now Intrigue has a team of programmers, the firm is branching out into Commodore 64 software. The first title, under wraps at present, is a new game which will be on sale in time for Christmas.

Our first prizewinner will receive from Intrigue a T-shirt bearing the firm's distinctive logo, plus one each of all Intrigue's games.

They are: Mania, Adventuremania and Beneath the Stars, all £5.95; Lionel and the Ladders and Lionel and the Castle, both £7.95; and Atlantis, £6.95. Lionel and the Ladders and Lionel and the Castle need the TI's Extended BASIC module. All the others run on the standard TI.

The 74 runners-up will receive Intrigue T-shirts.

The prizes will arrive from Intrigue within 28 days of the results appearing in Home Computing Weekly.

How to enter

Study the two cartoons — there are a number of differences between

Intrigue T-shirts and software to be won

We're offering both software and T-shirts in this week's free-to-enter competition.

them. Circle the differences on carton B and seal the cartoon and coupon in an envelope. Write clearly the number of differences you found on the back of the envelope.

Post your entry to Intrigue Software Competition, Home Computing Weekly, No. 1, Golden Square, London W1R 3AB. Entries close at first post on Friday August 24, 1984.

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.

Important: please follow carefully the guidelines on entering — incomplete coupons and entries in envelopes with no numbers on the back cannot be considered. If you are a winner, the coupon will be used as a label to send your prize so clear writing is essential.

The rules

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

Intrigue Software Competition

Entry Coupon

Name _____

Address _____

_____ post code _____

Number of differences found _____

T-shirt size (small, medium or large) _____

Complete clearly and fully — if you are a prizewinner this will act as a label. Post to Intrigue Software Competition, Home Computing Weekly, No. 1 Golden Square, London W1R 3AB. Closing date: first post, Friday August 24, 1984. Don't forget to follow closely the advice in the How to Enter section, including writing the number of differences on the back of your envelope.



Englishskills II 32K BBC £11.95

Griffin, Ealing Rd, Alperston,
Wembley, Middx HA0 1HJ

I find it very difficult indeed to find anything constructive to say about this package. It strikes me that if schools, for that is who this is aimed at, choose to use a package such as this then we will never get computers accepted across the curriculum.

The stated aim is to encourage 10- to 15-year-olds in the skills needed for English O-Level and CSE classes. What this package comprises is four programs dealing with the following: metaphors, opposites, group terms (collective nouns, for those who left school some time ago)

and odd word out.

Each follows an identical format of a series of multiple choice questions presented one after another with instant feedback on the answer selected. In other words, an animated text book and not a particularly large or cheap one at that. I wouldn't recommend anyone to buy a package such as this for I'm certain that even those things which are included could all be fitted onto a few sheets of A4 paper with the answers on the back. **D.C.**

instructions	55%
ease of use	60%
graphics	N/A
value for money	5%



Wordskill 32K BBC £12.25

Chalksoft, 37 Willowsea Rd,
Worcester WR3 7QP

This package, which is only available on disc, might be best described as a super hangman for not only do you have to guess the letters in a word but in all the words which make up a phrase!

It is claimed that this is a "valuable language development tool"; but I can't say that I really see its potential in this light. The package is very well put together and the instructions, both on screen and in the book supplied, are easy to follow.

You have plenty of options to choose from too including a "random" option with the possibility of producing some

very strange and funny phrases and over four million of them. That doesn't help the basic problem though; is it "valuable"? Is it a teaching tool? Does it encourage "imaginative thinking" and "correct spelling"?

I can't say I'm convinced and, while I agree with the publishers that those children who are "bored" by reading text books will enjoy it, it doesn't help to overcome their boredom and may in fact reinforce it. This is a package to see before purchase, I feel. **D.C.**

instructions	85%
ease of use	80%
graphics	N/A
value for money	50%



Maths 1 Memotech MTX £10

Continental, Station La, Witney,
Oxon

Maths 1 is the first in a four-part educational series which Continental claims will "take the student to GCE O-Level standard at a pace tailored to individual needs". The program contains seven sections: each consists of displays of text and simple graphics, and a set of multiple choice questions. The sections are entitled Fractions, Percentages, Decimals, Sets, Venn Diagrams, Sets of Numbers and Number Bases.

You can step between pages by pressing single keys. The keys recognised at any point appear at screen bottom. An index facility allows you to search for a specific word, and two pages of Help belatedly explain the significance of the key characters at the bottom of each display.

Graphics are disappointing. Two trivial animated displays illustrate the division of a block into three and the operation of compound interest. There are also a few static pictures of Venn diagrams.

The entire contents of Maths 1 would fit comfortably into a 40-page booklet, which would be considerably more useful, and I doubt anyone would dare charge £10 for it. As it stands, Maths 1 is nothing more than an attempt to take advantage of the gullibility of parents. **S.N.G.**

instructions	25%
ease of use	20%
graphics	20%
value for money	10%



Your micro as a teacher

Our educational software
experts report back on
programs for the BBC, Electron
and Memotech

Storyline BBC £7.95

Daco Software, 59 Mackenzie
Rd, Moseley, Birmingham B11
4EP

This program is exactly what it says: a story writing program aimed at "children who are not normally interested in writing stories". It is claimed to help "improve your child's reading and creative writing skills" but I have my doubts about this.

It isn't that the program doesn't work as planned or that it is teaching anything untoward in a wrong manner. I simply cannot see that it will do any good at all.

The basic format is that you are offered various words, one at a time, from which to choose the

next one for your story. The words all fit a predefined sentence structure and can be combined into reasonable English but it is very hard indeed to make a story sensible. I know children like silly stories but you need a skill far beyond that which the program is designed for to even attempt a sensible outcome.

This is one of those programs where more time and thought could have improved matters greatly. In particular you need to be offered a much wider choice of words. **D.C.**

instructions	75%
ease of use	70%
graphics	N/A
value for money	55%



Science 1 Electron £6.25

Shards, Suite G, Roycraft Hse,
15 Linton Rd, Barking, Essex

First I must say what a reasonable price policy this company has. For less than £7 you are provided with four separate and very well written programs and I do wish more companies could adopt a similar price structure. So what are the programs involved?

The first is called Balance and involves calculating the movement of a weight and its balancing moment. Unfortunately the examples are very simple but the graphics are very good.

There follows two Meter programs, one in colour and one in high resolution, for you to choose from.

Whilst the programs work well enough and the magnify facility is excellent, I can't really see the point in using a £400 computer for such a simple task. Also there is no demand to use the correct units which is a pity.

Therm is a similar program involving the reading of thermometers of three types and has a magnify facility too. This is of more use I feel.

Finally Light involves the prediction of refraction or reflection paths and is graphically excellent. All told the package could help those preparing for O-Level or CSE. **D.C.**

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



THIS IS THE BIG ONE!

The 2nd Official Acorn User Exhibition

OLYMPIA AUGUST 1984

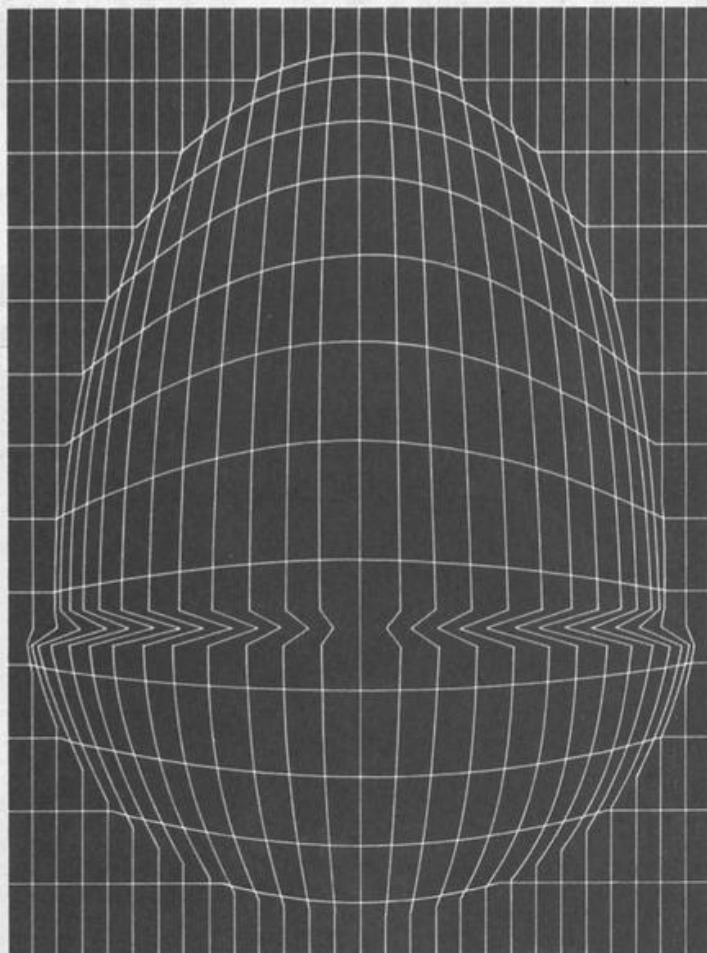
Thursday 16th – 10am to 7pm

Friday 17th – 10am to 6pm

Saturday 18th – 10am to 6pm

Sunday 19th – 10am to 5pm

* Please note 10am to 2pm on Thursday 16th
is Trade Morning – By invitation only.



BIG VALUE

The success story of Acorn Computers, the BBC Micro and Electron is mirrored by suppliers who have produced more and more hardware, software, supplies and services. And they'll all be at the exhibition – disk drives, plotters, printers, monitors, joysticks, robots, books and magazines, all kinds of software – everything for the Acorn owner.

And of course Acorn will be there in force with all their latest developments and software.

There'll be special offers, competitions, advice centres and special events as well.

And all this for only £3.00 at the door, under sixteens £2.00. (Use the coupon to beat the queues and save £1.00).

BIG VENUE

Olympia 2 is the brand new exhibition centre next to the old Olympia. It's got everything, wide gangways, lots of space to sit down and rest, plenty of catering areas.

Getting there is easy too, its got its own tube station, bus routes 9, 27, 28, 33, 49, 73 and 91 go right pass the door, and there's car parking too!

BIG SUPPORT

Remember this is the *Official Acorn User Show*, it's the most informative prestigious and influential user show in the country. Whether you're a businessman, serious user or games enthusiast there's something for you.

For details of exhibition stands and advance ticket sales contact the organisers.

Computer Marketplace (Exhibitions) Ltd. A Rushworth Dales Group Company, 20 Orange Street, London, WC2H 7ED Tel: 01-930 1612

BEAT THE QUEUES! SAVE MONEY! ORDER YOUR TICKET IN ADVANCE.

Buy your ticket now and save queuing. There will be special entrances for advance ticket holders.

Please send me _____ (qty) tickets at £2.00 and _____ (qty) under sixteen tickets at £1.00. I enclose my cheque/PO to the value of £_____ or debit my Access card. No. _____

NAME _____ SIGNED _____

ADDRESS _____

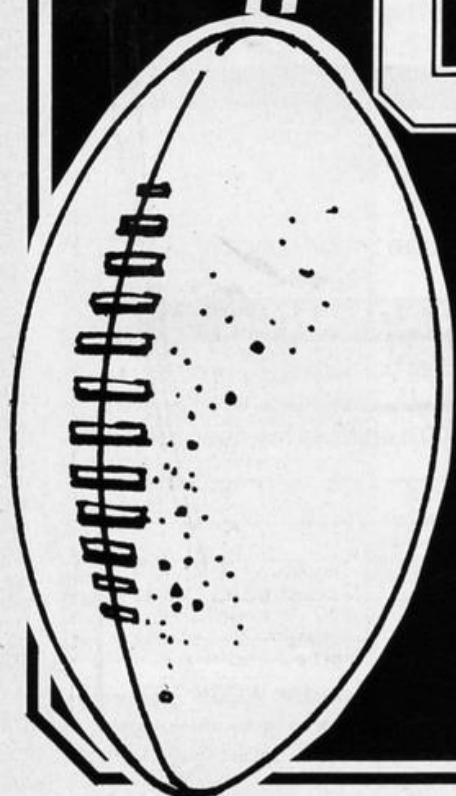
POSTCODE _____

GROUPS – Order 15 or more tickets and you qualify for a further 20% discount.

To: Computer Marketplace (Exhibitions) Ltd. A Rushworth Dales Company, 20 Orange Street, London WC2H 7ED.

IT'S IN THE AIR

WILL
YOU
CATCH
IT!



space...

Capital City Quiz by George Sykes

Revising for geography exams? My program randomly asks questions about capital cities and is easily changeable for other subjects.

How it works

1-150 credits and title screen
200-330 reads data and displays question
500-550 if answer correct flash screen and play tune
600-650 if answer incorrect, display answer
1000-1210 DATA
2000-2060 subroutine for "fail" sound
3000-3090 subroutine for "correct" sound

Variables

AS, BS question and answer strings
L length of answer strings
S subtracts L from 40 divides by 2 to place Qs and As in centre of screen
X RND integer for data reading
RS player's input from prompt
Z number of guesses
F start of count to flash screen
TN used in sound routine for stepping notes

By altering the DATA, it could be changed to, say, a history quiz (monarchs, prime ministers) or chemical symbols and so on.

And if you change lines 230-300, it can be made into a multiple choice quiz where only one of the alternatives is correct.

You could even make it more frustrating by not displaying the correct answer!

All the DATA lines have

been checked against the 1984 edition of Collins' Atlas of the World.

Hints on conversion

The only POKEs are:
53280 BORDER colour
53281 SCREEN colour
54272 start of sound chip
The sound routine could be discarded (lines 2000-3000), as could the flashing screen (lines 400-510).
The data can be shortened (lines 5,210,230 are altered to produce different values).



195 POKESH-1,32

```
200 POKEMA,46:POKEMO,36:POKEMO+1,37:POKEMO+2,38:POKEMO+CL,8:POKEMA+CL,7
210 POKEMO+1+CL,5:POKEMO+2+CL,8
220 POKESH,39:POKESH+CL,12:IFPEEK(197)<>4THEN150
230 T=100-(SK+1):POKEMO,36:POKEMO+1,37:POKEMO+2,38
231 GOSUB2000
235 POKEMO+CL,8:POKEMO+CL+1,9:POKEMO+CL+2,8
240 FORI=1TOT:NEXT:GOSUB2000
250 SH=SH+40:POKESH-40,32
260 IFPEEK(197)=12THENSH=SH-1:POKESH+1,32:GOTO290
270 IFPEEK(197)=20THENSH=SH+1:POKESH-1,32:GOTO290
280 IFPEEK(197)=32THENGOTO300
290 IFPEEK(SH)<>32THENGOTO380
295 POKESH,39:POKESH+CL,13:GOTO240
299 REM*THRUST ON*
300 POKESH,39:POKESH+CL,3
305 IFFU=0THENGOTO230
310 IFPEEK(SH+80)=60THENGOTO230
315 IFPEEK(SH+80)=62THENGOTO230
320 POKESH+40,40:POKESH+40+CL,2
330 POKERD,190:POKESR,2:POKEHF,17:POKELF,37
340 POKERF,129:FORI=0TO15STEP.5:POKEV,I
350 FORT=1TO5:NEXTT,I:POKERF,0:POKESR,0:POKERD,0:POKEHF,0:POKELF,0
360 FU=FU-1:PRINT"SCORE-";SC;"LIVES-";LI;"FUEL-";FU
370 POKESH+40,32:GOTO230
379 REM*CHECK MOVEMENT*
380 CR=PEEK(SH)
390 IFCR=44THENGOTO500
```

```

395 IFCR<>32THENGOTO400
399 REM*CRASH*
400 POKEAD,190:POKESR,1:POKEHF,100:POKELF,120
410 POKEWF,129:FORT=15TO0STEP-3:POKEV,T
420 POKESH,41:POKESH+CL,INT(RND(1)*9)+1
430 FORR=1TO50:NEXTR:POKESH,42:POKESH+CL,1
440 FORR=1TO50:NEXTR,T:POKEWF,0:POKEAD,0
450 POKELF,0:POKEHF,0:POKESR,0
460 LI=LI-1:IFLI=0THENGOTO1000
470 PRINT"SCORE-";SC;"LIVES-";LI;"FUEL-";FU
480 POKESH,61:POKESH+CL,4:POKESH+40,46:POKESH+40+CL,1
490 IFPEEK(SH+80)<>32THENSH=MO+41:GOTO30
495 SH=SH+40:POKESH-40,32:FORI=1TO50:NEXT:GOTO480
499 REM*LANDED*
500 SK=SK+5:SC=SC+1:FORY=1TO5:POKESH,39:POKESH+CL,Y
510 POKEAD,190:POKESR,1:POKEHF,17:POKELF,37
520 POKEWF,33:FORI=15TO0STEP-3:POKEV,I:POKEHF,I+10:POKELF,10
550 FORT=1TO10:NEXTT,I:POKESR,0:POKEAD,0:POKEWF,0:J=46
560 NEXTY:FORMA=MAT0BA+44STEP-1:J=J+1:IFJ>47THENJ=46
570 POKEMA,J:POKEMA+CL,1:POKEMA+1,32:POKEMA+2,35:POKEMA+2+CL,6
580 POKEMA+3,32:FORT=1TO20:NEXTT,MA:POKEMA,32:POKEMA+2,32:MA=BA+44
590 POKEBA,43:POKEBA+1,44:POKEBA+2,45:POKEBA+CL,2:POKEBA+1+CL,10:POKEBA+CL+2,2
600 POKEMA,32:MA=1940:POKEV,15:POKEAD,96:SH=SH-40
610 POKEWF,21:POKESR,128:POKEHF+14,9:POKELF+14,9
620 FORX=0TO1000STEP600:POKEHF,INT(X/256)
630 POKELF,X-INT(X/256)*256
640 FORP=1TO10:NEXTP,X:POKEHF+14,0:POKELF+14,0
650 POKEV,0:POKESR,0:POKEWF,0:POKEAD,0:POKESH,39:POKESH+CL,14
660 FORMN=BA+46TO1943:POKEMN,35:POKEMN+CL,2:POKEMN-1,32
670 FORT=1TO20:NEXTT,MN:POKE1943,32
680 PRINT"SCORE-";SC;"LIVES-";LI;"FUEL-";FU
690 POKEAD,0:POKEHF,0:POKELF,0:POKEWF,0:POKESR,0
695 PRINT"SCORE-";SC;"LIVES-";LI;"FUEL-";FU
699 REM*RETURN TO SHIP*
700 POKEV,7:POKEAD,190:POKESR,248:POKEHF,17:POKELF,37:POKEWF,129
705 FORT=1TO250:NEXTT
710 SH=SH-40:POKESH+120,32:GOSUB2000
720 IFPEEK(197)=12THENSH=SH-1:POKESH+41,32:POKESH+81,32:GOTO730
725 IFPEEK(197)=20THENSH=SH+1:POKESH+39,32:POKESH+79,32:GOTO730
730 IFPEEK(SH)=37THENGOTO800
740 IFPEEK(SH)<>32THEN400
750 FORT=1TO50:NEXTT
760 POKESH,39:POKESH+CL,3:POKESH+40,40:POKESH+40+CL,8
770 GOTO710
799 REM*HOME*
800 POKESH,32:POKESH+40,32:SH=MO+41:POKESH,39:POKESH+CL,4
810 FORMO=MOTO1064STEP-1:POKEMO,36:POKEMO+1,37:POKEMO+2,38
820 C=INT(RND(1)*13)+1:POKEMO+CL,C:POKEMO+CL+1,C:POKEMO+CL+2,C
830 POKEMO+3,32:POKEMO+41,39:POKEMO+CL+41,3
840 POKEMO+CL+42,32:POKEV,15:POKEAD,0:POKEWF,0:POKEHF,100
850 POKEAD,13:POKESR,0:POKEWF,129:POKEHF,5:POKELF,255
860 POKEWF,17:POKELF,100:FORT=1TO50:NEXTT,MO
870 PRINT"THE SURVIVOR YOU JUST SAVED WISHES TO"
871 PRINT"THANK YOU FOR RESCUING HIM ! BUT !!!"
872 PRINT"TELLS YOU OF MORE STRANDED MEN .. CAN"
873 PRINT"YOU SAVE THEM TOO ? DO YOU WISH TO"
874 PRINT"TRY THIS ? ENTER Y OR N"
880 PRINT"THE SURVIVOR YOU JUST SAVED WISHES TO"
885 PRINT"THANK YOU FOR RESCUING HIM ! BUT !!!"
890 PRINT"TELLS YOU OF MORE STRANDED MEN .. CAN"
900 PRINT"YOU SAVE THEM TOO ? DO YOU WISH TO"
910 PRINT"TRY THIS ? ENTER Y OR N"
920 GETA$:IFA$=""THEN920
930 IFA$="Y"THENPRINT"Y";SH=MO+41:GOTO30
940 IFA$="N"THENPRINT"N";END

```

```

950 GOTO920
1000 PRINT"XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX"
1005 PRINT"XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX"
1010 PRINT"XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX"
1015 PRINT"XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX"
1020 PRINT"XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX"
1030 PRINT"XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX"
1040 PRINT"XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX"
1050 PRINT"XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX"
1060 PRINT"XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX"
1070 GETA$:IFA$=""THEN1070
1080 IFA$="Y"THENCLR:GOTO2
1090 IFA$="N"THENPRINT"X":END
1095 GOTO1070
1999 END
2000 PRINT"XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX";SA$;RC$;"XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX";SA$+" ";RC$
2005 SA$=SA$+" ";IFLEN(SA$)=15THENSA$=""
2010 RETURN
9999 REM*DEFINE GRAPHICS*
10000 PRINT"PLEASE WAIT GRAPHICS LOADING"
10010 POKE56334,PEEK(56334)AND254:POKE1,PEEK(1)AND251
10020 FORL=0TO1024:POKE1+12288,PEEK(L+53248):NEXT
10030 POKE1,PEEK(1)OR4:POKE56334,PEEK(56334)OR1
10040 FORC=0TO12:FORB=0TO7:READN:POKE12568+(8*C)+B,N:NEXTB,C
10050 FORC=0TO4:FORB=0TO7:READN:POKE12752+(8*C)+B,N:NEXTB,C
10060 PRINT"GRAPHICS READY PRESS ANY KEY"
10070 POKE198,0:WAIT198,1:POKE198,0:RETURN
14999 REM*DATA FOR GRAPHICS*
15000 DATA28,62,42,107,127,127,109,73
15010 DATA0,7,9,25,57,127,252,248
15020 DATA24,255,153,153,153,255,0,0
15030 DATA0,224,144,152,156,254,63,31
15040 DATA0,40,60,102,231,255,60,102
15050 DATA186,186,84,40,16,0,0,0
15060 DATA17,194,24,59,152,2,42,137
15070 DATA0,0,24,56,25,24,0,0
15080 DATA128,192,224,208,200,255,192,255
15090 DATA0,0,0,0,0,255,0,255
15100 DATA1,3,7,11,19,255,3,255
15110 DATA56,56,16,56,84,16,40,68
15120 DATA56,186,84,56,16,16,40,68
15130 DATA24,52,126,237,159,118,28,8
15140 DATA255,195,189,165,165,189,195,255
15150 DATA32,32,114,250,255,255,255,255
15160 DATA0,24,60,126,255,231,66,36
15170 DATA255,255,255,0,0,255,255,255
15180 REM*****
15181 REM*****
15182 REM*****
15183 REM*****
16000 REM*****
16001 REM*SPACE SHUTTLE BY SIMON EYRE*
16002 REM* AGED 14 OF SHEFFIELD *
16003 REM*COMPLETED ON MAY 24 84 FOR*
16004 REM* HOME COMPUTING WEEKLY *
16005 REM*****

```

Listing 2 — Capital City Quiz

```

1 REM***CAPITAL CITY QUIZ***
2 REM**GEO.D.SYKES+M.A.EYRE**
3 REM*****MAY 1984*****
5 DIMA$(60),B$(60)
10 PRINT"X":POKE53280,6:POKE53281,5

```

```

20 PRINTSPC(11)"*****
30 PRINTSPC(11)"  "
40 PRINTSPC(11)"**CAPITAL CITY**"
50 PRINTSPC(11)"  "
60 PRINTSPC(11)"  Q U I Z  "
70 PRINTSPC(11)"  "
80 PRINTSPC(11)"**MOGGIESOFT**"
90 PRINTSPC(11)"  "
100 PRINTSPC(11)"  "
110 PRINTSPC(11)"  "
120 PRINTSPC(11)"  "
130 FORT=1T03500:NEXT
140 POKE53281,7:POKE53280,0
150 FORT=1T01000:NEXTT
200 FORK=1T060
210 READA$(K),B$(K)
220 NEXTK
225 S=INT(RND(0)*60)+1:REM RESEEDS RND GENERATOR
230 X=INT(RND(1)*60)+1
240 PRINT"*****WHAT IS THE CAPITAL"
250 PRINTSPC(19)"*****OF"
260 L=LEN(A$(X))
270 S=INT((40-L)/2):REM CENTRES QUESTION DISPLAY
280 PRINT SPC(S)"*****";A$(X):Z=1
300 INPUT"*****";R$
310 IFR$=B$(X)THEN400
320 IFZ=3THEN600
330 Z=Z+1:PRINT"*****WRONG!-TRY AGAIN!":GOSUB2000:GOTO300
399 REM***START FLASHING SCREEN***
400 F=0
500 POKE53280,7:POKE53281,0
501 PRINT"J":PRINTSPC(11)"*****"
502 PRINT"*****"
505 PRINT"*****CORRECT!*"
506 PRINT"*****"
507 PRINTSPC(11)"*****"
508 POKE53280,0:POKE53281,7:GOSUB3000:F=F+1:IFF<3THEN500
509 REM**((3*CRS.DOWN) (15*CRS.RIGHT) (CTR.+3)**
510 PRINT"*****TRY AGAIN"
519 REM**((2*CRS.DOWN) (16*CRS.RIGHT) (CTTR.+7)
520 INPUT"*****";C$
530 IFC$="Y"THEN225
540 IFC$="N"THEN END
550 IFC$<>"N"THEN510
590 REM**((CLS) (11*CSR.RIGHT) (7*CRS.DOWN)**
600 GOSUB2000:PRINT"*****I'D BETTER TELL YOU."
609 REM**((3*CSR.DOWN) (14*CSR.RIGHT)**
610 PRINT"*****THE ANSWER IS"
620 L=LEN(B$(X))
630 S=INT((34-L)/2):REM CENTRES ANSWER DISPLAY
640 PRINTSPC(S)"*****";B$(X);" * "
650 FORJ=1T02000:NEXTJ:PRINT"J":GOTO510
1000 DATA"FRANCE","PARIS","ENGLAND","LONDON","VENEZUELA","CARACAS"
1010 DATA"SWITZERLAND","BERNE","SWEDEN","STOCKHOLM","TURKEY","ANKARA"
1020 DATA"UGANDA","KAMPALA","U.S.S.R","MOSCOW","SPAIN","MADRID"
1030 DATA"PERU","LIMA","NORWAY","OSLO","OMAN","MUSCAT"
1040 DATA"NIGERIA","LAGOS","MOROCCO","RABAT","MALTA","VALLETTA"
1050 DATA"MALAYSIA","KUALA-LUMPUR","ITALY","ROME","BELGIUM","BRUSSELS"
1060 DATA"ARGENTINA","BUENOS AIRES","AUSTRIA","VIENNA","BURMA","RANGOON"
1070 DATA"DENMARK","COPENHAGEN","CYPRUS","NICOSIA"
1080 DATA"CZECHOSLOVAKIA","PRAGUE","AFGHANISTAN","KABUL"
1090 DATA"ANTIGUA","ST.JOHN","BELIZE","BELMOPAN","CAYMAN IS.","GEORGETOWN"
1100 DATA"CHRISTMAS ISL.","FLYING FISH COVE"
1110 DATA"ALBANIA","TIRANE","AUSTRALIA","CANBERRA","THE BAHAMAS","NASSAU"
1120 DATA"BANGLADESH","DACCA","BARBADOS","BRIDGETOWN","BOLIVIA","LA PAZ"

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1130 DATA"MEXICO","MEXICO CITY","MOZAMBIQUE","MAPUTO","NEPAL","KATMANDU"
1140 DATA"PORTUGAL","LISBON","SUDAN","KHARTOUM","SYRIA","DAMASCUS"
1150 DATA"TANZANIA","DAR-ES-SALAAM","ZIMBABWE","HARARE"
1160 DATA"YUGOSLAVIA","BELGRADE","POLAND","WARSAW","LIECHTENSTEIN","VADUZ"
1170 DATA"KENYA","NAIROBI","JORDAN","AMMAN","KAMPUCHEA","PHNOM-PENH"
1180 DATA"JAMAICA","KINGSTON","ISRAEL","JERUSALEM","INDIA","NEW DEHLI"
1190 DATA"HUNGARY","BUDAPEST","W.GERMANY","BONN","E.GERMANY","E.BERLIN"
1200 DATA"VIETNAM","HANOI","SAUDI ARABIA","RIYADH","EGYPT","CAIRO"
1210 DATA"CUBA","HAVANA","NEW ZEALAND","WELLINGTON"
1999 REM***SOUND ROUTINE FOR "FAIL"***
2000 S=54272
2010 FORL=STOS+24:POKEL,0:NEXT
2020 POKES+5,9:POKES+6,0
2030 POKES+24,15
2040 POKES+1,10:POKES,10
2050 POKES+4,129
2060 FORT=1TO250:NEXT:RETURN
2999 REM***SOUND ROUTINE FOR "CORRECT"***
3000 TN=0
3010 S=54272:IFTN>60THEN3090
3020 FORL=STOS+24:POKEL,0:NEXT
3030 POKES+5,9:POKES+6,0
3040 POKES+24,15
3050 POKES+1,40+TN
3060 POKES+4,33
3070 FORT=1TO10:NEXT
3080 TN=TN+20:GOTO3010
3090 RETURN

```



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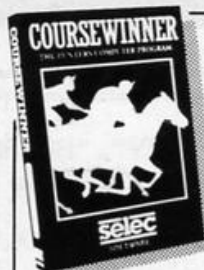
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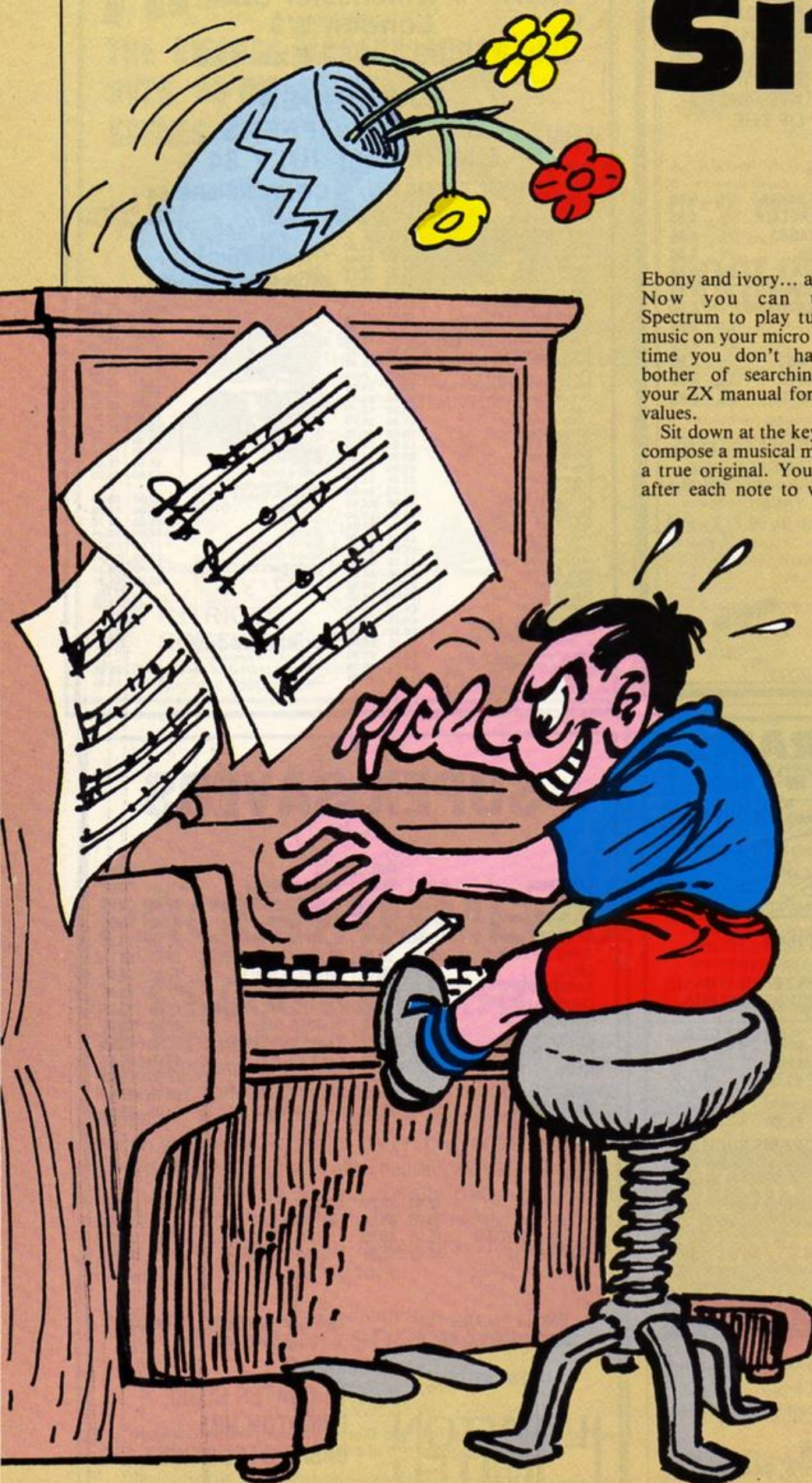
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Sitting the c



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Sit down at the keyboard and compose a musical masterpiece, a true original. You can pause after each note to write down

the values if you wish, and highlight the key you pressed. Look at the screen dump representation of the keyboard.

Your options are any note from eight octaves, variable note length, and if you haven't quite got the hang of composing yet you can delete a note or the whole tune, if it's a disaster.

This is a sophisticated program which caters for sharps, flats and rests.

How it works

10-20 set variables, set caps lock and change input cursor to ?
30-110 print keyboard
120-150 print instructions
160-330 check for keypress, BEEP if note pressed
350-380 add pitch and length value to AS for playback (pitch = 69 for pause)
390-400 change pitch
420-430 change note length
440 delete note
470-590 play tune
600-620 delete tune (reset AS)

Variables

AS data for tune
NS last note pressed
BS data for last note
L note length
T used in FOR... NEXT
P pitch
ZS,XS used in playback

Conversion

The sound and string handling commands are different in the Spectrum from those used in most other computers, so conversion will be difficult. Here is a list of some of the commands used:

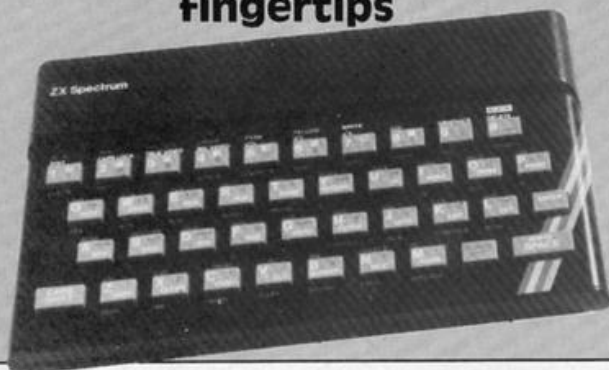
BEEP duration (in seconds), pitch
STRS convert numbers into strings
LEN (XS) return the length of XS
Val opposite of STRS, convert strings back to numbers
POKE 23658,8 set caps lock
POKE 23617,236 set input cursor to ?

Although the program appears lengthy, lines 200 to 330 differ only slightly and can be quickly entered by editing the previous line.

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48K SPECTRUM PROGRAM

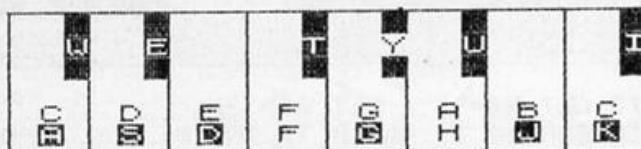
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R.D. LANGFORD 1984

P.....PLAY TUNE
1-2.....CHANGE LENGTH
6-7.....CHANGE PITCH
0.....DELETE NOTE
X.....DELETE TUNE
M.....PAUSE

LAST NOTE PLAYED=F



NOTE LENGTH=0.2 PITCH=-1

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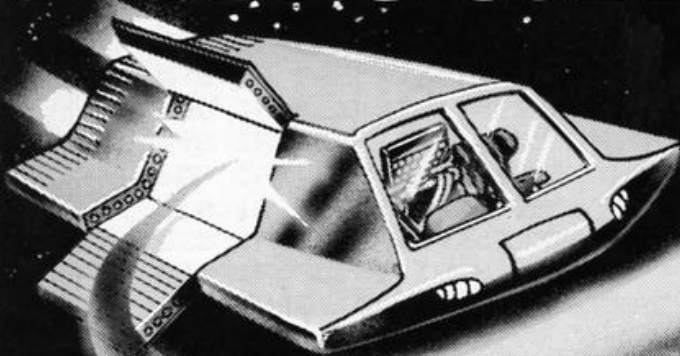
300 IF INKEY$="T" THEN LET N$="F#": PRINT AT 14,15; INK 7; PAPER 1; BRIGHT 1;"
T": BEEP L,6+P: LET A=6: PRINT AT 14,15; INK 7; PAPER 0; BRIGHT 0;"T": GO TO 350
310 IF INKEY$="Y" THEN LET N$="G#": PRINT AT 14,18; INK 7; PAPER 1; BRIGHT 1;"
Y": BEEP L,8+P: LET A=8: PRINT AT 14,18; INK 7; PAPER 0; BRIGHT 0;"Y": GO TO 350
320 IF INKEY$="U" THEN LET N$="Bb": PRINT AT 14,21; INK 7; PAPER 1; BRIGHT 1;"
U": BEEP L,10+P: LET A=10: PRINT AT 14,21; INK 7; PAPER 0; BRIGHT 0;"U": GO TO 3
50
330 IF INKEY$="I" THEN LET N$="C#": PRINT AT 14,27; INK 7; PAPER 1; BRIGHT 1;"
I": BEEP L,13+P: LET A=13: PRINT AT 14,27; INK 7; PAPER 0; BRIGHT 0;"I": GO TO 3
50
340 GO TO 390
350 LET B$=STR$ L: LET A$=A$+B$
360 LET B$=STR$ (A+P): IF LEN B$=1 THEN LET B$=B$+" "
370 IF LEN B$=2 THEN LET B$=B$+" "
380 LET A$=A$+B$
390 IF INKEY$="7" AND P<36 THEN LET P=P+12: BEEP .2,40
400 IF INKEY$="6" AND P>-50 THEN LET P=P-12: BEEP .2,40
410 REM REPLAY
420 IF INKEY$="1" AND L>.1 THEN LET L=L-.1: BEEP .2,40
430 IF INKEY$="2" AND L<.9 THEN LET L=L+.1: BEEP .2,40
440 IF INKEY$="0" AND LEN A$>5 THEN PRINT AT 21,0; INK 2;"          NOTE DELET
ED      ": LET A$=A$( TO LEN A$-6): BEEP .4,-30: PRINT AT 21,0;"
"
450 IF INKEY$="X" THEN GO TO 610
460 GO TO 150
470 IF A$="" THEN PRINT AT 21,0; INK 2;"  THERE IS NO TUNE IN MEMORY  ": FOR
T=1 TO 10: BEEP .01,-20: BEEP .01,-10: NEXT T: PRINT AT 21,0;"
": GO TO 150
480 CLS : PRINT INK 1;" DO YOU WANT THE TUNE TO PAUSE          AFTER EACH
NOTE (Y/N)?  "
490 BEEP .1,0: BEEP .1,5: BEEP .1,9: BEEP .2,12: BEEP .1,9: BEEP .3,12
500 LET P$=INKEY$
510 IF P$<>"Y" AND P$<>"N" THEN GO TO 500
520 BEEP .2,40: CLS
530 FOR T=1 TO LEN A$ STEP 6
540 LET Z$=A$(T TO T+2)
550 LET X$=A$(T+3 TO T+5)
560 BEEP VAL Z$,VAL X$
570 PRINT AT 21,0;"LENGTH=";Z$;"  NOTE=";X$;"  "
580 IF P$="Y" THEN PAUSE 0
590 NEXT T
600 CLS : GO TO 30
610 INPUT "ARE YOU SURE "; LINE D$: IF D$="Y" THEN INK 2: LET A$="": CLS : PRI
NT AT 8,0;"          TUNE DELETED": FOR T=1 TO 20: BEEP .01,0: BEEP .01,-10: NEX
T T: LET N$="#": INK 0: CLS : GO TO 20
620 GO TO 150

```

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Everything is at stake in this game. You only have one chance so all your effort must be put into maintaining a steady course and avoiding trees. If you crash into a tree you've had your chips and the game ends.

Instructions are included in the program.

How it work

100-140 initialize game
150-410 draw screen
420-610 main game loop. Move car, check for crash
620-790 end game routines
800-890 difficulty level selection
900-1090 redefine characters
1100-1360 instructions

Variables

W,E position of car
SC score
HI hi-score
Z,S,B,A, draw screen
TREE ASC code of character at W,E
T,J common delays
AS inputs
DIFF difficulty level
CH, CHORG character redefinition
CHAR read DATA to be POKEd into new character set

Hints on conversion

GRAPHICS 0 set screen to 40 x 24
POKE 752,1 turn cursor off
POKE 752,0 turn cursor on
POKE 756,A/256 enable characters
POKE 710,192 green screen
POKE 82,0 set left margin to 0
CHR\$(32) ASC code for SPACE
POSITION position cursor at ROW, COLUMN
PEEK(764) last key pressed
SOUND CHANNEL, NOTE DISTORTION, VOICE
LOCATE return ASC code for character at ROW,COLUMN in last variable
Replace lines 1020-1212 with your micro's own character redefinition routine.

```

100 REM *****
110 REM
120 REM ***      **** *      *      *      *
130 REM *      *      *      *      *      *      *
140 REM *      *      *      *      *      *
150 REM **      **** *      *      *
160 REM *      *      *      *      *      *
170 REM *      *      *      *      *      *
180 REM *      *      *      *      ****      *
190 REM
200 REM **BY LAWRENCE STAVELEY**
210 GRAPHICS 0:POKE 752,1:? "3INITIALIZING":?
"PLEASE WAIT A FEW SECONDS"
220 GOSUB 1020
230 W=3:E=3
240 DIM A$(1)
250 SC=0:GOSUB 920
260 REM DRAW PLAYFIELD
270 POKE 752,1
280 POKE 82,0
290 ? :?
300 POKE 710,192
310 FOR X=1 TO 880
320 ? "%";
330 RESTORE 420
340 NEXT X
350 FOR S=1 TO 140
360 READ A,B
370 POKE 752,1
380 POSITION A,B:? CHR$(32)
390 NEXT S
400 POSITION 0,9:? "FINISH":REM FINISH IN INVERSE
410 POSITION 0,2:? "START":REM START IN INVERSE
420 DATA 2,3,2,4,2,5,3,3,3,4,3,5,3,6,4,6,5,6,6,6,7,6
430 DATA 7,5,7,4,8,4,9,4,10,4,11,4,12,4,13,4,14,4,
15,4,15,5,15,6,15,7,15,8,15,9,16,9,17,9,18,9,19,9,
20,9,20,8
440 DATA 20,7,20,6,20,5
450 DATA 20,4,21,4,22,4,23,4,24,4,25,4,26,4,27,4,28,
4,29,4,30,4,30,5,30,6,31,6,32,6,33,6,33,7,33,8,34,8,
35,8
460 DATA 36,8,36,9,37,9,37,10,38,10,38,11,38,12,38,
13,37,13,37,14,36,14,36,15,35,15,34,15,33,15,32,15,

```

You're driving cou



```

31,15
470 DATA 30,15,30,16,29,16,29,17,28,17,28,18,27,18,26,1
8,25,18,24,18,23,18,22,18,21,18,20,18,19,18,18,18,17,18
480 DATA 16,18,15,18,14,18,13,18,12,18,11,18,10,18,9,18
,8,18,7,18,6,18,5,18,4,18,3,18,3,17,3,16,3,15,4,15,5,15
490 DATA 6,15,7,15,7,16,8,16,9,16,10,16,11,16,12,16,13,
16,13,15,13,14,13,13,13,12,13,11,12,11,11,11,10,11,9,11
500 DATA 8,11,7,11,6,11,5,11,5,12,5,13,4,13,3,13,3,12,3
,11,3,10,2,10,3,9,2,9,3,8,2,8
510 POSITION 0,0:?" RALLY BY L.STAVELE
Y ";;REM SPACES AND LETTERS IN INVERSE
520 POSITION 0,22:?"
"::REM 40 INVERSE SPACES
530 REM MAIN GAME LOOP
540 POSITION W,E:?" "
550 IF PEEK(764)=6 THEN E=E-1
560 IF PEEK(764)=38 THEN E=E+1
570 IF PEEK(764)=23 THEN W=W-1
580 IF PEEK(764)=22 THEN W=W+1
590 IF PEEK(764)=255 THEN SOUND 0,144,4,5
600 IF PEEK(764)<>255 THEN SOUND 0,200,6,5
610 IF PEEK(764)<>255 THEN SC=SC+1
620 IF PEEK(764)<>255 THEN SC=SC+1
630 IF SC>HI THEN HI=SC
640 POSITION 4,22:?"SCORE:";SC;
650 POSITION 24,22:?"HI-SCORE:";HI;
660 LOCATE W,E,TREE
670 IF TREE=ASC("%") THEN 740
680 REM ALL LETTERS INSIDE "" INVERSED
690 IF TREE=ASC("F") OR TREE=ASC("I") OR TREE=ASC("N")
OR TREE=ASC("S") OR TREE=ASC("H") THEN 820
700 IF TREE=ASC("S") OR TREE=ASC("T") OR TREE=ASC("A")
OR TREE=ASC("R") OR TREE=ASC("T") THEN 740
710 POSITION W,E:?"CHR$(ASC("$")+128)
720 FOR T=0 TO DIFF*5:NEXT T
730 GOTO 530
740 FOR T=0 TO 255:SOUND 0,T,10,10:NEXT T:SOUND 0,0,0,0
750 ? ">GAME OVER"
760 ? "ANOTHER GAME Y/N"
770 POKE 764,255
780 INPUT A$
790 IF A$="Y" THEN W=3:E=3:GOTO 250

```

on a collision rse



You've only got one chance to
live in this rally by Lawrence
Staveley, so drive carefully
and avoid the trees

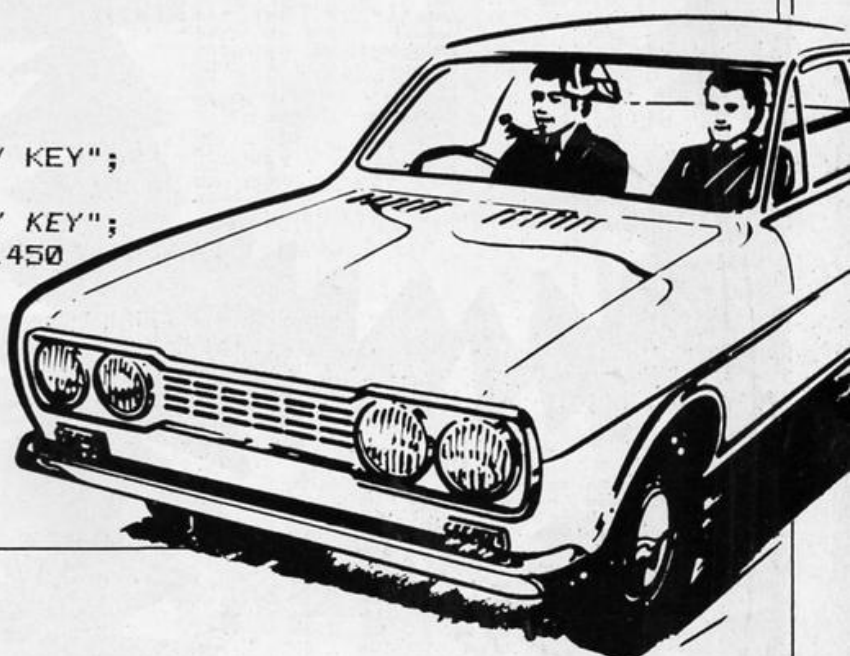
```

800 IF A$="N" THEN GRAPHICS 0:POKE 82,2:END
810 IF A$<>"N" THEN 740
820 ? " }CONGRATULATIONS"
830 FOR T=0 TO 255:SOUND 0,T,10,10:NEXT T:FOR T=255 TO
0 STEP -1:SOUND 0,T,10,10:NEXT T:FOR T=0 TO 255:SOUND 0
,T,10,10:NEXT T
840 SOUND 0,0,0,0
850 ? "YOU FINISHED THE RALLY"
860 ? "ANOTHER GAME Y/N"
870 POKE 764,255
880 INPUT A$
890 IF A$="Y" THEN W=3:E=3:GOTO 250
900 IF A$="N" THEN GRAPHICS 0:POKE 82,2:END
910 IF A$<>"N" THEN 820
920 PRINT " }":SETCOLOR 2,0,0:GOSUB 1220: ? "INPUT DIFFIC
ULTY LEVEL (1-5) "
930 ? : ? "1.....HARDEST"
940 ? : ? "2.....HARD"
950 ? : ? "3.....MODERATE"
960 ? : ? "4.....FAIRLY EASY"
970 ? : ? "5.....EASY"
980 ?
990 INPUT DIFF
1000 IF DIFF<1 OR DIFF>5 THEN 920
1010 POKE 82,0:POKE 764,255:RETURN
1020 REM REDIFINE CHARACTERS
1030 CH=(PEEK(106)-8)*256
1040 CHORG=(PEEK(756)*256)
1050 FOR I=0 TO 511
1060 POKE CH+I,PEEK(CHORG+I)
1070 NEXT I
1080 RESTORE 1130
1090 FOR J=0 TO 7
1100 READ CHAR
1110 POKE CH+(ASC("$")-32)*8+J,CHAR
1120 NEXT J
1130 DATA 24,24,24,255,255,24,24,24
1140 RESTORE 1190
1150 FOR J=0 TO 7
1160 READ CHAR
1170 POKE CH+(ASC("%")-32)*8+J,CHAR
1180 NEXT J
1190 DATA 0,24,60,126,126,24,24,0
1200 POKE 756,CH/256
1210 RETURN
1220 POKE 752,1:POKE 82,0: ? : ? "
Y      "
1230 ? "          BY LAWRENCE STAVELEY"
1240 ? "          FEBURARY 1984"
1250 ?
1260 ? "IN THIS GAME YOU ARE A DRIVER OF A CAR"
1270 ? "($ ) AND HAVE TO STEER YOUR WAY ":REM $ IN INVER
SE
1280 ? "AROUND THE COURSE AVOIDING THE TREES      (%)."
1290 ?
1300 ? "HERE ARE YOUR KEYS:-"
1310 ?
1320 ? "SPACE.....BRAKE"
1330 ?

```

```

1340 ? "Z.....LEFT"
1350 ?
1360 ? "X.....RIGHT"
1370 ?
1380 ? "+.....UP"
1390 ?
1400 ? "/.....DOWN"
1410 ?
1420 ? "GOOD LUCK !!!"
1430 POSITION 20,16: ? "PRESS ANY KEY";
1440 FOR J=0 TO 25:NEXT J
1450 POSITION 20,16: ? "PRESS ANY KEY";
1460 REM PRESS ANY KEY ON LINE 1450
      IN INVERSE
1470 FOR J=0 TO 25:NEXT J
1480 IF PEEK(764)=255 THEN 1430
1490 ? "}"
1500 POKE 764,255
1510 RETURN
    
```



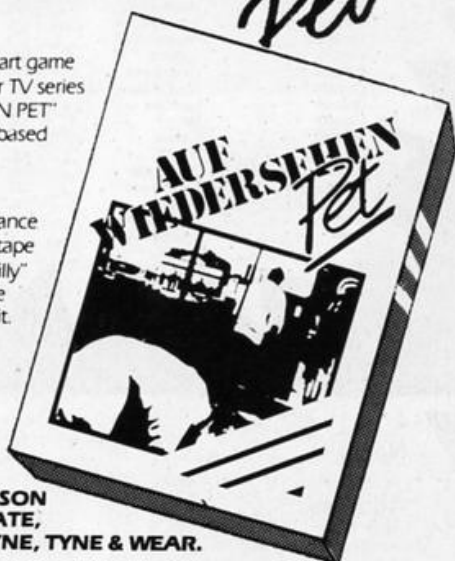
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Daco software, 59 Mackenzie Rd, Moseley, Birmingham B11 4EP

The stated aim of this program is to teach the principal parts of speech in a practical way.

In fact, it is a story writing program in which you form your story from the various word types offered and after choosing a type of word, e.g. verb, you are offered alternative verbs from which to select the one for your story.

It covers the following parts of speech; nouns, adjectives, pronouns, prepositions, verbs, adverbs and conjunctions. It also has two levels of difficulty which change the category titles of the words offered.

The idea is that you start with verbs being described as action words before you use the correct title in level 2. The program is based on a good sound idea and is more likely to foster a good understanding of the structure of English than say the old grammars with which you may be more familiar. The stories you create are not, however, checked in any real way and if you insist you can write complete nonsense (no this review was not written with the program!). Despite this, children will find the idea interesting to say the least. **D.C.**

instructions	85%
ease of use	80%
graphics	N/A
value for money	85%



Frac Attack 32K BBC £6.75

Shards, 189 Eton Rd, Ilford, Essex IG1 2UQ

There is no doubt that if you want value for money in your software Shards' Fun to Learn series tries very hard to give it. This is the third I have seen now and they seem to get even better each time.

The subject of this package is fractions but it doesn't comprise just one game with a number of levels — there are six games, all very different. Despite this, they are all contained within one master program so there is no extra loading time.

The games are: Shady Fractions, Frac-Attack, More or

Less, Beam up, Strong Arm and Hungry Radish. They cover, well and interestingly, the areas of fraction identification and the changing of denominators but don't deal with addition or subtraction of fractions.

This is perfectly reasonable and the amusing graphics and sound will really motivate the nine-15 year olds the program is meant for. Whilst this program won't teach the concepts it will certainly motivate children to get plenty of practise. **D.C.**

instructions	95%
ease of use	90%
graphics	90%
value for money	100%



Chemical Simulations 32K BBC £13.80

Acornsoft, 4a Market Hill, Cambridge CBN 3NJ

Three A-Level chemistry programs designed to be used in the same way as the company's Chemical Analysis. The first program, IR, deals with infra-red spectroscopy which I found was not in my A-Level syllabus, and was difficult to understand and follow.

The booklet, usually very good, was sparse. However, to be fair it did look impressive. A graph of a spectrum of a simple organic compound is shown. You then have to guess the number of various atoms which constituted one molecule.

PH curves may be drawn and, by using different limits, obtain varying degrees of accuracy. A short test is followed by one on the mathematics of titration curves where you must correct errors in given statements. A calculation of the pH of solutions employing a good press to reveal line by line system follows. A very good program that I would highly rate.

Organel displays a list of 18 organic compounds covering a range of functional groups. There is a list of questions that may be asked by the student. A good program. **K.L.**

instructions	80%
ease of use	75%
display	85%
value for money	80%



Top of the class

Our hard-to-please reviewers gave these computer tutors a pat on the head. Read on to find out why they rate them highly

Readright 32K BBC £9.95

Daco Software, 59 Mackenzie Rd, Moseley, Birmingham B11 4EP

Unlike many educational offerings we see nowadays, this package provides a real and extended range of options which can be used for children either as they develop skills or at a range of attainment levels.

The program is for the children at the early and intermediate stages of learning to read and is meant to help in two main areas. It encourages the use of contextual cues while reading, by always offering a word to be fitted into position in a sentence already on screen, this is a very good and helpful method to adopt. It also encourages

phonics, as the program will split up the words into their constituent phonemes for your child to sound out.

It needs to be emphasised however that this will only be of help to your child if this matches the method used in its school and should not be used without consultation.

The best feature is the placement program, or test, which should be used before using the others and will advise you on which of the seven main programs to use and even which of the levels to try. A little visual encouragement would have been nice though. **D.C.**

instructions	90%
ease of use	90%
graphics	N/A
value for money	85%



Mathskills I 32K BBC £11.95

Griffin, Ealing Rd, Alpertown, Wembley, Middx HA0 1HJ

This package is aimed at the 10-to 15-year-old who is preparing for the O-Level or CSE mathematics examination. It is a teaching package which, it is claimed, will help you to learn mathematics. This I don't feel to be fully true.

What a package such as this will do is give you practice and develop skill in answering the type of questions included by the method proposed. This is not the same as learning mathematics and can only be described as a part of the whole. The package covers long multiplication, long division, highest common factor, lowest common multiple and fraction manipulation.

The approach is fair, with a worked example being followed by questions for you to answer. In some cases there is a help facility, in others there is a step-by-step checking of answers, so that you are unlikely to get the wrong method fixed in your mind. Having said all this, the programs are no more interesting than having a self-correcting text book. While this may be helpful to some, it does nothing to attract the slow or reluctant learner. **D.C.**

instructions	75%
ease of use	70%
graphics	N/A
value for money	60%



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Learning boom for software

Here's a software marketing riddle. Last year there wasn't one, and this year it is significant. Any guesses? I'm talking about the educational software market (of course!)

Most computer retailers consider that educational programs now account for up to 30 per cent of total sales. At the start of last year, the total educational software market was estimated to be around two per cent. Not bad for the year's growth.

The reasons for this rapid growth are the pronounced increase in the number of computers now in U.S. homes and schools, national advertising schemes used by some hardware manufacturers which feature children learning with computer assistance and the better selection of quality programs. The market that educational software companies were only talking about two years ago is rapidly turning into a significant portion of the total market.

Some of the leading makers of educational software include Spinnaker and HES. A couple of reasons why the products of those companies sell so well is that, aside from being well packaged and useful, the programs are fun to use and low in price. Parents don't appear to want to buy programs which aren't fun and are unwilling to spend \$40 and up for software to run on a computer that may have cost less than \$100.

One large gap that still remains is for programs made for children in high school (ages 13-17). Most of the programs available are based on some sort of drill theme, mostly suited to children in the primary grades. Although there are a few programs designed for use by those preparing for the Scholastic Aptitude Test (SAT), a college entrance exam, most parents, though, are unwilling to spend \$80 on this program that may only be used once or twice. According to many market analysts, growing consumer interest, school district interest, and new programming techniques all link to lead to the expectation of strong growth in the educational market in the near future.

If you can't wait to jump on the microfloppy bandwagon, Amdek has the answer for you. The AMDC-I and II are three-inch drive systems that will work to provide 180K (I) or 360K (II) of formatted storage capability. Interfacing is a breeze as both microfloppy drives have built-in intelligent controllers which are fully compatible with the Atari line, using the DOS/XL operating system. Suggested retail prices: \$599 for the AMDC-I and \$850 for the AMDC-II. You should be able to get details on these units from your local (Atari or Amdek) dealer.

A new word processor, introduced by Prentice-Hall, called SkiWriter II also contains a communications program and is being touted as a very powerful low cost package. The program comes packaged in a ROM cartridge designed to be plugged into such machines as the Commodore 64, PCjr, and Atari computers. The unit uses a 16K ROM and is very easy to use, fast, and versatile. In addition to the usual word processing features, it offers a Capture function which turns the computer into a "smart" terminal capable of downloading information being sent by another computer and to store that information on either cassette or disc or even put it directly into a document being edited by the word processor.

Because of this type of communications option, this program could set a new standard in what can and should be expected from low cost programs. Ken Skier, author of the program and president of Skisoft in Lexington, Massachusetts, apparently has had quite a lot of experience in squeezing a lot of code into a small space in order to run on smaller computers. For example,

the original word processor on which SkiWriter II is based, was designed to be housed in only 8K inside a ROM chip in the Epson HX-20 lapsize computer.

Skier also has experience working for Wang, maker of dedicated word processors. Expect SkiWriter to become available later in the year, probably around October or so. For \$69.95, it should be well worth the wait.

Axonix, of Salt Lake City, Utah, has introduced its model ThinPrint 80 printer, a high performance full page printer which uses thermal printing techniques and runs on rechargeable batteries. It weighs about four pounds and is quite compact in size, being able to fit comfortably inside less than half of an average size briefcase.

Features include 40 characters per second, bidirectional printing capability, a 2K buffer, 80 or 136 characters per line, serial or parallel interfacing, and will accept either single sheet feed or continuous roll feed. The firm claims that the graphics resolution of the ThinPrint 80 is the highest offered by a battery operated unit. It will produce resolution of 960 by 7 dots per line which can be used to produce graphs, charts, and pictures of facsimile-like quality. All this for a mere \$279. This price includes a set of rechargeable batteries, an A.C. (mains) adapter, and an 80 page roll of paper.

Even software manufactures which have made their reputations for high quality games have also been getting their feet wet in the "serious" marketplace. A good example of this is Broderbund, whose Bank Street Writer is doing very well indeed. It is designed to be a low cost easy to use home machine oriented word processor. Another good example is the Synapse company, also a top games publisher. It has just recently come out with a programme called Relax, which is designed to help users lower their stress level and be able to learn how to take it easier. And when you live here in California, **nothing** is more serious than that!

Science-fiction buff that I am, it was impossible to pass by the notice that the well known publishing firm of Simon and Schuster is planning to distribute a line of sci-fi computer games. Not only that, but these games have been written by well known sci-fi authors such as Robert Heinlein, Fred Saberhagen, Jerry Pournelle, Larry Niven, and Stephen R. Donaldson to name but a few. Among the various titles to be distributed, look for Wings Out of Shadow, by Saberhagen; Snake!, by John Chenault; and Starclash II, by Stephen Walton. These should be out soon.

Coming later in the year will be Animal Love, by Donaldson; The Game of Empires, by Poul Anderson, Glory Road, by Heinlein; and Inferno, by Niven and Pournelle. The game series will retail from \$24.95 to \$34.95 and will run on Apple, IBM, and Atari computers. I don't know about all of them, but I can tell you that Jerry Pournelle is quite a good programmer in addition to his other skills, and that he has put quite a lot of effort into Inferno. These should be quite an excellent series of games.

Time to go time. Till next week...

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