

POPULAR **Computing** **WEEKLY**

Only 50p.

26 February-4 March 1987

Vol 6 No 9

NEWS DESK

Atari names
price for
PC clone

All change
at Telecom

Locoscript 2
to be released
in March

FEATURES

Teletext
adaptors

Fonts for STs

Compunet

Superbowl
competition
winners

REVIEWS

Shadow
Skimmer
- new from
The Edge

Ranarama
- Hewson's
latest

Role playing games

A special report



TERROR of the DEEP

"It is a strange craft that
I control. The task before
me is colossal, the
dangers immense.
The loch awaits..."



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Stein

GAMES ▶

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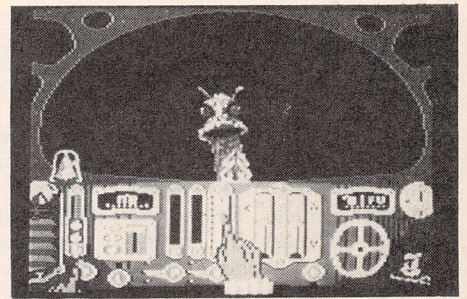
Check out Steve Turner of Hewson's brand new *Ranarama*, and, hot off the duplicating machine, *Shadow Skimmer* from The Edge. Plus Mar-tech's judo simulation *Uchi Mata*.

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This week's tips include help for *Firelord* from Hewson, and *Space Harrier* from Elite.

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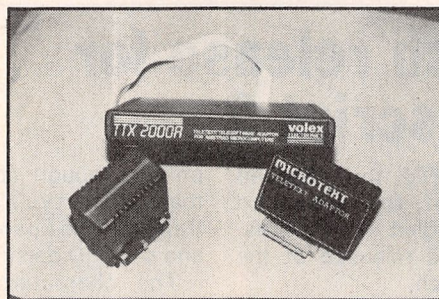
Your imagination is the only limit in the field of RPGs. Duncan Evans charts the history of the role playing game and looks at some of its computer implementations.

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for you to sidestep all that typing and send away for — *Sphere*, by Steven Pattullo. Plus our usual selection of short routines.

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Atari sets target UK price on PC clone

ATARI is concentrating its marketing thrust on the 'corporate' version of the Atari PC (see *Popular Computing Weekly*, February 5), to the extent of announcing a target UK price - £495, inclusive of Vat.

This, as Atari UK is keen to point out, is cheaper than the Amstrad PC1512 of equivalent

specification, which is £516.35 (inclusive of Vat).

The 'corporate' Atari PC will include an EGA colour graphics board. So far, Atari has not attempted to put any UK price on the entry level PC, which will sell in the US for around \$499 (£335).

At the moment, Atari does not intend to start delivering

its PC clones in Europe until late summer, but plans to begin shipping in the US at the end of March.

Atari plans to show its full range of micros, with the possible exception of the PCs, but including the recently announced Mega STs, at the Hanover Fair, which begins next week.

Computer presence in Stock Market expands

THE Prism Leisure Corporation becomes the computer industry's latest addition to the USM (Unlisted Securities Market) this week, capitalised at £4.2 million.

Shares were due to begin trading on Tuesday (February 24) at a launch price of 120p.

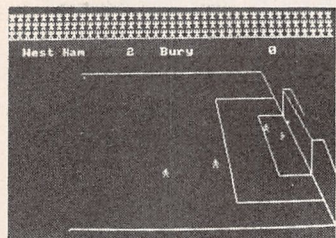
Previously called Geoff's Records, Prism is known as a games software distributor, specialising in buying licences to well-known but ageing titles, repackaging and re-releasing them, often at a budget price.

Through Prism, for instance, *Superman*, is now available at £2.99. The PC version of *Boulderdash* is also published by Prism at £9.95. The company has also just

Football Manager for the ST

THE evergreen *Football Manager* is still alive and kicking - and due for conversion to Atari ST this year.

Author Kevin Toms intends to enhance the graphic presentation of the matchplay and improve on the skill ele-



FM - due for graphic enhancement?

ments of the game. However, he would not specify any time schedules for the ST version, beyond, "we will definitely be doing it."

Meanwhile, Toms is currently putting the finishing touches to *President*, a 'running the country' simulation, due for release on Spectrum, Commodore and Amstrad next week.

March release for Locoscript 2

LOCOSCRIPT 2, the enhanced version of the Amstrad PCW's bundled word processor, will be released at the end of March.

Howard Fisher, of author Locomotive Software, claims, "There are a lot of enhancements over the original *Locoscript*. Chiefly it will be faster, with the general operations speeded up, and the addition of a 'jump to page' feature, particularly useful in long documents.

"It will also support any

printer, though some better than others. We'll be concentrating on the Epson FX series and the 630 daisy wheels."

The characters available will also be increased, so that up to 15 different accents can be accessed from the keyboard.

Fisher says that *Locoscript 2* will cover every European language, including Greek and Cyrillic scripts.

A price has not yet been announced, but it will probably be just under £20.

Further PCs from Amstrad?

SPECULATION is increasing about Amstrad's plans to fill the perceived market gap between its Spectrum Plus 2 machine and the PC range. Any such machine would obviously be targeted directly against the Atari 520STFM.

Present thinking is that Amstrad is most likely to add an EGA graphics board to the PC1512s, rather than going all out for designing and assembling a new micro. An EGA board could give the PCs Amiga-style graphic capabilities; the real question is whether Amstrad could keep the price down.

Amstrad has previously stated that it would be looking at developments to the PC1512s this year (see *Popular Computing Weekly*, November 20, 1986).

However, the speculation that Amstrad may try to buy

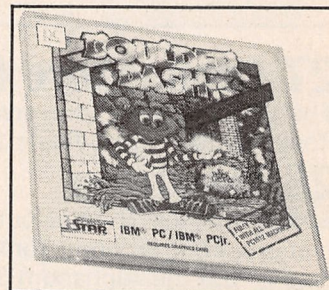
or license the Commodore Amiga's custom chips, first raised well over a year ago, is still being voiced.

More games from Woollies

HIGH Street retailer Woolworths will be expanding its software departments, thanks to a deal signed with Mastertronic.

Woolworths currently stocks Mastertronic budget software in 70 stores and plans to increase this to 196 stores from the beginning of March.

Mastertronic is also to supply Woolworths with full-priced, third party software, mainly games taken from the charts and a selection of new releases.



bought the licence to *Nexus*, from the company of the same name.

The company began by selling records from market stalls, and Prism's principal buyer, Terry Ashton says, "We're probably the only company on the USM, which still sells at the markets."

Following the USM flotation, Prism now plans to source its own software. It has three in-house programmers, and intends to take on another two later this year.

One of its first home-grown titles will be *World Bowls*, a bowling simulation with backdrops, *International Karate*-style, depicting various world cities, including Dallas, Hong Kong and Edinburgh. This should be available next month, published by Endurance Games on Spectrum, Commodore and Amstrad.

Please note that, from next week, Popular will go on sale on Fridays. The next issue will be dated March 6-12. (London readers should be able to buy the magazine on Thursdays.)

Clive's portable Z88 displayed at Which? show

ALTHOUGH the Which Computer show is traditionally aimed at the business and corporate user, the recent blurring of the distinction between 'home' and 'business' micros meant that of the major hardware companies in the consumer field, only Atari was absent.

Amstrad exhibited the PCW8512, with emphasis on the new *Locospell* spell checking package for *Locoscript*, and the PC1512 range, with the launch of the PC's modem and DMP4000 printer (see *Popular Computing Weekly*, February 19).

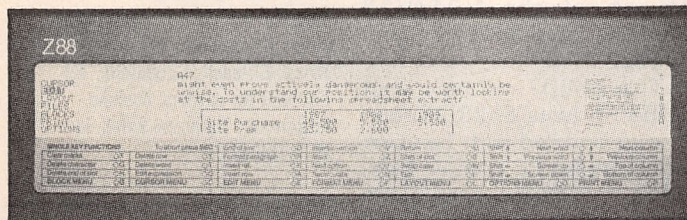
Commodore concentrated on the Amiga and its PC compatible series, recently re-

neous European launch in London and at the Hanover Fair at the beginning of March.

Sir Clive Sinclair showed models of his portable Z88 micro (see *Popular Computing Weekly*, February 19).

The Z88, which is the culmination of Sinclair Research's portable project, will cost £227.95 when it is launched, on mail order basis, in April.

It incorporates the Z80 processor, a custom written operating system, and BBC Basic (Z80 version). For storage the machine will use specifically designed two inch square Ram and Eprom cartridges.



The Z88's 'supertwist' LCD display, showing its four 'windows'. Extreme left: the menu options, enabling you to switch from one software program to another. Centre: the text screen. Mid-right: the 'screen map', showing the whole of your document. Far right: status reminders (battery power, editing modes, etc).

duced in price – the Commodore PC10 now costs around £1,000.

Also in the low-cost clone market was Sanyo, with its new MBC-16 range. The lowest spec MBC-16, with 256K, and single 5¼ inch drive, will retail at £573.85.

At the other end of the range, the 20M hard disc, colour screen version costs around £1,200.

The Amigas were displaying *Desk Top Video*, a package enabling users to create videos (for business presentations, for example) entirely with the Amiga.

There was no sign of the forthcoming A500 and A2000 Amiga machines. Commodore is thought to be saving these for a simulta-

The Z88s on show were working models, but the in-built software (word processor, spreadsheet, desk diary) was still unfinished. Stand representatives assured visitors that it was only about a month away from completion.

There was also no sign of the IBM transfer facilities, nor the add-on modem.

The presence of Atari STs at the exhibition was almost solely confined to Mirrorsoft's stand, where the company was demonstrating *Fleet Street Publisher*, on the ST, and launched the Amstrad PCW version, *Fleet Street Editor Plus*. Release dates for both are still sketchy, although the ST version is expected in March.

Software Hotlines

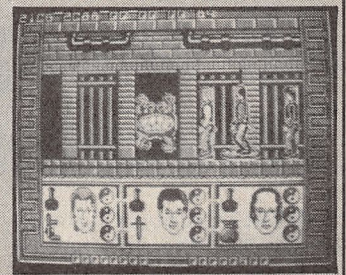
SPRING is in the air, the crocuses are in full bloom, the festivities of Christmas are long past. Yet *Gauntlet* is still at the top of the charts. This must rank, along with the ratio of the dimensions of the Great Pyramid of Ra, as one of the greatest unexplained mysteries of this world. OK, together with the fate of Eugene Evans, the Shirley Temple of the programming industry (as hyped by Imagine).

Hotlines can shed some light on the latter – he's turned up writing a game for Mirrorsoft called *The Bermuda Project*. Good luck that man.

Get your film tie-in news here – and no pushing at the back there. A first screen shot of Electric Dream's *Big Trouble in Little China*. Good innit?

Gremlin Graphics, that Sheffield branch of the US Gold empire will be bringing that Walt Disney character *Basil the Great Mouse Detective* to your screens quite soon... along with that non-Walt Disney character Charles Bronson, with *Death Wish III*.

Domark, tacitly admitting that the standard of its product sourcing occasionally fell a little short of the norm, has got Sculpture Software in Salt Lake City, USA to do the Commodore 64, ST and Amiga versions of the latest Bond epic, *Living Daylights*.



Big Trouble in Little China

with the Z80 conversions to be done in this country by Design Design.

Out around June/July, Domark will be selling the thing in the UK and Europe, with Mastertronic doing the business in the States.

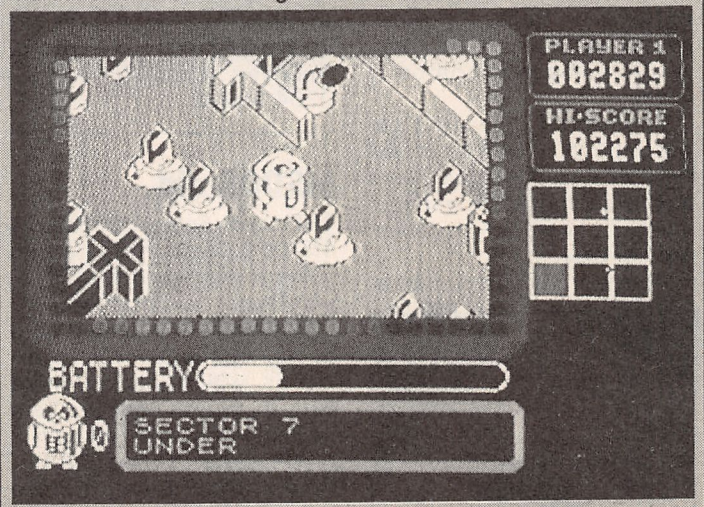
Incidentally, the big D also now claims *Trivial Pursuit* has sold over 200,000 copies (that's a lot of games) while the Young Persons question set has "outsold a normal seller". Yuppies, however, will have to wait until March for the Baby Boomer questions.

Finally, the long silence is over – it looks like Ultimate has come back from its vacation on Zanussi and is releasing a game in April called *Martianoids*.

To be released on Spectrum, Amstrad CPC and MSX format around April (not April 1, surely?) for the princely sum of £8.99, you can see from the screen shot below the advanced programming techniques that have been employed to make the game look like almost every other Ultimate game released since *Knights Lore*.

John Cook

Martianoids – forthcoming from Ultimate



All change at Telecomsoft

BRITISH Telecom is currently overhauling the structure of its New Information Services division, which includes all its software departments.

Ederyn Williams, who has been running the combined entertainment software operations as well as New Information Services as a whole, will now drop the former responsibility.

The new head of entertainment software is Paula Byrne, who has been publisher of Rainbird since the departure of Tony Rainbird, and before that was marketing manager at Melbourne House. Rainbird's Paul Hibbard will step up to fill Byrne's post.

Meanwhile, Telecomsoft has set up a separate business division which aims to develop software in three particular areas: desk top publishing, expert systems and communications packages.

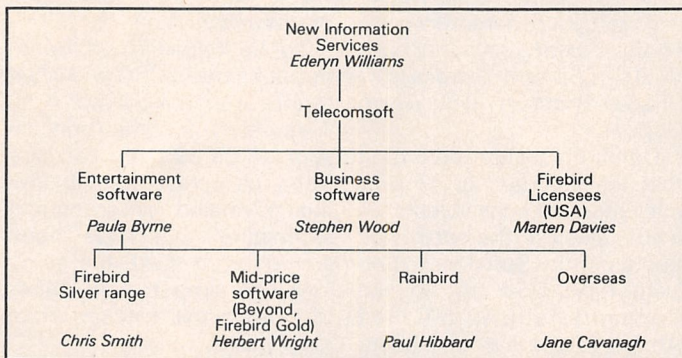
"This is just part of restructuring the whole of this side of BT," said Ederyn Williams. "We're taking it fairly slowly."



Paula Byrne – new entertainment head

The business software side was set up on January 1, and has three members of staff at the moment."

In the course of the reorganisation, the distinction between Telecomsoft and New Information Services is likely to disappear, with the latter name being dropped.



Personalise your stationery

PERSONALISED computer stationery is available from Andover-based company Compuprint.

Compuprint can supply paper with your own letterhead on it in a number of colours and with logos. The paper itself is available in white, grey or blue.

Details from Compuprint at



Arkwright Gate, West Portway Industrial Estate, Andover, Hants SP10 3BS, 0264 59222.

MSDOS aid

THE *Quick Reference Guide to MS-DOS Commands* is a slim volume, published by Microsoft Press, next month.

The book is intended as a handy reminder for commands which will be more convenient than looking them up in a more detailed text.

The guide will cost £3.95. Details from Microsoft Press on 01-938 2200.

Compilation number two from Elite

ELITE Systems is releasing its second games compilation package, following the success of *Hit Pak*, next month. It is to be called *6-Pak*, although there will in fact be seven games on it.

The first six are *The Sacred Armour of Antiriad* from Palace, *Jet Set Willy II* (Software Projects), *Scooby Doo* (Elite), *Split Personalities* (Domark), *Fighting Warrior* (Melbourne House) and *1942* (Elite).

The seventh is *Duet*, a previously unreleased game from Elite.

The *6-Pak* will be available for Spectrum, Commodore and Amstrad, priced at £9.95 on tape and £14.95 on disc.

Modems reduced

TANDATA has made a number of alterations to the prices of its modems, following the launch of the V21/V23 Tm500 and V22/V22bis Tm722.

The Tm602 will now cost £458.85 (was £523.25) and comes bundled with Tan-Link software for PC compatibles, while the Hayes compatible Tm512 now costs £293.25.

The auto-dial 1200/75 Tm110 has also gone down to £99.99, and its software for the BBC and Master range is now available free on Rom.

Communications software is also reduced: *Tan-Link*, when purchased as an extra is now £99, *Tan Rom*, the BBC terminal package is now £52.90 and the Commodore 64 Micropack £56.35.

Mini Office for 64

DATABASE'S software suite *Mini Office II* (which won Business Program of the Year in the recent *Popular Readers' Poll*) is being released for the Commodore 64/128 this week.

The suite incorporates a word processor, database, spreadsheet, communications and graphics software and a label printer, all for under £20.

On tape, *Mini Office II* for the Commodore costs £16.95, on disc, £19.95.

DIARY DATES

MARCH

20-22 March

The Electron & BBC Micro User Show

UMIST, Manchester

Details: Software, hardware and peripherals for Acorn's micros
Price: £3 adult, £2 children, £1 discount for advance booking

Organiser: Database Exhibitions, 061-456 8835

APRIL

11 April

Dragon Computer Show

Ossett Town Hall, nr Wakefield, W Yorks

Details: Software, hardware and demonstrations for Dragon users
Price: £1 adults, 50p children and OAPs

Organiser: John Penn, 04203 5970

24-26 April

The Atari Computer Show

Novotel, London W6

Details: First chance for Atari to show off exciting new strategy
Price: £3 adult, £2 children, £1 discount for advance booking

Organiser: Database Exhibitions, 061-456 8835

MAY

2-3 May

First Ideal Microcomputer Show

Kensington Exhibition Centre

Details: Software, hardware, peripherals for consumer users

Price: £3 on door, £2 in advance
Organiser: RAMCO International Exhibitions, 01-906 3363

8-10 May

The Electron & BBC Micro User Show

New Horticultural Hall, London

Details: Software, hardware and peripherals for Acorn's micros
Price: £3 adult, £2 children, £1 discount for advance booking

Organiser: Database Exhibitions, 061-456 8835

Prices, dates and venues of shows can vary, and you are therefore strongly advised to check with the show organiser before attending. *Popular Computing Weekly* cannot accept responsibility for any alterations to show arrangements made by the organiser.

THE OFFICIAL



FA Cup 87

FOOTBALL



This new up-dated version of last season's best selling official FA Cup Football incorporates every league club's form for the 1986 season as well as new manager's questions to test your judgement.

FA Cup Football 87 is a text based simulation of the FA Competition that allows you to take 10 teams to success. You make decisions about tactics during play and answer which contribute to your teams victories.

The game has been developed with the full endorsement of the Football Association and the form that gives such realistic results has been provided by sports writer Tony Williams (author of the Official FA League and Non-League Directories).

Available for Spectrum 48/128, Commodore 64/128, and Amstrad CPC computers. All versions are on cassette only and cost £7.95.

Available from all good software shops from 24 February 1987 or directly from Virgin Games.

- Spectrum 48/128
- Commodore 64/128
- Amstrad CPC

£7.95

£7.95

£7.95



Please tick the version you require and send this tear-off to: **Virgin Games Mail Order, 2/4 Vernon Yard, Portobello Road, London W11 2DX.**

Make cheques or crossed postal orders payable to **Virgin Games Limited.** Please do not post notes or coins.

NAME

ADDRESS

MONEY ENCLOSED

Teaching your QL

If W P J Baily (Letters, February 12) would like to teach the QL to estimate factorials larger than 300!, the following might help. It only gives an approximation, but then, so does his/hers, above 16!

```
100 CLS#0=INPUT#0; 'number' ;x
110 n=(x+_5)*LN(x)+_5*
(LN(2*PI))-x+1/(12*x)
120 d=n/LN(10)
130 m=INT(d);n=10^(d-m)
140 PRINT\ "Factorial";x;"is
approximately:-" \ ;n;"x TEN to the
power of";m
150 GO TO 100
```

*C R Oswin
Christchurch, Dorset*

Thanks to Stort Soft

I have been prompted to write about one of your advertisers, Stort Soft, which offers cut price discs, with a two-for-one replacement on any faulty disc.

I was tempted to buy some of these bargain discs and, shock horror, 12 out of the 25 were actually faulty.

To cut a long story short, the offending discs were duly despatched back to Stort Soft for tests to be carried out. The outcome of this was

that within a week of sending the discs back, I am now in possession of my replacement discs and they all work perfectly.

Many thanks to Stort Soft for the fast, efficient service which it offers.

*D Chilvers
Leeds*

Italics from BBC

I have recently found an old program from your magazine called Italics for the BBC micro, written by Jonathan Temple and published in Bytes and Pieces, July 24, 1986.

To insert a variable to print in italics in a Basic program, all you have to do after assembling Italics is to add the following lines at the relevant point within your program:

```
10 A$="This is using a variable"
20 OSCLI"LINE"+A$
```

*Stephen Morris
Stratford-upon-Avon*

Looking for a publisher

Due to the demise late last year of Gemini Marketing of Devon, we have found ourselves in the position of hav-

ing a very sound commercial software package with no publisher.

We are looking for a company prepared to publish our package for both the Amstrad PC 1512 and Amstrad PCW 8512 computers.

The package is (or was) *Video Gem*, a versatile video library rental management and control system, comprising of over 200k of code and handling, among other things; control and check the issue and return of film rentals; daily takings and transactions reports; lock, unlock and mark for reference; search by wildcard or specific 1-15 chars; film ratings, profit and loss; reservations; label printer, letter printer with mail merge; stock control of non rental stock, with cash sales; inbuilt backup facility; 70+ page manual ready written.

The package is ready and waiting for a publisher to offer either an outright or royalty agreement suitable to both sides. Expected turnaround from a master disc to be less than it takes for the artwork on the manual inlays.

*Steve Potter
Nova Soft
39 Church Walk
Brinsley
Notts NG16 5AR*

Compatibility questions

So the Atari PC is more compatible than the Amstrad PC because you can use an EGA card (News Desk, 15 January). But the Atari has no card slots, so where do you plug in your EGA card? In the special add-on expansion box "coming soon", of course. The price of this expansion box, when and if it appears, should be added to the Atari's base price if you are going to compare like to like with the Amstrad.

As far as the mouse goes, the Amstrad PC's mouse works perfectly with the *Microsoft Word* wp package, using the mouse driver supplied by Amstrad. I say that makes it pretty damned compatible with the 'industry standard' *Microsoft* mouse.

What I would like to know is, does the Atari come with *Gem Desktop*, *Gem Paint*, and two operating systems? Does it display 16 colour graphics (without you having to undergo the expense and wait for add-on vapourware) or just the four that you get with IBM compatible CGA cards, or is even that an extra?

continued on page 11 ►

Puzzle

Puzzle No 247

I was at the 'Dog and Puddle' the other evening playing a game of darts. My first three darts scored a total of 49 points, every dart landing in a different section of the board. On my next throw I also scored 49 with those three darts, and strangely, each of the darts was in the adjacent segment of the board, one place clockwise from my first throw.

For example, had my first throw been 11,

double six, and treble one my second throw would have been 14, double 10, and treble 18. Note that by 'one place adjacent' means that a single score becomes another single, a double becomes a double, and a treble becomes a treble, in each case one place clockwise on the board.

Every dart scored, and the bulls were not included. Can you say where the darts landed on the board?

Solution to Puzzle No 242

The next number in the series is 3678 which has the square 13527684.

The listing computes a list of squares with more than two digits and checks each in turn to determine if these digits are consecutive. As each square is calculated, it is converted into a string variable and each digit in turn is stored in the array (lines 40 to 70).

Lines 80 to 120 is a bubble sort which rearranges the digits into ascending numerical order. This is done by comparing each pair of values in the array and swapping those which are out of order.

This procedure is repeated until the array has been scanned and no exchange has been performed. The flag (FL) indicates this. Finally, the array is scanned to check if each of the

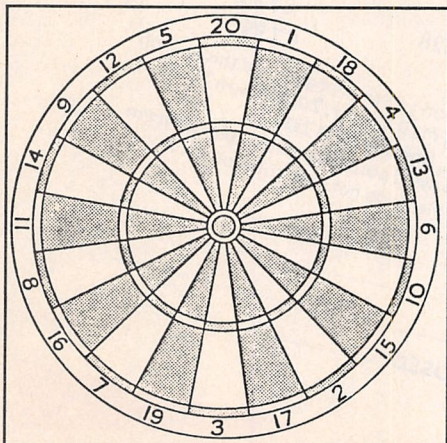
values form a successive sequence.

Winner of Puzzle 242

This week's winner is R W Hogarty of Plymouth, who will receive £10.

Rules

The closing date for Puzzle 247 is March 20. Answers should include a program listing if possible.



```
10 DIM D(9)
20 N=4
30 S=N*N;S$=STR$(S)
40 L=LEN(S$)
50 FOR F=1 TO L
60 D(F)=VAL(MID$(S$,F,1))
70 NEXT
80 FL=0
90 FOR F=1 TO L-1
100 IF D(F)>D(F+1) THEN Z=D(F):D(F)
=D(F+1):D(F+1)=Z:FL=1
110 NEXT
120 IF FL=1 THEN 80
130 FOR F=1 TO L-1
140 IF D(F)+1<>D(F+1) THEN FL=1
150 NEXT
160 IF FL=0 THEN PRINT N;" ";S
170 N=N+1:GOTO 30
```

RIDERS GO FULL CIRCLE...



SHOCKWAY RIDER

SPECTRUM £7.95

AMSTRAD & COMMODORE £8.95

FTL
FASTER THAN LIGHT

FTL FASTER THAN LIGHT, CARTER FOLLIS GROUP OF COMPANIES,
SEDGLEY ROAD EAST, TIPTON, WEST MIDLANDS DY4 7UJ. Tel: 021-557 2981 (4 lines)

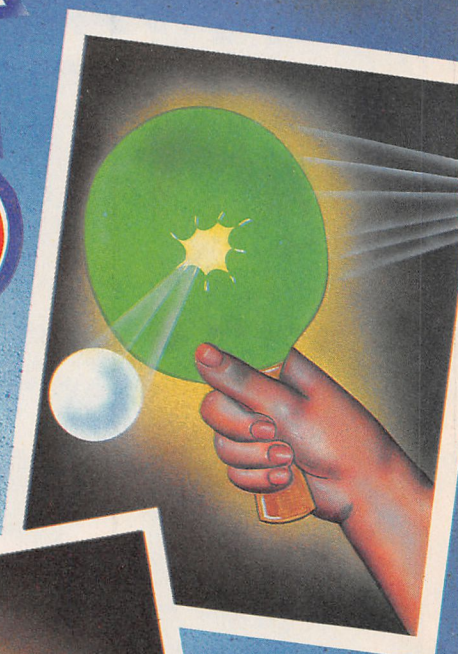
all in one superb package

4

All Action
Packed Games

INDOOR SPORTS

Darts, Air Hockey, Bowling & Ping Pong*



C.U.
Screen
Star

C.C.I
MEGA



*PING PONG IS NOT INCLUDED IN COMMODORE VERSIONS



COMMODORE 64*
(C) £8.95 (D) £14.95
SPECTRUM 48K,128K,+
£8.95
AMSTRAD CPC
(C) £9.95 (D) £14.95

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◀ continued from page 8

The Amstrad PC doesn't use the EGA because it doesn't need to. Most IBM software restricts itself to the less capable four colour CGA style screen. This displays fine on the Amstrad, but what a waste of its 16 colour capabilities. Software that really needs the EGA is scarce.

Tramiel has used "coming soon" announcements before to try to hurt the opposition when his own machines weren't ready.

*Iolo Davidson
Tetbury, Gloucs*

Sounds good to me

In the supplement, *Beginners' Guide To Computing*, dated 22-28 January 1987, you say that the Commodore 64/128 has the best sound chip on the home computer market.

Later on in the supplement you mention the Yamaha CX5M, and you say that it would fit the bill as a music computer fine, but as you rightly point out that the sound chip used in it is not to MSX standard, although it is completely compatible.

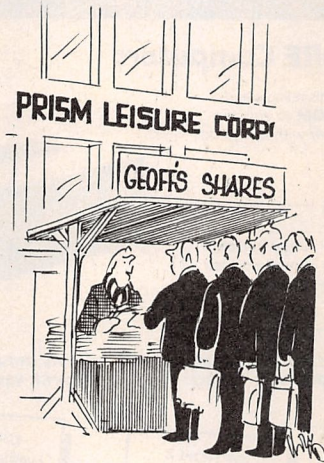
The new MSX standard 'MSX2' uses the same sound chip as the Yamaha CX5M as a standard. The chip, if you didn't already know, has nine channel FM synthesis, which beats the Commodore 64/128, leaving the Commodore standing. Not only has it got more channels but it has a much better sound quality.

I would say that MSX2 machines have the best sound chip on the home computer market and there is plenty of software for the machines, as it will run all MSX1 software.

I would say to you that the other computers are fighting a losing battle against the Japanese when it comes to the graphics and sound of the MSX2 machines. Care to mention anything that they cannot match other computers with?

*D Haslett
Preston*

UK sales!



Bargains may be best

Whilst not making me drop everything and run to the shop in question, the headline "Computer Clearance Bargains", taken from an advert in a national daily paper certainly gave me something to think about.

Owning two computers, a CPC464, and an Einstein (bought as a result of a similar advertising campaign), along with various printers, joysticks, disc drives, etc, I am well aware that today's leading models are very quickly tomorrow's clearance bargains.

This leads to an interesting predicament to the computer buyer regardless of price range.

A QL, with 128K memory, a fair keyboard, and a storage system, that although is not perfect, is a vast improvement over a tape system, can be bought for under £100, and can be built into a powerful small business system.

An IBM, or compatible system costs far more, even when one remembers the price cuts that have arisen since the arrival of Amstrad into this market.

Of the Amiga and ST, both

White knights in satin

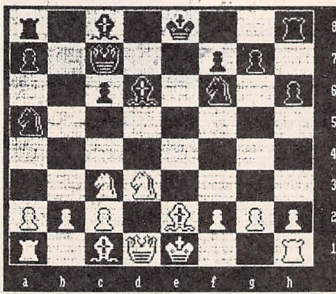
Back to Game One this week, where the Readers are playing black.

Your votes for move 12 added up to a clear suggestion to move the queen, from d8 to c7.

Colossus, playing white, has replied by moving the queen's knight (for details see diagram).

Cast your vote here

Now we need your suggestions for the next Readers' move. Send your suggested move to either *Inter-Mediates (Popular Chess)*, Freepost, Sawbridgeworth, Herts CM21 9YA (you do not need to use a stamp with this address), or *Popular Chess*, Unit 2, The Maltings, Sawbridgeworth, Herts CM21 0PG (with a stamp). Please note that if you use Freepost, your entries must be posted promptly - Freepost is slower



than paid-for mail. All entries must reach either address by Wednesday, March 4.

The move which gets the most votes will be entered into the game. Results and *Colossus's* response will be published in two weeks' time.

Prizes

A British Museum reproduction Arran chess set will go to the person suggesting the most accepted moves at the end of the game. Five copies of *Colossus Chess 4* (available for most popular micros) will go to the most consistent entrants for the duration of the game.

Next week, we return to Game Two, where the Readers are playing white.

Game One

The moves so far:

- | | | |
|----|---------|--------------|
| 1 | Pe2-e4 | Pe7-e5 |
| 2 | Ng1-f3 | Nb8-c6 |
| 3 | Bf1-c4 | Ng8-f6 |
| 4 | Nf3-g5 | Pd7-d5 |
| 5 | Pe4xd5 | Nc6-a5 |
| 6 | Bc4-b5+ | Pc7-c6 |
| 7 | Pd5xc6 | Pb7xc6 |
| 8 | Bb5-e2 | Ph7-h6 |
| 9 | Ng5-f3 | Pe5-e4 |
| 10 | Nf3-e5 | Bf8-d6 |
| 11 | Pd2-d4 | Pe4-d3 |
| | | (en passant) |
| 12 | Ne5xd3 | Qd8-c7 |
| 13 | Nb1-c3 | ? |

of these have fallen in price (although the Amiga still has a long way to go), but for many home users are still far too expensive, both for the initial cost, and the cost of software, both business and leisure.

So what does one do? You can spend all of your money on a new machine, with many new features, and as of yet a limited software base, or you can spend much less money on an older model computer. This may also have a small software base, but if software companies note the sales of these computers sold in clearance sales, as they did with the C16, then this will change.

Take the latest Spectrum version, the Plus 2, with 128K memory, and as always the laborious tape loading system. A great games machine with a vast software base, but of limited use for any other application.

Sitting next to this is a

computer first put on sale in 1984, with slightly less memory, has a three inch disc drive built in as standard, and an operating system that allows it to run CP/M programs. Whilst not having such a vast range of games software (although it comes with 20 free games, of which most are conversions from other machines, by software houses such as A'n'F), it will run industry standards, such as *Wordstar*.

Of these two computers, the Einstein and the Spectrum Plus 2, the only thing the Einstein lacks is the games software. In all other ways it is the better computer, yet sells at £20 less.

Much as it is nice to have the latest, most up to date equipment, it is well worth having a look for a bargain clearance sale. After all "Many a good tune's played on an old fiddle."

*T J Cozens
Woking*

Evesham Micros

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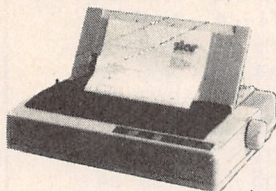
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In the bin

You have to understand that there aren't very many original game locations left. Those bits of outer space that haven't been blown to bits have been mapped in their entirety, and most of earth has gone the same way.

This is doubtless why Infogrames has set its latest title in a wastepaper basket. That's right, a bin. Or *corbeille*, as they say in Infogrames' native France.

Why anyone should want to get excited about a game which takes place in a wastepaper basket is beyond me, and judging by the game, beyond Infogrames as well.

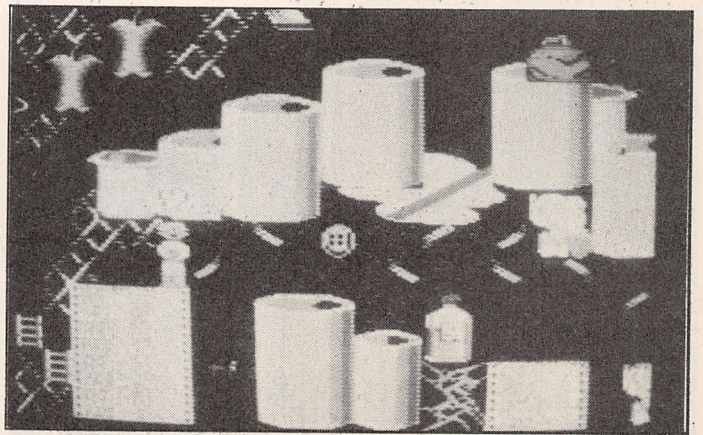
The preamble scarcely matters, but anyway, you are

Professor Nitro, you've drunk your own prototype life cell reduction fluid, shrunk accordingly and fallen in the bin.

From then on it's platforms and ladders, collect the objects which represent the formula to enlarge you again, collect old apple cores to eat (ugh!) and droplets to drink, avoid flies, ants, chewing-gum and drops of acid. Aesthetically speaking, at least the screen representation of most of this bears little resemblance to the real thing.

Once you've got your formula bits, it's off to the laboratory to collect more things to make it up.

It's really nothing more than collect and dodge, tarted up with some French cartoon



style large graphics. The explanation, as per the instructions, of what you are collecting and why, is so contrived as to be almost painful, and this really isn't the sort of stuff you'd expect from the company which brought out *L'Inheritance* and *L'Affaire Vera Cruz*.

Popular Appeal ♦
Christina Erskine

Program *The Amazing Shrinking Man* **Micro** Amstrad CPCs **Price** £9.95 tape, £14.95 disc **Supplier** Infogrames, Mitre House, Enfield, Middlesex.

Run around

The Labour Party of the programming world, Jeff Minter, too, seems to have lost his way somewhere in the late Eighties.

The latest double-C16 package from Ariolasoft includes a conversion of an old Vic 20/CBM64 title, *Hell Gate*, and a new game, *Void-*

Runner, which adds little to the existing Minter oeuvre.

Hell Gate gives you four laser cannon, moving in two pairs, with which to destroy everything appearing within the interdimensional galaxitransmitter, or whatever. With so many sprites flying around, destroying all the

baddies before they touch the sides, and avoiding hitting the odd goat (which will cost you points) is almost impossible.

VoidRunner is all effects and very little gameplay; a group of four fighters in different formations to destroy wave after wave of bouncing, exploding, zapping and multiplying baddies. The screen is too cluttered to have any idea what you're doing, and the inter-level displays would

look fine as demos on CompuNet, but get more than a little tedious as part of the game.

Popular Appeal ♦ ♦
Chris Jenkins

Program *VoidRunner/Hell Gate* **Micro** Commodore C16 **Price** £6.95 **Supplier** Ariolasoft, 68 Long Acre, Covent Garden, London WC2E 9HJ.

Competition results

Winning style

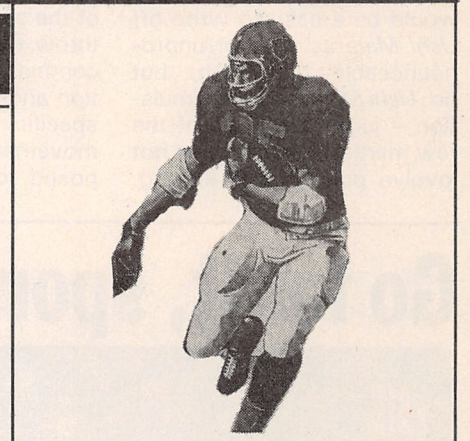


Our excursion into the world of American Football in our Superbowl Special of January 22-28 must have been a popular one if the number of entries to the Superbowl competition is anything to go by. The envelopes have been threatening to take over the entire office ever since.

We asked you for the answers to three simple questions, and ten correct entries win a copy of *The American Football Book 4*, published by Queen Anne Press in conjunction with Channel 4.

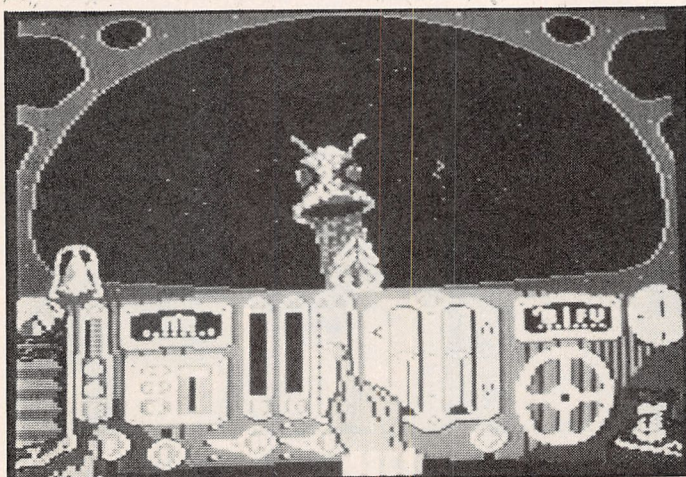
The questions were:

- 1) Who won the Superbowl in 1986?
 - 2) In American Football, how many points do you score for safety?
 - 3) What is The Fridge's real name?
- And the answers are:
- 1) The Chicago Bears.
 - 2) Two points.
 - 3) William Perry.



Well, it was never meant to be difficult. Unfortunately, among all those hundreds of correct entries, there could only be ten winners. So here they are:

Steven Keys, of Radcliffe, Greater Manchester; Ian White, of Edenbridge, Kent; Neil Kyte, of Walsall; Cpl K Yates, of BFPO 32; Mario Galloway, of County Down, Northern Ireland; Jane Waterman, of Hull; James Quance, of Lincoln; Mark Palmer, of Bedford; Paul Carter, of Croxley Green, Herts and Tony Maltby, of Wetherby, West Yorkshire. All prizes will be with the winners soon.



Terror of the Deep – sounds like something straight out of a Gothic novel doesn't it? And that's the very atmosphere Mirrorsoft has tried to incorporate (and largely succeeded) in its latest offering to the Commodore 64 gamesplaying public.

The scene is set at the close of the nineteenth cen-

ture, and guess what, meteorites have been seen falling from the skies into the depths of Loch Ness. What's more, strange creatures have been seen crawling forth from the deep, frightening old ladies and generally making a nuisance of themselves.

Luckily for Scotskind an eccentric Caledonian engi-

Gothic's good

near living on the edge of the lake has developed a kind of diving-bell, fully equipped to explore its depths.

And by one of those strange quirks of fate, he's just popped his clogs, nominating you in his last breath as his successor in the quest to rid Ness of the alien nasties. Phew.

So much for the waffle – Mirrorsoft calls this an adventure/simulation and I wouldn't disagree with that.

You have a main view from out of the diving bell, with a lower display containing the many controls that keep the thing afloat/moving along/shooting down the bad guys.

All these controls are activated by moving a hand along to the appropriate switch, via joystick. It's a bit fiddly, but you soon get used to it.

Your armoury includes spears, electric fields and bombs... but you have to keep an eye out for running low on fuel or ammo.

As for the quest itself you must find, identify and kill the aliens, without harming the indigenous population of the Lake.

A polished arcade/strategy game then, with a certain charm – although adrenalin addicts would do better to look elsewhere.

Popular Appeal ♦♦♦♦
John Cook

Program *Terror of the Deep* **Micro** Commodore 64 **Price** £9.95 (tape), £12.95 (disc) **Supplier** Mirrorsoft, Maxwell House, 74 Worship Street, London EC2A 2EN.

Itching to play

What was exciting and original in *Way of the Exploding Fist* becomes a little jaded by the time you get round to *International Yie Ar Brain Dead Fighting Zomboids II*. So I guess it would be a easy to write off *Uchi Mata* as another unpronounceable bloodbath, but no. *Uchi Mata* is a judo simulation – judo being one of the few martial arts that does not involve punching or kicking.

So how do you score?

First you approach your adversary and stab the fire button to get a grip on his pyjamas. Once you have got a good grip, as indicated on the status display on the top part of the screen, you attempt to throw the opposition, not by combination of joystick direction and fire button, but by a specific series of joystick movements that are supposed to correspond to the

movements you might make in real life.

For instance, to execute the Tomoe-nage throw (in which you fall back then down onto the mat and throw Player Two over the top) you push the joystick back then down, in a single movement.

This is quite tricky to master. Martech give you four example throws, but leave you to find out other combinations of joystick movements that exist.

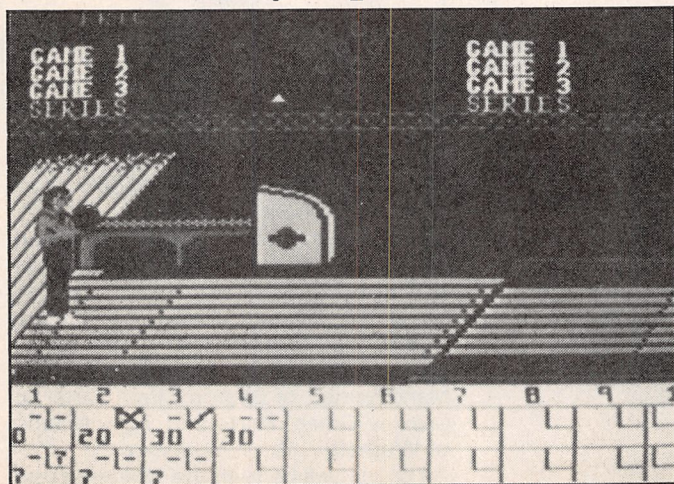
As a game, it might lack the exhilaration of beating the brains out of some innocent

slanty-eyed gent, but you might find the extra subtlety of interest. As a starter, I'd suggest a sprinkle of crushed walnuts and a decent French dressing. Accompanied by a pleasantly chilled Chablis perhaps?

Popular Appeal ♦♦♦♦
John Cook

Program *Uchi Mata* **Micro** Amstrad CPC **Price** £9.95 (tape), £14.95 (disc) **Supplier** Martech, Bay Terrace, Pevensey Bay, East Sussex BN24 6EE.

Go for it, sports fans



The cries of anguish ring out along the corridors of Sunshine Towers. "Not another sports simulation. Please. Anything but that. I'll do that comparative review of Fortran compilers for the Aquarius. But please... not another sports simulation."

No backbone some people. Don't know what they teach them in school nowadays. Still – the good news for the faint at heart is that *Indoor Sports* from Advance features no joystick waggling whatsoever.

The package is a compilation of American sports games, four on Spectrum and Amstrad CPC (darts, ten pin

bowling, air hockey and ping pong) with ping pong left off the Commodore version – it's already been pushed out quite successfully at full price by US Gold.

This gives some indication of the quality of the individual games. All are very nicely done, with as many frills and options as you could possibly want.

The darts game actually rewards skill and practice and has some very neat graphics. The bowling requires a good sense of timing and features all the elements of the 'real' game.

The air hockey (the game you play at the seaside with the puck floating on tiny jets

Croak – it's the real thing

Steve Turner has come up with a good few classic games in his time – from *Avalon* (the first game I ever stayed up all night to play) to *Quazatron*.

The latter (taking elements from *Paradroid*), was a great mixture of zapping and mental agility, and guess what? So is *Ranarama*, although set firmly in the Swords and Sorcery genre, you'd be mistaken to write it off as *Quazatron* meets *Gauntlet*.

The game starts off with your good self (Mervyn, a sorcerer's apprentice) finding you have a couple of problems. First of all, you are trapped in an evil dungeon, inhabited by evil warlocks and assorted minions. Secondly, you have turned into a frog. This has all come about from messing around with your master's magic potions (although a similar effect can be obtained by downing 15 Brandy Alexanders in one evening).

The zapping takes place in Dandy-like dungeons, although much improved with

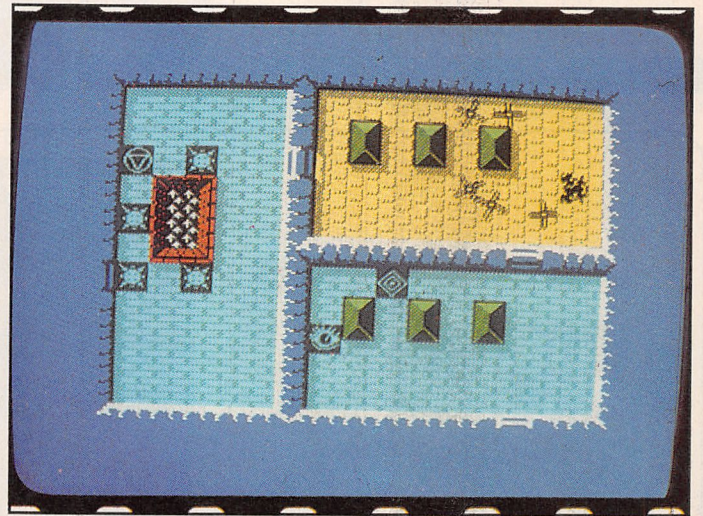
nice colour backgrounds.

You have four main types of spell, Attack, Defence, Effect and Power, that come in many forms. Simply, the more effective the spell, the more runes you need to cast it – and these runes are obtained from fighting evil warlocks. This is a battle of words in which you must unjumble the magic utterance *Ranarama* within a strict time limit. If you fail, the warlock has won and you lose your current Power spell, leaving you merely mortal – not the state to be in if you want to stick around long.

Naturally, if you have very high level spells, you must possess a high level power spell to support them.

Some tiles embedded in the dungeon floor have symbols on them called Glyphs. These can act as 'smart bombs', show you how much of the dungeon level you have explored, act as lifts to other levels, or allow you to cast new spells. And that's it.

A nice mixture of zapping and fast thinking admittedly



Above: mapping the evil lair. Middle: Spell display. Below: *Shadow Skimmer* – great graphics.

drawing on existing themes, but it can do nothing but enhance Steve's reputation as a foremost Spectrum game designer/programmer. Out on that format soon, with CPC, 64 and ST formats to follow.

Popular Appeal ♦♦♦♦
John Cook

Program Ranarama Micro Spectrum Price £7.95 **Supplier** Hewson,



56B Milton Trading Estate, Milton, Abingdon, Oxon OX14 4RX.

Technical wizardry

The Spectrum is being pushed to its limits by today's top flight programmers – technically, graphically, even sonically. And if you want an example of such state-of-the-art coding, then you could do a lot worse than taking a look at the newest from The Edge, *Shadow Skimmer*.

The game acts as a good vehicle for the effects, being an arcade shooter, and requires mapping skills, not a little thought, and the usual razor sharp reflexes.

You control a starfish-like space ship on a routine repair mission on the outside of an Intergalactic Dreadnought that has gone embarrassingly wrong. You find yourself stuck on the outside – with the only possible way back past three levels of impenetrable defences. Not so good.

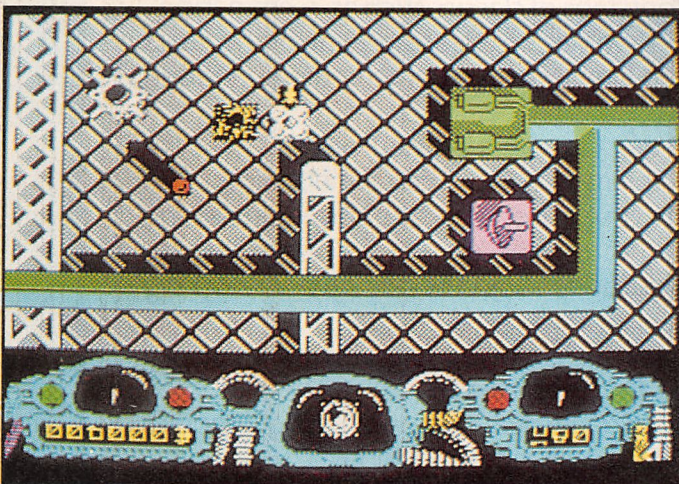
All those at the back of the class thinking this is a *Uridium* clone can wipe those grins off their faces at once – for a start this is a flip screen, not a horizontal scroller, which can be a bit heavy on the eyes as you bounce from one screen to the other.

In fact, so much cerebral activity is needed on this one, if you are looking for a straightforward zapper, I'd say you might find it too much of a strain.

But even so, never mind the quality, just feel that coding.

Popular Appeal ♦♦♦♦
John Cook

Program Shadow Skimmer Micro Spectrum Price £7.95 **Supplier** The Edge, 36/38 Southampton Street, London WC2.



of air) is great fun, but be warned that the computer has a mean instinct for the angles. I've not seen the Pong on the other formats, but the Commodore version was good enough.

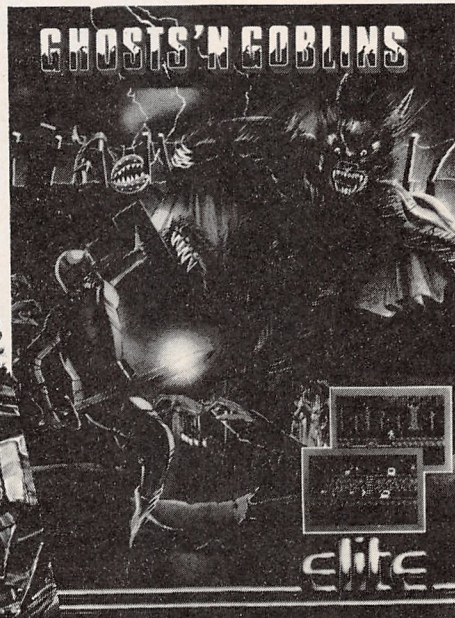
Very good value on the Commodore 64, and if the conversions are any good (Advance has delivered the goods OK in the past) even

better on Spectrum and CPC. Go, go, go sports fans.

Popular Appeal ♦♦♦♦
John Cook

Program Indoor Sports Micro Commodore 64 Price £8.95 (tape), £14.95 (disc) **Supplier** Advance Software, 17 Staple Tye, Harlow, Essex CM18 7LX.

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A concentration of pokes

Tony Kendle brings you a real variety of pokes for different games and machines



This week we are going to concentrate on a selection of pokes for various machines. I have deliberately produced a mixed bag so that there will be something of interest for lots of readers. We also have the last of the *Equinox* tips.

To accompany the *Space Harrier* pokes I have lifted a cheat routine for the same game on the Commodore 64 from a long and excellent letter sent by Martin Pugh of Holywell. Much more will also be heard from Martin in the near future.

Type *Load [return]* to load the game's loader. When the *ready* message appears type:

POKE 1011,248
POKE 1012,252
RUN

The next part of the game will then load. When *READY* appears type:

POKE 816,167
POKE 817,2
POKE 2096,248
POKE 2097,252
SYS 2061

The last part of the game will load and the computer will reset itself.

Now type
POKE 5850,0

This stops the timer ticking down thus giving you infinite lives.

To restart the game enter *SYS 2128*.

To finish off we have a routine to stop *Spectrum* owners feeling left out. It has been sent by a familiar name. Paul Miller of Waddon, together with Sue Potter. The listing is self-explanatory and works on the new Hewson game *Firelord*.

Thanks to all of you for some excellent routines.

```
5 REM . . . SPACE HARRIER Infinite Lives
  By L Cowley
10 MEMORY 35999
20 MODE 0
30 FOR a=0 to 15:READ b:INK a,b:NEXT
40 BORDER 0
50 CLS
60 LOAD "!SCREEN",49152
70 OPENOUT "d"
80 MEMORY 949
90 CLOSEOUT
100 LOAD "!block",950
110 POKE 3444,0
120 CALL 950
130 DATA 0,26,6,0,0,9,2,25,15,3,16,10,
13,21,14,20
```

```
5 REM ROLAND ON THE ROPES Infinite
  lives
  By L Cowley
10 MEMORY 4898
20 LOAD "!F".LOAD "!R"
30 CALL &BC02
40 POKE 13627,0:POKE 13687,0
50 CALL 41100
```

Level Seven

```
96--97--98--99--100
      |      |
101-102-103-104-105
      |      |
106-107-108-109-110
      |
111
```

- 1: Get the credit from 103 and pay the teleporter in 98.
- 2: Get the dynamite from 96 and teleport from 98 to 111.
- 3: Blast the blockage in 106.
- 4: Go to 99 via 108, 109 and 104. Do not go up into 103!!
- 5: Get the radiation canister from 99 and deposit in 96.
- 6: Get the fuse in 97 and teleport from 98 to 111.
- 7: Turn off the beam in 100 (NOT the beam in 109!).
- 8: Get the level eight pass from 108 and go to 103.
- 9: Proceed to level 8.

Level Eight

```
112 113 114-115
  |   |   |
```

```
116-117 118-119
  |      |      |
120 121-122 123
      |      |
124-125-126-127
```

- 1: Get the dynamite from 112.
- 2: Get the credit from 116 (leave dynamite) and pay the teleporter in 120.
- 3: Get the dynamite from 116 and teleport from 120 to 115.
- 4: Blast the blockage in 118.
- 5: Get the credit and pay the teleporter in 119.
- 6: Get the fuse from 118 and teleport from 119 to 127.
- 7: Turn off beam in 125 (NOT the beam in 126).
- 8: Get the fuse radiation canister from 124.
- 9: Teleport from 127 to 119.
- 10: Get the credit from 114 (leave the canister) and pay the teleporter in 115.
- 11: Get the dynamite in 123 and teleport from 115 to 120.
- 12: Blast the blockage in 116 and teleport from 120 to 115.
- 13: Get the radiation canister in 114 and teleport from 115 to 120.
- 14: Deposit canister in 113 to finish the game.

Listing 1 - Hackers Unlimited Cheat routine for *Equinox*.

```
1 ~*****
2 ~*                Hackers Unlimited present the solution FOR Equinox...! *
3 ~*                NOTHING is safe !! *
4 ~*****
10 MEMORY &1FFF:LOAD"!",&2000
20 POKE &202E,&C3:POKE &202F,&40:POKE &2030,0
21 FOR i=0 TO 15:READ a:POKE &40+i,a:NEXT:CALL &2000
30 DATA &3e,00,&32,03,&4f,&32,&4f,&4f,&3e,&47,&32,&18,&53,&c3,00,03
```

Charts

Top Twenty

- 1 (1) Gauntlet
- 2 (3) BMX Simulator
- 3 (4) Paperboy
- 4 (2) 180
- 5 (5) Footballer of the Year
- 6 (6) Ninja
- 7 (8) Konami's Coin-op Hits
- 8 (7) Fist II
- 9 (9) Ollie and Lisa
- 10 (14) Computer Hits Vol 3
- 11 (-) Park Patrol
- 12 (11) Hit Pack
- 13 (16) Space Harrier
- 14 (15) Trivial Pursuit
- 15 (-) Feud
- 16 (10) Agent X
- 17 (12) Championship Wrestling
- 18 (19) Five Star Games
- 19 (-) Pro Snooker
- 20 (-) West Bank

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Making the right choice

Tony Bridge brings you details of a £500 competition from Wrightchoice

In *Popular*, 15–21 January, I took a look at Wrightchoice's *Operation Stallion*. As you'll remember, this adventure is a two-parter written with *The Quill* and offering a £500 prize to the first player past the post. To summarise my feelings about the story, it is a worthwhile buy if you are interested in the prize, though the adventure itself is not worth the asking price of £6.95. Andrew Wright, the aforementioned Wrightchoice in the flesh, must be kicking himself now, as that very week I received a letter taking me to task for not having mentioned the program! Well, one wants the best for one's offspring, so I can understand Wrightchoice's feelings.

If you remember, this first game is the first of a trilogy and the second part is due for release in April, with the final part coming along in August. The first 100 orders of this first part will receive part two of the trilogy for free, which is a pretty good offer, the Grand Elf tells me. Meanwhile, Andrew tells me that "the majority of people who have purchased the game have written to say how much they are enjoying playing the adventure."

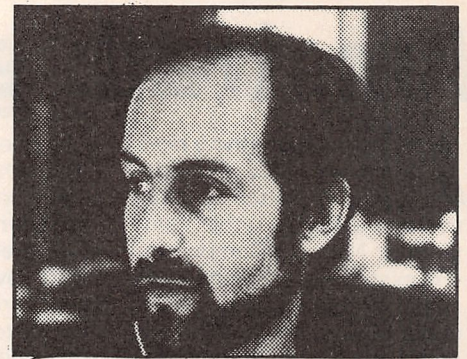
Well, he would wouldn't he – but don't take his word for it; Tom Frost, no less, wrote to me in the same week. He was Incentives Adventurer of the Year in, oh it must have been 1984 I think, and won a video for being the first to solve the *Ket* Trilogy (recently he has entered the arena of adventure creator systems with his very own program, marketed now, I believe, by Atlantis Software). He too, seems to be enjoying the game and says "it is certainly not going to be easy to complete, mainly due to the vast choice of items in Part One." As you'll remember Part One of the story is an introduction to the second, wherein the scene is set, and certain objects selected from the "vast choice" and then taken on the next part. It is here that they must be used.

Tom tells me that another tip I might have given for the first part of the game is to *Pull Drawer*, which reveals – well, try it for yourself, but let me warn you that only one of the resulting objects is of any use in later stages. Incidentally, the file in the Filing Cabinet turns out to be of the metal tool variety, which is a bit naughty if you ask me!

As for the Bull problem that I was having trouble with, I'm grateful to Tom for pointing out that I must run away from the beast first *before* throwing the rope. He goes on to give me a few more hints which will come in handy when I play it again.

Andrew Wright also sent me a sample of his new adventure, *The Crown*. Like *Operation Stallion*, this one is a two-parter costing £6.95 and which could earn you 500 green ones. It's the first of the Quest Trilogy and unlike *Operation Stallion* is a D&D fantasy romp through the usual Land of Tharg, which uses "a combat routine which is unique in that it doesn't rely on random number generation for its operation – the routine occupies 17K of memory, thus no graphics," says Andrew. I've only had a quick look at it, but the character set is well-designed, and the combat sequence is quick and fairly gripping. I still think that £6.95 is a little high, but the adventures themselves are well done and the prize probably will swing your decision in the right direction.

Finally, Wrightchoice are hoping for



freelance programmers to submit their "preferably graphic" adventures for appraisal with a view to release.

Mr D Grey wrote to me a few weeks ago with a sad story of missing adventures. He had sent off a tape of his *Quill*'d program to Gilsoft, who had in turn sent it on to Codewriter, the American company who had taken over the marketing of *The Quill* for the American machines, the Atari 8-bits (*The Quill* would surely be as much of a success on the 16-bits) and the Commodore.

In the meantime, unfortunately, Codewriter had gone out of business, and so it was goodbye to Mr Grey's tape. I don't know how I can help you, Mr Grey – if Gilsoft can't get your tape returned, I don't think you're going to have any more luck (you *did* keep copies, didn't you?). I have an address for Codewriter, and it might be worth firing off a letter to see if anyone replies.

Codewriter Corporation, 7847 North Caldwell Avenue, Miles, Illinois 60648.

Wrightchoice, PO Box 100, Troon KA10 6BD.

Adventure Helpline

The Pawn on Atari ST. How do I get past the snowman? How do I get light? How do I get the amulet off? Angus Irons, 20 Courtway House, 33 Bushwood Road, Selly Oak, Birmingham B29 5AT.

The Pawn on Atari ST. How do you get past the dragon and into the ice tower? Alison Slaman, 48 Withdean Crescent, Brighton BN1 6WH.

Citadel on BBC Master. I can't get the Egyptian statue out of the prison. How can you get to the top of the west tower? Miss Helen Kinnersley, 123 Colchester Road, Lawford, Manningtree, Essex.

The Pawn on Atari ST. How do you move the boulders and where do I find some light? I Riley, 14 First Avenue, Stafford, Staffs ST16 1PT.

Sphinx on Electron. How do you reach the island and where is the mithril

ring? How do you open the safe? Josie Cockerton, Soller Spinney, Gutteridge Hall Lane, Weeley, Clacton-on-Sea, Essex CO16 9DC.

Questprobe – Human Torch, Thing on Spectrum. How do I get the Thing out of the tarpit? David Price, 15A Maurice Road, Canvey Island, Essex SS8 7JL.

Valkyrie 17 on Spectrum. Where is the shaving foam precisely? W Douglas, 105 Gladstone Road, South Willesborough, Ashford, Kent.

Programmers Revenge on BBC. How to open the front door and the trap door in the priest's hole. Steven R Chapman, 62 Brocklehurst Avenue, Norton, Sheffield S8 8JG.

Colditz on BBC. How to open the door in the commander's office. Steven R Chapman, 62 Brocklehurst Avenue, Norton, Sheffield S8 8JG.

Amstrad: going back to Basic

Its Basic is something new in the way of 'utility' programs from the innovative and at times rather zany team at Nabitchi Computing. It is essentially a collection of small programs that work under Mallard Basic, although some have a little machine code tagged on to help produce special effects.

"Something new in the way of utility programs"

The disc has been priced as low as possible and the programs are completely unprotected – not only are they free of software tricks to stop pirating but they are also free of any threatening messages about copyright. The idea is that users are welcome to break into the programs, list them and to steal ideas and

techniques from them.

Nabitchi see the PCW as a greatly underused machine, a computer which, unlike most of its predecessors from the ZX80 upward, has done little to encourage the millions who own it to try their hand at programming.

Many people who use a PCW at home have as little knowledge of how to use Basic as the pioneers who first computed on a Sinclair machine did, and there isn't the same degree of help around to teach them. Nabitchi's very original approach to filling this gap is likely to work well for many, although I would have liked to see more in the way of explanatory Rem statements in the listings.

Some of the programs are very useful, such as an address book database and label printer, an anagram solver, a user-designed graphics utility and word counter. The remainder range through some simple games

YOU CAN USE THIS PROGRAM FOR MAKING
LARGE LETTERS ON YOUR PCW 8256/8512

the following demo will allow you
to type in large letters.

<PRESS ANY KEY TO CONTINUE>

and entertaining jokes (which I don't intend to spoil) down to one or two unspeakable bouts of sixth-form humour. However, every program has something to teach and since there can't be many people around who know how to get as much from the PCW as Nabitchi do, and even some professionals may learn a

trick or two by studying the techniques used.

Tony Kendle

Program Its Basic Micro
Amstrad PCW Price
£7.95 **Supplier** Nabitchi
Computing, Merseyside
Innovation Centre, Mount
Pleasant, Liverpool.

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Fontains of fun on the ST

Megafont ST is a printer control program. It will take text and graphics and print them in a variety of different ways, both separately or mixed together. It was originally written for the eight-bit Atari range, later for the IBM/clone range and now the ST line of computers, written by Randy Dellinger using OSS's *Personal Pascal*.

The program has been written to run as a Gem application but GDos is not used and thus the Gem output driver is absent. The main idea of the program is to take a text file, such as produced by *1st Word*, and print it out using custom fonts.

These fonts can be divided into two groups, an 8 x 8 pixel grid and an 8 x 16 pixel grid. The 8 x 16 font is directly compatible with *Degas* fonts (not, incidentally *Degas Elite*, which uses Gem fonts). The two groups of fonts come in a variety of ready made fonts supplied on the disc. If they aren't enough for you, font editors, for both types, are provided as well.

Documents can be printed in four different text sizes which obviously provides for a variation in the number of characters per line. *Megafont ST* will work on three types of printer, the NEC/Prowriter, Atari SMM804 and of course Epson and compatibles. There is no facility for customising the drivers so if you

don't have one of these printers you are out of luck.

Perhaps its major claim to fame is *Megafont ST*'s ability to print the entire range of the computers extensive character set. This means all those files you can't show or print normally from the desk top, because the screen or printer drivers insist on interpreting certain characters as control codes which send the output crazy. This could be very useful when printing out some Basic programs that might have awkward strings of text in them.

The graphics side of the program simply loads a picture file and prints it. It takes *Degas* files or any other picture file provided it's within the standard 32K plus range. The finished print is not in the same proportions as either a normal *Degas* dump or the Alternate/Help dump routine. Instead it is about two thirds page width with a definite stretched height to width ratio, which is something to be considered when choosing this picture dump routine.

One very nice feature that other programs could take note of is the ability to adjust the spacing between print lines. Some Epson compatibles I know of such as the Juki 5510 produce narrow white lines in their print outs. By adjusting the micro-spacing these lines disappear. As the print out is smaller than the width of the paper you

This is ARCHAIC font.
 This is BIGBLUE font.
 This is BIGSTUFF font.
 This is COMPUTER font.
 This is CURSIVE1 font.
 This is CURSIVE2 font.
 This is FANCY1 font.
 This is FANCY2 font.
 This is FANCY3 font.
 This is FINE font.
 This is GPEEK font.
 This is ITALICS font.
 This is MASH font.
 This is OLDE font.
 This is OUTLINE font.
 This is ROMAN font.
 This is SPECIAL font.
 This is STANDARD font.
 This is SCOP font.
 This is ZEPHA font.

Various 8x8 Fonts

can adjust the left margin and so move the print into the middle or right of the page if so desired.

To mix fonts on the same line of text and pictures overall you must first format your document to how you want it and then insert command lines of code into the text at the appropriate places. You must not reformat or else the original format will not be produced when printing. The command lines are not printed but are acted upon by *Megafont ST* at print time.

In order that *Megafont ST* recognises a command, it must be preceded by a special character. If you wanted to use this character in your document you can change to another one but again this will mean that it won't be available for printing.

If you intend to insert pictures into your text then you must take this into account at formatting and leave sufficient blank lines to fit the picture in. Another thing to bear in mind is that the program can page text properly but that a picture, if it's too near the bottom of a page, will over print the perforations.

XLEnt has another graphics file format called the icon. This is about a quarter of a screen and can be inserted into the text with the advantage that its left margin can be varied independently of the text or full size graphics.

These icons can be created using XLEnt's other programs *Typesetter*, *Typesetter Elite* or *Rubber Stamp*. At print time any graphics or fonts to be used must be in the appropriate drive. The command lines dictate the file paths to be used.

I must admit it took me a while to fully appreciate the purpose of the program, since I was mistakenly comparing it to the likes of *1st Word Plus*. This is unfair as I don't think it was intended as such. It could be used for any number of textual or graphical presentations where typewriter style text is not appropriate. As previously pointed out, it's other great ability is to print characters that are normally unavailable to your printer. One further extension to this ability, for those of you willing to provide your own programming knowledge, is *Megafont ST*'s ability to download entire font sets to printers that have the hardware to make use of them.

The documentation is reasonably comprehensive but does require a thorough read if the most is to be gained from the program.

Mark Annetts

This is SHADOW font.
 This is STANDARD font.
 This is STENCIL font.
 This is THIN font.
 This is THIN2 font.
 This is WOODCUT font.

Various 8x16 Fonts

Program *Megafont ST*
 Price £24.95 Supplier
 Silica Shop, 1-4 The
 Mews, Hathlerley Road,
 Sidcup, Kent DA14 4DX,
 01-309 0300.

It's just a frame-up

Chris Jenkins explains how you can access teletext services from your Amstrad, Spectrum or BBC monitor

Fiddle with the frame hold on your TV and you may well find a row of flickering lines at the top of the screen. Far from being unwanted interference, they are in fact the carrier signals for teletext, and with the aid of a suitably equipped TV you can translate them and access Oracle, Ceefax and 4-Tel services.

Like Micronet and Compunet, teletext services provide hundreds of pages of information on current events, entertainment, finance and many other subjects. Although the service is free, you need a relatively expensive TV to access it. The alternative is to use a micro equipped with a suitable teletext adaptor, in which case you can also download BBC B, Spectrum and Amstrad CPC computer programs from some teletext services.

Two teletext adaptors have now been made available for a wide range of micros. The Volex TTX2000, already available for the Spectrum and BBC B, is now available for the Amstrad CPC at a reasonable £79.99, while the Microtext adaptor at £69.95 is available for the Spectrum, Amstrad and CBM 64.

The Microtext Commodore 64 unit comes with cassette software, which can be transferred to disc, and a suitable lead for connection to the TV. The unit slots into the micro's user port.

Using teletext is very simple. Once you have connected up the hardware and loaded the software, you simply enter 100 on the micro's keyboard to access the index, then a three-figure number to reach the desired page. The computer

"Using teletext is very simple. Once you have connected up the hardware and the software, you enter 100 on the keyboard..."



"... then a three-figure number to reach the desired page. The display is 24x40 column with full colour"

scans until the page is transmitted, then displays it on the screen. The display is 24 x 40 column with full colour.

The Microtext software allows you to

go forward or backwards a page at a time, hold pages, reveal hidden sections such as the answers on the puzzle pages, print out to an MPS-801 compatible printer or save pages to tape or disc. It's also possible to write your own routines in Basic, allowing you to, for instance, print out the TV pages each day.

Microtext requires a one volt composite video signal, which older TVs may not output. Most video recorders, however, will.

Despite some initial difficulty in loading the cassette software, the Microtext module worked well, and can be recommended if you are interested enough in teletext to spend the money. Many computer users, however, may well prefer to invest in a modem to obtain the interactive services of Compunet or Micronet.

The Volex system appears much more substantial, with a modem-type unit to sit under the micro, an interface plus an 18-volt power supply terminating in a connector unfortunately similar to the Amstrad's. The interface has a follow-on connector for the disc drive, while the software is in Eprom.

The Volex unit saves downloaded programs directly on to disc or tape rather than storing them in memory, and has facilities for printing out teletext pages, changing channels, and, like the Microtext, creating your own Basic routines from the keyboard. While the Microtext is cheaper, the convenience of the Volex's Eprom software may be the deciding factor in your choice of purchase.

Hardware Volex TTX2000 Micro
Amstrad CPC, Spectrum, BBC B
Prices £79.99, £64.99, £89.99 respectively
Supplier Volex Electronics, Volex House, Lissadel Street, Salford M6 6AP. 061-736 5822.

Hardware Microtext Teletext Adaptor
Micro Amstrad CPC, Spectrum, Commodore 64
Price £69.95
Supplier Microtext, 7 Birdlip Place, Horn-dean, Hants PO8 9PW. 0705-595694.

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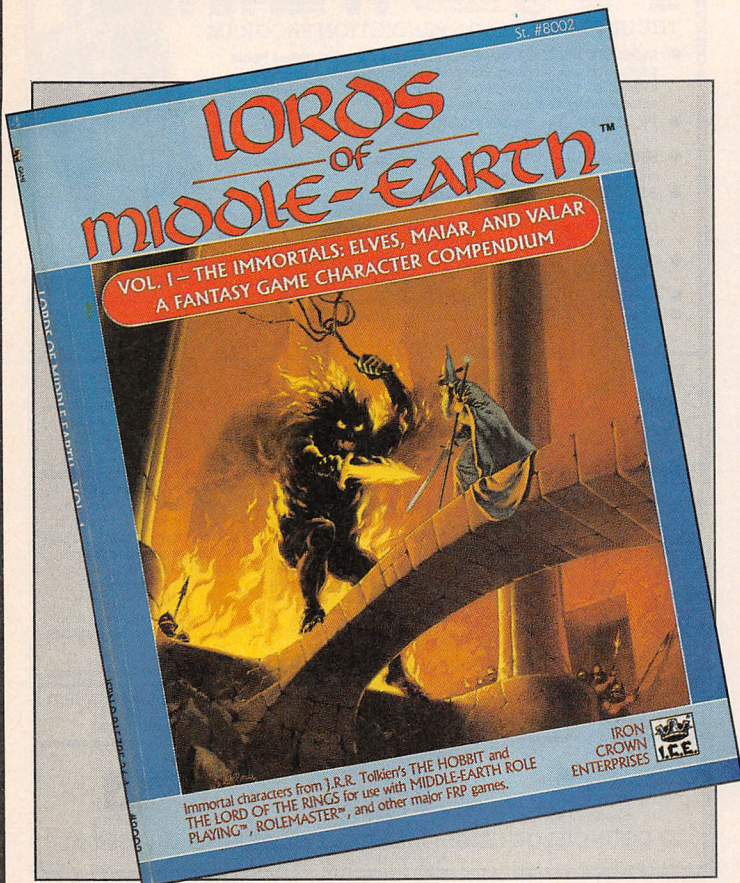
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the roost in the SFRPG market. It may look a little long in the tooth in parts (weapons and computers depts) but there is enough supplementary material and actual user base of players to ensure life in the beastie for some years yet. From a gameplay point of view it can be very simple (playing characters) or quite complex (designing starships) depending on what you had in mind.

Pretender to the throne has to be **Space Opera** which is more up to date but also more complex. Coming up fast on the rails though is

Spacemaster from those ICE people. A tremendously detailed and complex game, it's the most up to date system there is.

There's more to science fiction than spaceships and other worlds, as **Twilight 2000** and **Paranoia** both prove. Twilight (GDW) is set shortly after a limited World War III, and portrays the characters as members of the US Army originally based in West Germany, now trying to get home.

Paranoia (West End Games) is the current trendy sci-fi game, with good reason, and is set in a future where cities have been enclosed by immense domes and a deranged central computer runs operations. It's sort of 1984 meets Ghostbusters (without the ghosts if you know what I mean). An absolute essential requirement for paranoia, from the players, is an appreciation of black comedy. One of the mottos of Paranoia encapsulates the game nicely. 'Trust no one. Stay alert. Keep your laser handy.' It differs

from most other RPG's in that you cooperate with the other players for only as long as it's in your direct interest.

Role Playing Games are not only limited to history (and pseudo history) but cover well known works of fiction and film. **Call of Cthulhu** (Chaosium) portrays the players as 1920's investigators into H.P. Lovecraft's nightmare creations while **Ghostbusters** (West End Games) is obviously inspired by the film of the same name. Even heroes from the world of comics are catered for in a subsection of the hobby known as Superhero games, **Judge Dredd** (Games Workshop) being one of many.

Despite my reservations about computer interpretations of RPG's, there are a couple of games which are sufficiently



detailed in content and background to be very enjoyable to play anyway. **Phantasia** (SSI) on the C64 and Atari ST and **The Bard's Tale** (Ariolasoft) on the C64 both stand out from the crowd.

So, the next time Thorin sits down and starts singing about gold and you wish he'd say something intelligent or you feel like gagging him, check out a Role Playing Game and your wish will probably come true. After all, the only limitation is your imagination.

nying money, geography and history, rather than the general medieval mythology.

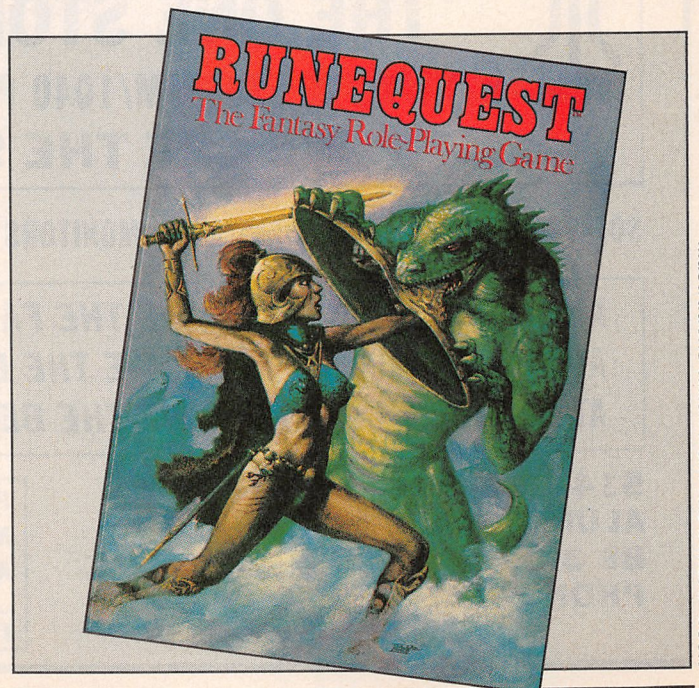
A recently released game in the fantasy department is **Hawkmoon** (from Chaosium, who also did **Stormbringer** which featured Dorian Hawkmoon as a character) the role playing game of Michael Moorcock's beleaguered but ultimately triumphant hero of fiction.

As D&D is well known to have been inspired by the book **Lord of the Rings** it was only a matter of time before some enterprising company produced an FRPG actually based in Middle Earth. Iron Crown Enterprises (ICE) was the lucky group to secure the licence and **Middle Earth Role Playing** (or MERP as it is commonly known) was the result. Somewhat disappointingly at the time, MERP turned out to be a cut down version of ICE's existing RPG, **Rolemaster** (very complex if you want to try it), with the Middle Earth elements pasted on. Having said that though, the support material for MERP detailing the characters and lands found in LOTR, and many that are only briefly mentioned, is meticulously accurate.

SFRPG

So, you're bored of killing orcs and slaying wizards and every time **Star Wars** or **Blade Runner** appears on TV you start to wish 'if only . . .'; what's the solution? Get into a science fiction RPG. You too can be Harrison Ford or Mark Hamill.

Like D&D in the fantasy market, but to a lesser extent, **Traveller** (GDW) rules



Illustrations taken from ICE's MERP book

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Rockfall

Craig Davenport

This is the final instalment of listing two. After it has been typed in save it after listing one and then reset the computer. Now, load and run listing one and the second part will be

loaded.

If you would like a copy on cassette send £2.00 to Craig Davenport, 11 Kentchurch Close, Tupsley, Hereford HR1 1QS.

```

10101 REM SCREEN 7
10110 DATAMGGGGGGRRGGGGGGGGGW
10111 DATAMGGGGGGRRDRGGGGGGRW
10112 DATAMGGGRWWWWWWWGGGGRW
10113 DATAMGRGRWRGGRRDGGGGRW
10114 DATAMDRGRWGRGGRRGGGGGW
10115 DATAMWRGRWGGGGGGGGGGGW
10116 DATAMDRGGDGGWGGWGGGGGGW
10117 DATAMDRGGGGDGGDGGGGGGW
10118 DATAMDGGDWWWWWWRWGGW
10119 DATAMGGRRGGRRWWGGRRGGW
10120 DATAMGGGGGGGGGGGGGGGGW
10121 REM SCREEN 8
10130 DATAMGGGGGGGGRRGGGGGGGW
10131 DATAMGGGGRRRRRGGGGGGGGW
10132 DATAMGGGGDGGRRRRGGGGGGW
10133 DATAMRWGGRRRRGGRRGGGGW
10134 DATAMRDGGGGDGGGGGGGGGGW
10135 DATAMRGMMMMNGWWWMMGGW
10136 DATAMRGGGGGGGGGGGRRDGGW
10137 DATAMDDGGGGGGGGRRGGDGGW
10138 DATAMWWWRRGGWWWGGRRRRWW
10139 DATAMDRGGGGDGGGGGGGGGGW
10140 DATAMGGGGGGWDMGGGGGGGGRW
10141 REM SCREEN 9
10150 DATAMGGGGRRGGRRDGGRRRW
10151 DATAMGGGGRRDGGGGGGGGDGGW
10152 DATAMGWWWWWWWWGGGGGGGGW
10153 DATAMGRRRRRGDRRWDGGGGGGW
10154 DATAMGWGGRRGGRRRRGGRWG
10155 DATAMGWDGGGGGGGGGGGGRW
10156 DATAMGGRRGGGGGGGGGGGGW
10157 DATAMGWDRDRDGGRRGGGGGGW
10158 DATAMGWRRRRWGRWRDGGGGW
10159 DATAMGWWWWWWDGGWGGGGW
10160 DATAMGGGGGGGGGGGGGGGGW
10161 REM SCREEN 10
10170 DATAMGGGGGGRRDGGGGGGRW
10171 DATAMGGGGGGGGGGWGGGGGGRW
10172 DATAMRRGGGGGGWGGGGGGRW
10173 DATAMDGGGGGGWRRRWGGGGW
10174 DATAMRRGGGGWGRDGGRWGGGGW
10175 DATAMGGRGWGGGGGGGGGGGGW
10176 DATAMGGRGGGWRGGRRWRDGGW
10177 DATAMGGRRGGGGDDDDWDRRRW
10178 DATAMGWDGGGGWRRWGGRRRW
10179 DATAMDRGGGGGGWGGGGGGGGW
10180 DATAMGWGGRRGGGGGGGGGGGGW
10190 REM SCREEN 11

```

```

10191 DATAMGGGGGGRRGGRRGGRW
10192 DATAMGGGGRRDGRDGGGGGGW
10193 DATAMGGGGGGGGGGGGGGGGW
10194 DATAMGGGGWWWGGRRGGGGGGW
10195 DATAMGGGGRRWGRDGGGGGGW
10196 DATAMGGGGDGGWRRDGGGGGGW
10197 DATAMGGGGGGWRRRRGGGGGGW
10198 DATAMGGGGGGWRRRRGGGGGGW
10199 DATAMGGGGGGWRRRRGGGGGGW
10200 DATAMGGGGWWWGGRRRRGGGGW
10201 DATAMGGGGGGGGGGGGGGGGW
10202 REM SCREEN 12
10210 DATAMGGRRRWGGGGGGGGGGW
10211 DATAMGGRRRWRRRRRRGGGGW
10212 DATAMDRGGGGGGDDDDGGGGW
10213 DATAMGGRRRWRRGGGGGGGGW
10215 DATAMGGRRRWGGRRRRGGGGW
10216 DATAMGGRWGGWGGRRGGGGGGW
10217 DATAMGGRRRWGGRRGGGGGGW
10218 DATAMGGRRRWGGRRGGGGGGW
10219 DATAMGGRRRWGGRRGGGGGGW
10220 DATAMGGRRRWGGRRGGGGGGW
10221 DATAMGGRRRWGGRRRRGGGGW
10222 REM SCREEN 13
10230 DATAMGGGGGGMMMMRRDRDRW
10231 DATAMWWWGGGGDWDWRDRDRW
10232 DATAMGGRRGGWRRWRRGGGGW
10233 DATAMGGGGGGRRGGGGGGGGW
10234 DATAMWWWRRGGGGGGGGGGGGW
10235 DATAMGGGGGGGGGGGGMMMMW
10236 DATAMWWWRRGGGGGGRRGGGGW
10237 DATAMGGGGGGGGGGRRDRGRW
10238 DATAMWWWRRGGGGGGRRRRRW
10239 DATAMGGGGGGGGGGRRGGGGW
10240 DATAMWWWGGGGGGGGGGGGGGW
10241 REM SCREEN 14
10250 DATAMGGGGGGRRGGRRGGGGGGW
10251 DATAMGGRRGGRRGGRRGGGGW
10252 DATAMGGRRGGRRGGRRGGGGW
10253 DATAMGGRRGGRRGGRRGGGGW
10254 DATAMGGRRGGRRGGRRGGGGW
10255 DATAMGGRRGGRRRRRRGGGGW
10256 DATAMGGRRGGRRGGRRGGGGW
10257 DATAMGGRRGGRRRRRRGGGGW
10258 DATAMGGRRGGRRGGRRGGGGW
10259 DATAMGGRRGGRRRRRRGGGGW
10260 DATAMGGGGGGGGGGGGGGGGW

```

READY.

Plus 2 Printout

G Wearmouth

The important feature about this program is its ability to list programs to a ZX/Alphacom printer from 128 Basic.

The machine code is written in screen memory so there's always room for it. Although the Spectrum +2/128k can drive serial printers it cannot utilise the

cheapest Spectrum compatible printer available.

Type in the listing, run it and the code will be saved to tape. To re-use it select the 'Screen' menu option then enter *Load "" Code : Print Usr 16384*.

Also on the listing are *Pokes* for modifying the output.

60 LET s=0	3,119,117,24,3,48	28,48,20,6,8,254,23
70 FOR a=16384 TO 16639	200 DATA 4,35,35,24,231,35,254,13,40,3,	290 DATA 216,254,109,40,27,254,119,40,2
80 READ b	215,24,223,229,205	3,126,15,182,119,36
90 LET s=s+b	210 DATA 78,64,225,24,193,6,9,33,0,72,2	300 DATA 16,249,253,203,117,70,200,38,7
100 POKE a,b	29,197,205,135,64	2,6,8,126,47,119
110 NEXT a	220 DATA 193,225,36,16,246,62,4,211,251	310 DATA 36,16,250,201,95,22,64,26,119,
120 IF s<>27365 THEN PRINT "Data Error	,33,0,72,17,1,72,1	36,19,16,250,24,229
": STDP	230 DATA 255,7,117,24,18,0,0,54,127,107	320 DATA 62,2,253,119,117,205,1,22,33,1
130 SAVE "+"CODE 16384,256	,107,99,0,167,64,0	17,64,34,81,92,33,0,0,195,110,25
140 STOP	240 DATA 0,99,107,107,127,54,0,237,176,	330 REM CUSTOM POKES.
150	1,28,16,195,217,13	340 REM
160 DATA 0,243,121,167,40,6,42,118,92,3	250 DATA 120,254,3,159,230,2,211,251,87	350 REM For normal format - POKE
4,251,64,205,236,64	,205,84,31,56,7,62	16514,33
170 DATA 126,254,64,56,3,251,207,255,22	260 DATA 4,211,251,251,207,12,219,251,1	360 REM For 8x8 characters POKE
9,205,97,64,253,54	35,248,48,238,14,32	16463,8
180 DATA 78,33,225,205,40,26,35,35,35,1	270 DATA 195,20,15,245,245,253,126,78,6	370 REM For thin text - POKE 165
26,205,182,24,254	1,204,78,64,241,205	78,24: POKE 16579,13
190 DATA 14,56,17,254,20,32,7,35,126,25	280 DATA 244,9,241,43,254,164,208,254,1	

Programming: Amstrad CPC

Cruncher

Tim Walsh

These two programs will allow you to compress screen data to about half the normal length thus saving on loading times and disc space.

The cruncher program takes two to three minutes to compress your screen

while the loader displays them very quickly.

It's important that you set screen mode and desired ink colours into the loader program before you run it or the picture could be corrupted.

20 ' ***** Screen cruncher *****	190 memaddr=10000	120 DATA 21,b8,0b,56,23,5e,1a,21
30 ' ***** by *****	200 inkcol=PEEK(scraddr)	130 DATA bc,0b,77,21,b8,0b,56,23
40 ' ***** Tim Walsh *****	210 FOR t=1 TO 253	140 DATA 5e,13,1a,21,bd,0b,77,c3
60 MODE 1:INK 0,0:INK 1,26:INK 2,11:INK	220 IF PEEK(scraddr+t)<>inkcol THEN 240	150 DATA 7a,23,47,21,ba,0b,56,23
3,1:BORDER 0:PEN 1:PAPER 0	230 NEXT t	160 DATA 5e,eb,11,bc,0b,1a,77,eb
70 PRINT"Screen cruncher Mrk III (c) Tim	240 POKE memaddr,inkcol:POKE memaddr+1,t	170 DATA 13,21,ba,0b,72,23,73,10
Walsha."	250 memaddr=memaddr+2	180 DATA ea,21,b8,0b,56,23,5e,13
80 PRINT:PRINT:PRINT:PEN 2:PRINT"Type in	260 scraddr=scraddr+t	190 DATA 13,21,b8,0b,72,23,73,c3
the filename of your picture to":PRINT:	270 IF scraddr>0 THEN POKE memaddr,0:POK	200 DATA 38,23,fe,ff,c8,c3,52,23
PRINT"be crunched."	E memaddr+1,255:POKE memaddr+2,255:POKE	210 MEMORY 8999
90 PRINT:PRINT"(Disc users remember the	memaddr+3,255:INPUT #1,"Filename to save	220 check=0:FOR t=9000 TO 9087:READ a\$:P
.filetype)"	as";a\$:SAVE a\$,b,10000,memaddr-10000+5:	OK t,VAL("&"+"a\$)
91 PRINT:PRINT"(Tape users insert a '!'	RUN	230 check=check+VAL("&"+"a\$):NEXT t
before your":PRINT:PRINT"filename)"	280 GOTO 200	240 IF check <> 7474 THEN PRINT"Error -
100 PRINT	10 REM LISTING 2	check data":END
110 INPUT a\$	20 ' ***** Crunched loader *****	1000 REM Set the inks and screen mode up
150 CLS	30 ' ***** by *****	for your picture here.
160 WINDOW #1,1,40,25,25	40 ' ***** Tim Walsh *****	1010 LOAD"",10000:REM Insert your pictur
170 LOAD a\$,&C000	100 DATA 21,b8,0b,11,10,27,72,23	e filename between the quotes.
180 scraddr=&C000	110 DATA 73,23,11,00,c0,72,23,73	1020 CALL 9000

Date Stamping

Steve Carter

When working on a large program and making frequent back up copies it can be a

problem sorting out which is the version. The answer is to date stamp the program when it is saved to microdrive. The following program makes use of the QL's internal clock to do just that.

Check_Time is a procedure which will display the current time details and ask whether it is correct, while *Enter_Date* is used to select the correct time and date by using the up and down cursors and the space bar to select the date.

Tick_Tock displays the current time

and should be called from within a loop. The four parameters that it requires are the channel number, line number, column number and paper colour.

Savedate has two parameters, the medium to save to and the name of the program. Once supplied the date stamped program is saved to microdrive.

The short program at the start of the listing demonstrates the use of these procedures.

```

30000 CHECK_time
30010 WINDOW #1,500,200,6,5:CLS
30020 TICK_TOCK 1,1,1,27
30030 INPUT 'ENTER MDV1_or MDV2_etc. ';MEDIUM$
30040 INPUT 'ENTER PROGRAM NAME ';NAME$
30050 SAVEDATE MEDIUM$,NAME$
30060 STOP:REMARK END OF PROGRAM
30070 DEFINE PROCEDURE CHECK_time
30080 WINDOW 136,22,50,20: BORDER 1,
0:PAPER 27:INK 7:CSIZE 0,0:CLS
30090 REPEAT LOOPdate
30100 AT 0,0: PRINT " correct time ? (Y/N) "
30110 TICK_TOCK 1,1,1,27
30120 IF KEYROW(5)=64 THEN EXIT LOOPdate
30130 IF KEYROW(7)=64 THEN CLS:ENTER_DATE
30140 END REPEAT LOOPdate
30150 END DEFINE CHECK_time
30160 DEFINE PROCEDURE ENTER_DATE
30170 CSIZE 0,1
30180 RESTORE 30190
30190 DATA 'YEAR',1961,1999,1986
30200 DATA 'MONTH',1,12,6
30210 DATA 'DAY OF MTH',1,31,15
30220 DATA 'HOUR (0-23)',0,23,12
30230 DATA 'MINUTES',0,59,30
30240 DATA 'SECONDS',0,59,30
30250 FOR a=1 TO 6
30260 READ PERIOD$,FROM,to,START
30270 REPEAT loop2
30280 AT 0,1:STRIP 27:PRINT ' ) '
30290 AT 0,3:STRIP 27:PRINT PERIOD$!;
30300 IF START<10 THEN PRINT '0';
30310 PRINT START
30320 AT 0,19:PRINT ' ? '
30330 IF KEYROW(1)=4 AND START
<too THEN START=START+1
30340 IF KEYROW(1)=128 AND START>
FROM THEN START=START-1
30350 IF KEYROW(1)=64 THEN EXIT loop2
30360 END REPEAT loop2
30370 REPEAT nokey:IF KEYROW(1)=0 THEN EXIT nokey
30380 SELECT ON a
30390 DN a=1
30400 year=START
30410 DN a=2
30420 month=START
30430 DN a=3
30440 day=START
30450 DN a=4
30460 hour=START
30470 DN a=5
30480 minute=START
30490 DN a=6
30500 second=START
30510 END SELECT
30520 AT 0,2:STRIP 27:PRINT
30530 END FOR a
30540 SDATE year,month,day,hour,minute,second
30550 CSIZE #1,0,0
30560 END DEFINE ENTER_DATE
30570 DEFINE PROCEDURE TICK_TOCK (W,X,Y,S)
30580 AT #W,X,Y:STRIP S:PRINT #W,DATE$
30590 END DEFINE TICK_TOCK
30600 DEFINE PROCEDURE SAVEDATE (a$,b$)
30610 REMARK a$=medium to save to i.e. Mdv1_or Flp1_
30620 REMARK b$='filename'
30630 C$=DATE$
30640 save$a$ & b$ & C$(6 TO 8) & C$(10 TO 11)
& '_' & C$(13 TO 14) & C$(16 TO 17):REMARK
30650 SAVE save$
30660 END DEFINE SAVEDATE
30670 REMARK S.B.CARTER 19th Nov 1986

```

PMDump
David Gristwood

This week features the second part of the PMDump listing. Should anyone not wish to type the listing in or if they don't have a C compiler then

send £5 to David Gristwood, 3 Belle Vue Drive, Sunderland, Tyne & Wear SR2 7SF for a copy on disc.

continued page 30 ►

```

    printat(51, y++);
    printf("Cycle   : %s ", (stk[0] & 16 ? "Read" : "Write"));

    printat(51, y++);
    printf("Location : %sternal ", (stk[0] & 8 ? "Ex" : "In"));

    printat(51, y++);
    printf("Access   : ");
    mode = stk[0] & 7;
    if (mode == 1 || mode == 2)
        printf("User");
    else if (mode == 5 || mode == 6)
        printf("Supervisor");
    else if (mode == 7)
        printf("CPU space");
    else
        printf("(unassigned)");

    printat(51, y++);
    addr = (((unsigned) stk[1]) << 16) + ((unsigned) stk[2]);
    printf("Address : %08x", addr);

    printat(51, y++);
    addr = (((unsigned) stk[5]) << 16) + ((unsigned) stk[6]);
    printf("PC       : %08x", addr);
}

printat(0, TDEPTH - 2);
}

/*****
/* shownothing ()                               */
/* A post mortem dump has not occurred, so     */
/* inform user.                                */
*****/
shownothing()
{
    printat(20, 5);
    printf(" No post mortem dump has taken place  \n");
    printat(20, 6);
    printf("since the computer has been powered up. \n");
}

/*****
/* no2type (no)                                 */
/* Convert an exception number 'no' to an     */
/* exception type. Return type.                */
*****/
unsigned no2type(no)
unsigned no;
{
    unsigned type;

    /* translate */
    /*****/

    if (no <= 1)
        type = 0;
    else if (2 <= no && no <= 11)
        type = excno - 1;
    else if (12 <= no && no <= 14)
        type = 11;

```

```

    else if (no == 15)
        type = 12;
    else if (15 <= no && no <= 23)
        type = 11;
    else if (no == 24)
        type = 13;
    else if (25 <= no && no <= 31)
        type = 14;
    else if (32 <= no && no <= 47)
        type = 15;
    else if (48 <= no && no <= 63)
        type = 11;
    else if (64 <= no && no <= 255)
        type = 15;
    else
        type = 0;

    return type;
}

/*****
/* The following print routines make use of the */
/* BIOS VT-52 terminal emulator.               */
*****/

/*****
/* printcls ()                                 */
/* Clear the screen.                           */
*****/
printcls()
{
    Bconout(2, (int) ESC);
    Bconout(2, (int) 'E');
}

/*****
/* printat (x, y)                             */
/* Move the cursor to coords 'x','y'.          */
*****/
printat(x, y)
int x, y;
{
    Bconout(2, (int) ESC);
    Bconout(2, (int) 'Y');
    Bconout(2, (int) 32 + y);
    Bconout(2, (int) 32 + x);
}

/*****
/* printrvs (mode)                             */
/* Set the reverse video display on or off.    */
*****/
printrvs(mode)
boolean mode;
{
    Bconout(2, (int) ESC);
    if (mode)
        Bconout(2, (int) 'p');
    else
        Bconout(2, (int) 'q');
}

```

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Header Reader

Adam Wright

This routine for the Commodore 64 will display the contents of a tape header.

The syntax used is *Sys 49152, Type, Start address, End address.*

```

0 REM HEADER READER
1 DATA 32,44,247,174,60,3,169,0
2 DATA 32,205,189,169,44,32,210,255
3 DATA 174,61,3,173,62,3,32,205
4 DATA 189,169,44,32,210,255,174,63
5 DATA 3,173,64,3,32,205,169,96

10 HR=49152:OK=0:FOR A=HR TO HR+39
20 READ D:POKE A,D:OK=OK+D:NEXT A
30 IF OK<>4479 THEN PRINT "ERROR":STOP
40 SYS 49152

READY.
    
```

In string

Adam Wright

This utility for the C64 gives it an *Instr\$* type command as used in BBC Basic.

The syntax is *Sys 49152, string to be searched, character to be searched for, variable to return value in.*

```

0 REM INSTR$
1 DATA 32,253,174,32,241,174,32,166
2 DATA 182,133,251,168,177,34,153,64
3 DATA 3,136,16,248,32,253,174,32
4 DATA 158,173,32,166,182,201,1,240
5 DATA 3,76,72,178,160,0,177,34
6 DATA 133,252,160,0,185,64,3,197
7 DATA 252,240,7,200,196,251,208,244
8 DATA 160,255,200,132,250,32,253,174

9 DATA 32,139,176,133,73,132,74,165
10 DATA 13,240,3,76,72,178,164,250
11 DATA 32,162,179,32,208,187,96
15 INS=49152:OK=0:FOR A=INS TO INS+86
20 READ D:POKE A,D:OK=OK+D:NEXT A
30 IF OK<>11877 THEN PRINT "ERROR":STOP
40 SYS INS,("ABCDEFG"),"D",A:PRINT A

READY.
    
```

Disabler

Steven Devine

This small routine for the any eight bit Atari machine will disable the *Break* key while your *Basic* program is running.

Simply add the routine to the beginning of your listings.

```

10 X=PEEK (16)
20 IF PEEK (16)<128 THEN 50
30 POKE 16,X-128
40 POKE 53774,X-128
50 REM Rest of program.
    
```

Tally

Adam Wright

This C64 routine gives it a tally type instruction which counts the occurrences of a particular character within a string.

The syntax for the command is *Sys 49152, string to be searched, character to be searched for, variable to return count in.*

```

1 DATA 32,253,174,32,241,174,32,166
2 DATA 182,133,251,168,177,34,153,64
3 DATA 3,136,16,248,32,253,174,32
4 DATA 158,173,32,166,182,201,1,240
5 DATA 3,76,72,178,160,0,177,34
6 DATA 133,252,160,0,162,0,185,64
7 DATA 3,197,252,240,7,200,196,251
8 DATA 208,244,240,3,232,208,246,134

9 DATA 250,32,253,174,32,139,176,133
10 DATA 73,132,74,165,13,240,3,76
11 DATA 72,178,164,250,32,162,179,32
12 DATA 208,187,96
15 TAL=49152:OK=0:FOR A=TAL TO TAL+90
20 READ D:POKE A,D:OK=OK+D:NEXT A
30 IF OK<>12355 THEN PRINT "ERROR":STOP
40 SYS TAL,("INSTALLED"),"L",A:PRINT A
    
```

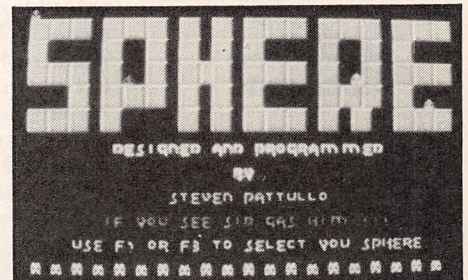
Programming Spotlight — Sphere

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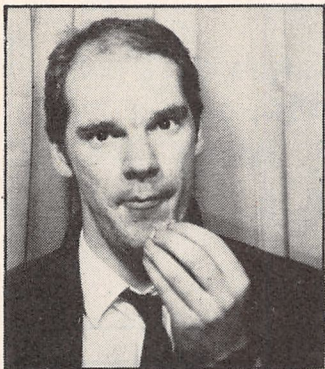
Steven Pattullo

Sphere is the follow up to the excellent UFO featuring the same high standard of graphics. The game puts you in control of a sphere who must find his way to the bottom floor of a five floor maze and escape through the exit.

Each floor is made up of about three screens and some of the doorways are guarded by Demon Heads which can only be killed if you are carrying the correct key. To make life a little harder the walls of the maze are electrified, contact with which is deadly.



For a copy of Sphere send £3.00 to Steven Pattullo, Programming Spotlight, *Popular Computing Weekly*, 12-13 Little Newport Street, London WC2H 7PP.



with Kenn Garroch

Atari graphic

Sean L'Estrange, of Mullingar, Co Westmeath, Ireland, writes:

Q I intend to purchase one of the Atari ST range of computers and would like to know if the Chroma 1 colour monitor (boasting 585 x 895 pixels) would be a better buy than one of the medium resolution colour monitors sold with the STs and, if the Chroma 1 is usable in monochrome graphics mode?

A One of the main problems with the Atari ST is that the high res monochrome mode can only be used with Atari's special 70Hz monitor. As far as I know, there are no other monitors capable of displaying the mono-mode image.

With colour, on the other hand, any RGB monitor will do. The two colour resolutions are 640 x 200 in mode 1, and 320 x 300 in mode 0. The Chroma 1 resolution should easily be good enough to cope with these and give a good picture, as long as it is RGB and not composite video which won't work at all.

Decisions, decisions

I S Ismail of Oadby, Leicester, writes:

Q My problem is that I don't know which computer to buy. I am looking for a machine to run the Pascal and Fortran 77 languages. I would also like to run assemblers for Z80 and

8085 and use a CAD package to design electronic circuits.

A The best bet for these applications would be a CP/M or an MS-Dos machine. Both these operating systems have the advantage that there are a great number of packages available to run under them, including Pascal and Fortran 77. Most CP/M systems are based around the Z80, 8080, or 8085 microprocessors so getting assemblers for them is relatively simple.

The best cheaper machine to go for would be the Amstrad 6128 (£299 green screen, £399 colour) the only problem being that you may not be able to get Fortran 77 for it. An MS-Dos machine will certainly cover all of your applications but will cost more, approx £460 for the Amstrad PC 1512 with single drive and monochrome monitor. Examine your finances before deciding which to go for as the PC 1512 is probably better but you really need the double drive model (£580).

Trying to find an Amstrad monitor

Carl Adkins of Oldbury, West Midlands, writes:

Q Recently, whilst moving house, the monitor to my CPC464 was totally destroyed and as I bought it two years ago, the guarantee has expired.

Since this accident, I've had to borrow a modulator from a friend and try and sneak onto the family television whenever possible. I have telephoned Amstrad twice to look into the possibility of buying a monitor on its own, but this was just answered with: 'No way - must buy complete with

computer'. To do this by selling mine, I would lose about £80-£100 on the value because of its age.

Do you know of a company which has picked up the idea of selling Amstrad compatible monitors at reasonable prices (as I am desperately in need of a new one)? Surely Amstrad could market them quite cheaply, selling some to people who wish to update to a colour monitor or to those who want the sharpness of a green screen for word processor, and colour for games etc.

A The Amstrad CPC 464 puts out both RGB and monochrome composite video signals. This means you should be able to connect it to virtually any monitor, certainly any monochrome monitor.

The connections for composite video are to the Lum and GND outputs and for RGB use red, green, and blue along with ground. The only other thing you will need is a 5V power supply for the machine. I am unsure as to the power rating of the 464 but it should be approximately 3-5 amps. All you need is a power supply unit that will supply this with the correct plug on the end which is centre positive.

Jinxed by Lynx

P M Volsing, of St Neots, Cambs, writes:

Q Recently, I purchased from my daughter's school a 96K Lynx with the user's manual. Computers Ltd went bankrupt so I'm writing to you hoping that you or your readers may be able to help me in my search to obtain software or 3rd party litera-

ture for the machine. I am mainly interested in database/spreadsheet software. I do have a centronics GLP II printer which has both parallel and serial inputs. I would like to know whether the Lynx's serial port is compatible with RS232 or will a separate interface be needed between the computer and the printer.

Are there still disc drives available for the Lynx, and if so, can the 96K version run CP/M? Would it be possible to connect the Amstrad green screen monitor to the Lynx, there being an RGB port on it? This would be convenient because the monitor also puts out 5 and 12V supplies which are the requirements for the Lynx.

A It has been about four years since I last set eyes on a Lynx and perhaps longer since I used one, even then it was not very often since it was never a massively popular machine. However, I can answer a few of your queries and hopefully some of our readers may know the answers to the rest.

As I recall, the Lynx's serial port is RS232 compatible. If you look in the manual, the connections should be labelled something like TX, RX, RTS, CTS etc. in which case they can be connected directly to the printer (TX to RX, RTS to CTS).

There was a CP/M system available for the Lynx but I am not sure whether it is still around. The 96K version of the machine should run it, although there was a 128K version that certainly did. I'm not too sure whether the 96K version did or not.

There are two types of Amstrad monitor, the green screen which uses composite video, and the colour, which uses RGB. If the Lynx puts out only RGB then the green screen monitor won't do the job. The RGB one, however, will. Check to see if there is a composite video output for the green screen.

I'm sorry I cannot be of more help but anyone who wants to mix and match computer parts needs all the help they can get.

Is there anything about your computer you don't understand, and which everyone else seems to take for granted? Whatever your problem Peek it to Kenn Garroch and every week he will Poke back as many answers as he can. The address is Peek & Poke, PCW, 12-13 Little Newport Street, London WC2H 7PP.

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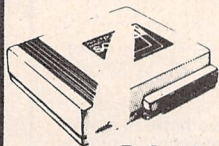
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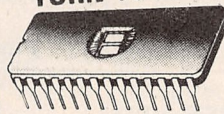
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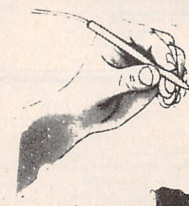
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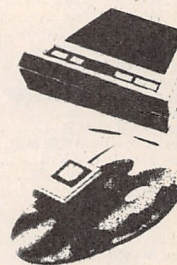
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Bacchus up on the IBM

Mark Jenkins with new music and editing packages for the Amstrad PC and Atari ST...



We've paid quite a lot of attention in the past both to Hybrid Arts and to the Casio CZ synthesiser range, but the reasons are quite clear – Hybrid is one of the most forward-looking software houses whose UK distribution is now starting to come together well (via Syndromic Music), and the Casio synths still represent the best value-for-money in terms of computer control almost three years after their initial release.

As I've mentioned before, the CZ synths are a good bet because they offer reasonably professional sound quality, a good number of voices (eight-note chords or four different monophonic sounds simultaneously under micro control, and split/layer facilities on the larger models) and reasonably simple editing facilities. But although the synths are reasonably straightforward you may not find it easy to come up with vast numbers of new sounds very quickly, since there's only one main editing method, using the up/down data entry buttons.

This is where Casio editors such as the Joreth package we reviewed a few weeks ago and Hybrid's new *CZ-Android* come in. They allow you to get at all the synth's parameters virtually simultaneously, show you exactly what's happening (a luxury not afforded by the synth's small LCD display) and in the case of the Hybrid package will create new sounds for you as well.

More of that later. To sum up which synths can benefit from the Hybrid package, there's a small table above.

The CS230S is unusual since it has a good built-in programmable drum machine but only has four programmable memories, and these can only be accessed via a micro package such as *CZ-Android*. The CZ-1 is Casio's flagship synth with a velocity and pressure-sensitive keyboard, all-programmable memories and a couple of additional features for which *CZ-Android* can compensate. The other synths where indicated may

respond to velocity information from external sources in terms of volume only.

So there's a good choice of features and price levels, with the ST-based *CZ-Android* adding to your enjoyment of any of these synths enormously. Next time we'll look in detail at the editing functions of the package and the way in which it can 'intelligently' create completely new sounds.

But first, over to the States for a couple of editing packages for the Ya-

FM synth similar to the FB-01 but totally programmable, with expanded voice features and the same multi-timbral capabilities. This means that you can assign any sound to any number of voices up to a total of eight, and persuade each voice to play over a different note range.

The Bacchus *Graphic Editing System* is designed for the IBM PC, which is as popular in the States as is its Amstrad compatible over here. The four operators (the sine wave oscillators which are

combined to form different types of sound) are shown independently, and a new feature of the *TX81Z* – the option of non-sine wave shapes for the operators – is indicated in the centre of each editing block. Below the operator parameters you can see the algorithm in which they've been arranged, and to the right the effects (delay, pan and chorus) and Midi implementation (note limits, detune, note shift and so on).

A full icon system and mouse control make the Bacchus system seem pretty good value for money. The Bacchus *Voice Manager* for the larger DX and TX synths

and the IBM PC also seems fun to use – it's a modular editing system which allows you to create and name new sounds, and is divided into librarian, quick editor and bank window sections. You can create a whole bank of sounds, examine them even while a sequencer or other program is running, and simultaneously view every parameter on a DX or TX synth.

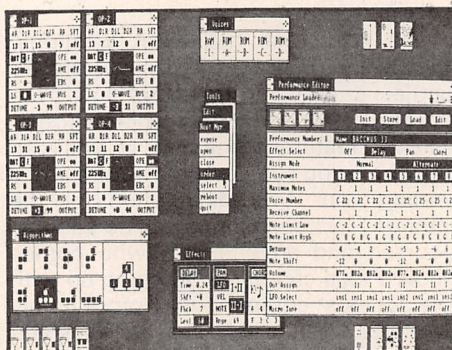
Bacchus doesn't seem to have a UK imported at the moment, but you can contact them for information sheets at the address below. To give you some idea of price, the *TX81Z Editor* sells for \$200 (about £150).

Bacchus Software Systems, 2210 Wilshire Blvd #330, Santa Monica, California 90403 USA, (213) 820-9145.

Syndromic Music, 24-26 Avenue Mews, London N10 3NP, 01-444 9126.

Next week, we'll have a full blow-by-blow report from the Frankfurt Music Fair.

CZ model	101	1000	230S	3000	5000	1
Key size small/large	s	l	s	l	l	l
Voices Poly	8	8	8	8	8	16
Mono	4	4	4	8	8	8
Split/Layer?	n	n	n	y	y	y
User memories	16	16	4	32	32	64
Preset memories	16	16	95	32	32	-
Cartridge memories	16	16	-	32	32	64
Sequencer yes/no?	n	n	n	n	y	n
Velocity internal/external	E	E	E	E	E	I/E
After touch	-	-	-	-	-	Yes
Price	240	350	350	650	850	950



The Bacchus *TX81Z Editor* for the PC as popular in the States as is its Amstrad compatible over here.

maha FM synths. Bacchus Software Systems seems to be seriously ahead of the game with the first editor for the Yamaha *TX81Z*. At around £445 this is a very useful machine, a one-unit rack mounting

What's new on Compunet

Graham Edkins brings you up to date on Compunet's newest facilities

If you are not connected to Compunet it may surprise you to hear that the system is not all demos and graphics. There is a strong community of devotees of these areas and more software houses are joining Cnet all the time to find the talent displayed in these areas, but they are not the only features available.

Demos are a focal point for much of what is written about the network because they are easily discussed but many of the users, who range from nine years old to OAPs and with professions ranging from none to managing directors enjoy quite different activities while on line.

Written text accounts for a large area and the directory structure is well suited to users starting their own on-line magazines. The newly named 'Hotbed' directory is the place to look for some of the more extreme examples of the literary art.

The first area in 'Hotbed' is the Dr Fogg spot (*Goto Fogg*). Dr Fogg was one of the very first people to upload and he is still at it. His popularity can be judged by the fact that he has recently won the Cnet celebrity of the year contest for the second year running. He claims to be the Director of Woosh Laxative UK Ltd on his directory header and from this you may guess the tone of the contents the diversity of which, both from Fogg himself and other users, prevents me from even attempting to paraphrase them.

Purple Press, going under the heading of 'An occasional Journal. Online libel', has even more of a magazine feel and appeals to much the same dubious sense of humour as the Fogg spot. There are sub-directories labelled International (sic), Supplement, and Classifieds. The newest of Purple's areas is 'Near Myths' which is a great collection of 'in' jokes set in the style of the official Cnet roundup.

News and Views from DI2 also shares the 'Hotbed' but this area is a bit more straight-laced; in fact it's an excellent source of computer related news and opinion compiled from many sources. This is not the only serious area to be found as there are many, far too many to list here!

The final area in 'Hotbed' that I regularly visit is the Yeti's Footprints, where is a great emphasis on news of the online Multi-User-Games (MUGs) and this has recently been added to with the arrival of

Krystal's Crutch, an online MUGs diary.

Also in Yeti's area can be found many more 'in' jokes which is not all that surprising as he works for the network both in admin and as author of *Federation*, the new MUG to arrive soon. When I spoke to the Yeti recently he gave me some information on what we can expect from the *Federation* MUG once it is online.

When you enter *Federation* for the first time, your persona choice will be far more than the customary male/female options; in fact you can stress your attributes of strength, stamina, dexterity and intelligence in any percentage that you wish.

As this is to be a space trading and combat adventure the first objective is to

wish) to enter battle arises you will find that the input prompt is most helpful by showing your present stamina or hull strength continually and prefixed S or H respectively.

Federation will be running on Compunet's new mainframe which is scheduled to be in service this summer, which means that you will have to wait a short while before you can get at it. When the new mainframe is ready there will be many enhancements to the system, not only to the speed and capacity of the service but also additions to Party Line and other areas.

Compunet is now saying that by the end of this year there will be "at least one new computer accessing the system," which shows that the new main-

frame is the precursor of much more growth and a widening of its systems. The best software for the new mainframe is now being worked on full time by the Compunet staff and they have recently had installed a development machine.

This mini version of the new mainframe is there for them to write and test the new software on, but it alone has the processing power of the DEC 10 on which the service is currently run. They are calling this development computer their new baby,

since apparently the complete size is about that of one of the DEC 10's disc drives.

To finish, I will quickly tell you of some of the places to visit for programming help and utilities. In *Artaid* there is everything that you need to produce a stand alone program from virtually any art software package. While over at 215468 you will find a grand selection of disc utilities. The Dolphin DOS directory is on 219494 and there will be a Geos area out soon.

The North West Commodore User Group has many good and free utilities in its directory and they are also always looking for new members in their area, *Goto NWCug's*. I must again mention Danger Zone because it now has an alpha *Goto Dangers*.

The Amiga directory has become a useful information exchange for owners of that, Compunet has even had someone requesting a modem and membership just to use the Amiga directory. He wrote that if the modem will not work with the Amiga (it won't) they should send it anyway and he would buy a Commodore 64.



An example of the tough talent you'll find on Compunet

find the ship yards so that you can buy your first space ship. The ship itself will be built to your specification, limited only by your available credits. To help you out here there is a 90% loan available on your first ship.

The ship itself has eight locations, living room, bedroom, etc, all decorated battleship grey and green (straight from the ship yard) and this is where another unusual feature comes in. If you can afford to, you can decorate your ship by writing your own description for the interior. This description will be seen by yourself and anyone else who comes aboard thus creating a 'Keeping up with the Jones's' competition. Unfortunately your decorations will be spoiled if you are badly hit in battle.

With your ship all kitted out, you can travel around any of the 1000 locations available at any one time, making a living by buying and selling goods via any of the planet's commodity exchanges. You can also explore the planets and possibly find other ways to make money. A goldmine or whatever. If the need (or

TECHNOLOGY SO ADVANCED ...

MEMORY

- * 512Kbytes RAM (520ST-M, FM)
- * 1024Kbytes RAM (1040ST-F)
- * 192Kbytes ROM
- * 128Kbytes external plug-in ROM option

ARCHITECTURE

- * Motorola 68000 Central Processing Unit (CPU) with a clock speed of 8MHz
- * 16-bit external data bus
- * 32-bit internal data bus
- * 24-bit address bus
- * 8-32-bit data & address registers
- * 7 levels of interrupts
- * 56 instructions
- * 14 addressing modes
- * 5 data types
- * DMA (Direct Memory Access)
- * real time clock as standard

GRAPHICS

- * full bit-mapped display
- * palette of 512 colours
- Using Atari Monitors (on 520 & 1040):
 - * 640x400 high resolution - monochrome
 - * 640x200 medium resolution - 4 colours
 - * 320x200 low resolution - 16 colours
 - * 80 column text display (40 col low res)

Using Domestic TVs (on 520):

- * 640x200 medium resolution - 4 colours
- * 320x200 low resolution - 16 colours
- * 40 columns x 25 line text display

SOUND AND MUSIC

- * 3 programmable sound channels
- * frequency programmable 30Hz - 125KHz
- * programmable volume
- * wave & dynamic envelope shaping
- * programmable attack, decay, sustain, release
- * Musical Instrument Digital Interface (MIDI)
- * MIDI allows connection of synthesizers etc.

STANDARD SOFTWARE

- * GEM desktop - TOS operating system
- * ST BASIC interpreter/language system

INPUT/OUTPUT

- * MIDI out (5 pin DIN) 31.25K baud
- * MIDI in (5 pin DIN) 31.25K baud
- * audio out 1.0V DC peak to peak, 10K ohm
- * audio in 1.0V DC peak to peak, 10K ohm
- * RGB monitor 1.0V DC, 75 ohm
- * mono monitor via GEM 1.0V DC, 75 ohm
- * mono horizontal scan rate 35.7KHz
- * mono vertical scan rate 71.2KHz
- * sync 5V DC (active low) 3.3K ohm
- * modem/serial RS232C, 50 to 19,200 baud
- * floppy disk 250 Kbits/s
- * hard disk 11.3 Mbits/s
- * mouse standard Atari connector
- * joystick standard Atari connector
- * cartridge port 128K capacity
- * RF output (520ST-FM) for TV use

OPERATING SYSTEM

- * TOS with GEM environment in ROM
- * hierarchical file structure with sub-directories and path names
- * user interface via GEM, with self explanatory command functions
- * multiple windows & icons
- * window resizing, re-positioning and erasing
- * drop down menus (selected by mouse)
- * GEM virtual device interface

COMMUNICATIONS

- * RS-232C serial modem port
- * 8-bit parallel printer port
- * MIDI port (also for networking use)
- * VT52 terminal emulation

KEYBOARD

- * standard QWERTY typewriter format
- * 95 full stroke keys
- * 10 function keys
- * 16 key numeric keypad & cursor keys
- * variable auto-repeat & key click response
- * keyboard processor reduces CPU overhead



- ## MOUSE
- * high precision
 - * 2 button control
 - * free with 520ST-FM/1040ST-F
 - * non slip ball motion sensor
 - * removable ball for easy cleaning

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520ST-M

The affordability of Atari computers is reflected in the price of the 520ST-M keyboard, which is a mere £259 (inc VAT). This version of the ST comes with 512K RAM, as well as a modulator and lead for direct connection to any domestic TV. The price does not include a mouse. In addition, when you buy your 520ST-M from Silica, you will also receive the FREE Silica 'ST Starter Kit'. During 1987, many software houses will be producing games software on ROM cartridges, which will plug directly into the cartridge slot on the 520ST-M keyboard, giving instant loading without the expense of purchasing a disk drive. With the enormous power of the ST, you can expect some excellent titles to be produced, making this the ultimate games machine! If your requirement is for a terminal, then the 520ST-M can fulfill this role too. Leads are available to connect the ST to a variety of monitors, and with the imminent introduction of terminal software on ROM cartridge, the ST provides a low price terminal for business use. If you wish to take advantage of the massive range of disk software available for the ST, you will need to purchase a disk drive. Atari have two floppy disk drives available, a 1/2 Mbyte model £149 and a 1Mbyte model £199. Full details of these drives, as well as the Atari 20Mbyte hard disk are available on request. If required at a later date, the mouse may be purchased separately.

£259

520ST-FM

The 520ST-FM with 512K RAM and free mouse, represents a further breakthrough by Atari Corporation in the world of high power, low cost personal computing. This model is the latest addition to the ST family, and is not only powerful, but compact. It is priced at only £399 (inc VAT) a level which brings it within the reach of a whole new generation of computer enthusiasts. When purchased from us, it comes with the FREE Silica 'ST Starter Kit' (see paragraph on the left). To make the 520ST-FM ready for use straight away, Atari have built into the keyboard a 1/2 megabyte disk drive for information storage and retrieval, allowing you easy access to the massive range of disk based software which is available for the ST. This new computer comes with all the correct cables and connections you will need to plug it straight into any standard domestic television set. You do not therefore have to purchase an Atari monitor. If you do require a monitor however, these are available with the 520ST in the following money saving packages:

- 520ST-FM Keyboard Without Monitor - £399 (inc VAT)
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- 520ST-FM Keyboard + Low res colour monitor - £599 (inc VAT)
- 520ST-FM Keyboard + Med res colour monitor - £699 (inc VAT)

Because the 520ST-FM has its own power transformer built into the keyboard, there are no messy external adaptors to clutter up your desk space. You are left with only one mains lead, serving both the disk drive and the computer. You couldn't ask for a more stylish and compact unit.

£399

1040ST-F

For the businessman and the more serious home user, Atari have their most powerful model, the 1040ST-F with 1024K RAM. This low cost powerhouse can be introduced into a business environment as a stand-alone system, or can support a mainframe computer as a terminal. The 1040ST-F not only features twice as much memory as the 520ST-FM, but also includes a more powerful built-in disk drive. The drive featured on the 1040ST-F is a one megabyte double sided model. The extra memory facility of the 1040ST-F makes it ideal for applications such as large databases or spreadsheets. Like the 520ST-FM, the 1040ST-F has a mains transformer built into the console to give a compact and stylish unit with only one mains lead. The 1040ST-F is also supplied from Silica Shop with a free software package and 'ST STARTER KIT'. In the USA, the 1040ST-F has been sold with a TV modulator like the 520ST-FM. However, for the UK market, Atari are manufacturing the 1040ST-F solely with business use in mind and it does not currently include an RF modulator, this means that you cannot use it with a domestic TV (Silica Shop do offer a modulator upgrade for only £49). The 1040ST-F keyboard costs only £599 (inc VAT) and, unless a modulator upgrade is fitted, will require an Atari or third party monitor. There are three Atari monitors available and the prices for the 1040 with these monitors are as follows:

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- 1040ST-F Keyboard + Low res col monitor - £799 (inc VAT)
- 1040ST-F Keyboard + Med res col monitor - £899 (inc VAT)

The 1040ST-F comes with a mouse controller and includes 1Mbyte of RAM. It has a 1Mbyte double sided disk drive and mains transformer, both built into the keyboard to give a compact and stylish unit, with only one mains lead.

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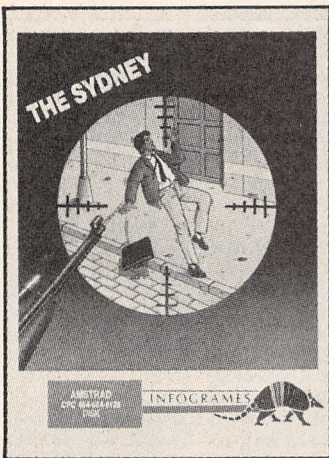


John Cook looks through this week's new arrivals

Amstrad CPC

Program *The Sidney Affair*
Type Graphic Adventure
Price £9.95 (tape), £14.95 (disc) **Supplier** Infogrames, Mitre House, Abbey Road, Enfield, Middlesex.

Another murder investigation in the *Vera Cruz* style from Infogrames. Highly recommended if you liked the former, or are simply looking for something mentally challenging that breaks out of the tried and tested adventure mould.



Program *The Incredible Shrinking Man*
Type Arcade
Price £9.95 (tape), £14.95 (disc) **Supplier** Infogrames, Mitre House, Abbey Road, Enfield, Middlesex.

See Games Review section this week for comment.

Program *Bomb Jack II*
Type Arcade
Price £8.95 (tape), £14.95 (disc) **Supplier** Elite Systems, Anchor House, Anchor Road, Aldridge, Walsall WS9 8PW.

Amstrad PCW

Program *Southern Belle & Heathrow Air Traffic Control*
Type Simulations
Price £16.95 **Supplier** Hewson, 56b Milton Trading Estate, Milton, Abingdon, Oxon OX14 4RX.

For the price, the best value pack around this week. Two excellent programs that'll have you glued to the

green screen for hours.

Program *Masterfile 8000*
Type Database
Price £49.95 **Supplier** Campbell Systems, 7 Station Road, Epping, Essex CM16 4HA.

The famous *Masterfile* program re-written for the PCW, looking very nice indeed.

Atari XL/XE

Program *Atari Smash Hits Volume 7*
Type Compilation
Price £9.95 (tape), £14.95 (disc) **Supplier** English Software, 1 North Parade, Parsonage Gardens, Manchester M60 1RX.

Compilation for the Atari 8-bits consisting of *Elektraglode*, *Colossus Chess 3.0*, *Blue Max* and *Alley Cat*. Something of a strange mixture, but still good value.



Program *The Pawn*
Type Graphic Adventure
Price £19.95 (disc only) **Supplier** Rainbird, 74 New Oxford Street, London WC1.

Program *Bubble Trouble*
Type Silly Arcade
Price £1.99 **Supplier** Players, Mercury House, Calleva Park, Aldermaston, Berks RG7 4QW.

You play a bubble, trying to escape from the bath, right? Right! (Exit whistling merrily).

BBC B

Program *Firetrack*
Type Ar-

Spare-part tryst

Program *Bride of Frankenstein*
Type Arcade Adventure
Micro Amstrad CPC
Price To be announced
Supplier 39 Steps, Ariolasoft, 68 Long Acre, Covent Garden, London WC2E 9JH.

Horror stories seem to have provided fertile ground for software authors in the past, from that legend of tastelessness *Drilla Killa* (from the keyboard of our own Duncan Evans) to, shall we say, more polished offerings, such as *Piranha's Nosferatu*. Now Ariolasoft have come up with the most unlikely of titles on its 39 Steps label, *Bride of Frankenstein*.

Creative Sparks (as was) came up with a similar idea a couple of years ago with *Mad Doctor*, in which you had to wander round a village, digging in graveyards, mugging neighbours, etc, to get parts to create a Frankenstein's monster.

In *Bride of Frankenstein*, however, you control the monster's spouse (a wonderful dumpy flaxen haired sprite) who must wander round the castle and environs (again, beautifully designed on the CPC) to complete her hubby.

Price £9.99 (tape), £14.99 (disc) **Supplier** Electric Dreams, 23 Pond Street, London NW3.

For comment see Commodore 64 listing.

C 16/Plus 4

Program *Berks*
Type Arcade
Price £1.99 **Supplier** The Power House, Alpha-Omega, CRL Group, 9 King's Yard, Carpenter's Road, London E15 2HD.

Follow-up to that nice little earner CRL had on the C16 - *The Berks Trilogy*.

Program *Bomb Jack II*
Type Arcade
Price £7.95 **Supplier** Elite Systems, Anchor House, Anchor Road, Aldridge, Walsall WS9 8PW.

Commodore 64

Program *Firetrack*
Type Ar-



In this game, the way to a man's heart via his stomach is made that little bit more complicated by the fact that you have to find it first.

As you explore the castle, featuring, naturally, the obligatory locked rooms and dark dungeons, you get attacked by the indigenous spooks, which increase your heart rate, as indicated by a little beating heart on the bottom right of the display. If you get too frightened - cardiac arrest!

All done in the best possible taste, *Bride of Frankenstein* is a refreshing change from the pixie and goblin brigade. Give it a go.

Price £9.99 (tape), £14.99 (disc) **Supplier** Electric Dreams, 23 Pond Street, London NW3.

A fine shooter, so violent that you don't even have to press the fire button to activate the lasers.

A neat bit of programming with super smooth vertical scrolling and some very fast action, with the only weakness being the sound.

The best out and out zapper of the year so far - even so, it should have been a couple of quid cheaper.

Program *The Incredible Shrinking Man*
Type Arcade
Price £9.95 (tape), £14.95 (disc) **Supplier** Infogrames, Mitre House, Abbey Road, Enfield, Middlesex.

See Games review section this week for comment.

Program *Terminator*
Type

Arcade **Price** £1.99 **Supplier** The Power House, Alpha-Omega, CRL Group, 9 King's Yard, Carpenter's Road, London E15 2HD.

Program The Equalizer Type Arcade **Price** £1.99 **Supplier** The Power House, Alpha-Omega, CRL Group, 9 King's Yard, Carpenter's Road, London E15 2HD.

Program Escape from Paradise Type Arcade Adventure **Price** £7.95 (tape), £9.95 (disc) **Supplier** Anco Software, 35 West Hill, Dartford, Kent DA1 2EL.

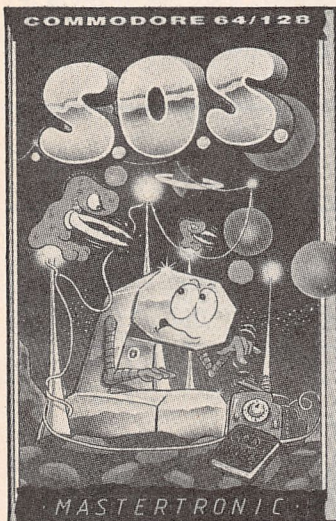
Program Bomb Jack II Type Arcade **Price** £9.95 (tape), £14.95 (disc) **Supplier** Elite Systems, Anchor House, Anchor Road, Aldridge, Walsall WS9 8PW.

See Spectrum listing for comment.

Program Rhythm King Type Drum Machine **Price** £14.95 **Supplier** Supersoft, Winchester House, Canning Road, Wealdstone, Harrow, Middlesex HA3 7SJ.

Yes, I know it costs thirteen pounds more than *Micro Rhythm* – but it has bags more facilities and sounds better OK?

Program SOS Type Arcade Adventure **Price** £1.99 **Supplier** Mastertronic, 8–10 Paul Street, London EC2.



Program Kobayashi Naru Type Graphic Adventure **Price** £1.99 **Supplier** Mastertronic, 8–10 Paul Street, London EC2.

Icon driven adventure in which you attempt to become immortal. Gosh.

Master Compact

Program White Knight Mk12 Type Chess **Price** £13.00 **Supplier** BBC Publications, 35 Marylebone High Street, London W1M 4AA.

Powerful chess program with all the usual features.

Program Figures of Fun Type Educational **Price** £17.34 **Supplier** BBC Publications, 35 Marylebone High Street, London W1M 4AA.

A total of 14 number games designed to get your child interested in maths.

Program Firetrack Type Arcade **Price** £14.99 **Supplier** Electric Dreams, 23 Pond Street, London NW3 2PN.

For comment see Commodore 64 listing.

Program Micro Maths Type Educational **Price** £24.00 **Supplier** LCL, Melody House, Greys Road, Henley-on-Thames, Oxon RG9 1QU.

One of a large batch of releases from LCL, being conversions of existing titles on BBC B, Amstrad and many others.

Program Micro English Type Educational **Price** £24.00 **Supplier** LCL, Melody House, Grey's Road, Henley-on-Thames, Oxon RG9 1QU.

Program Micro French Type Educational **Price** £24.00 **Supplier** LCL, Melody House, Grey's Road, Henley-on-Thames, Oxon RG9 1QU.

Program Mega Maths Type Educational **Price** £24.00 **Supplier** LCL, Melody House, Grey's Road, Henley-on-Thames, Oxon RG9 1QU.

Program Animated Arithmetic Type Educational **Price** £24.00 **Supplier** LCL, Melody House, Grey's Road, Henley-on-Thames, Oxon RG9 1QU.

Spectrum

Program Sky Runner Type Arcade **Price** £9.95 **Supplier** Cascade Games, Harrogate HG1 5BG.

Drug busting in the far distant future in a slick game obviously inspired by the sky scooter sequence in Return of the Jedi.



Program Four Minutes to Midnight Type Graphic Adventure **Price** £2.99 **Supplier** 8th Day Software, 18 Flaxhill, Moreton, Wirral, Merseyside, L46 7UH.

8th Day, the company that pioneered Quilled budget adventures (for all the good that it did them) are releasing some of their old stuff, adding graphics, greater text compression and ram save/load.

First of these is *Four Minutes to Midnight*. With a graphic version on one side and a super compressed text only on the other, the new and old guards should both be pleased.

Program The Incredible Shrinking Man Type Arcade **Price** £9.95 **Supplier** Inframes, Mitre House, Abbey Road, Enfield, Middlesex.

See Games Review section this week for comment.

Program Timeflight Type Arcade **Price** £1.99 **Supplier** The Power House, Alpha-Omega, CRL Group, 9 King's Yard, Carpenter's Road, London E15 2HD.

Program Swat! Type Ar-

cade **Price** £1.99 **Supplier** The Power House, Alpha-Omega, CRL Group, 9 King's Yard, Carpenter's Road, London E15 2HD.

Program Bomb Jack II Type Arcade **Price** £7.95 **Supplier** Elite Systems, Anchor House, Anchor Road, Aldridge, Walsall, WS9 8PW.

Disappointing follow-up to the rightfully successful original *Bomb Jack*.

Program The Serf's Tale Type Adventure **Price** £1.99 **Supplier** Players, Mercury House, Calleva Park, Aldermaston, Berks RG7 4QW.



Budget text adventuring from the new look Players label.

Program Matt Lucas Type Graphic Adventure **Price** £1.99 **Supplier** Players, Mercury House, Calleva Park, Aldermaston, Berks RG7 4QW.

Program Anfractuious Type Arcade **Price** £1.99 **Supplier** Players, Mercury House, Calleva Park, Aldermaston, Berks RG7 4QW.

QL

Program The Investment Monitor Type Application **Price** £20.00 **Supplier** Michael Slatford Software, 3 Campdon Road, South Croydon, Surrey CR2 7EQ.

Upgraded version of tried and tested investment monitor.

Getting down to business

One question which (to my notice anyway) came up more last year, was why under-18s are not allowed into the business sections of computer shows. Most minors (and indeed many adults) won't have the slightest interest in what is on show in there, but many young people, including me, definitely would be interested. I read *Personal Computer World* and *Byte*, neither of which contain much of any interest to the average home computer owner.

I read the reviews, I compare the products, I think of ways to improve them. What I lack though is the fact that I've never actually seen the hardware or software in action. Fair enough, you can't demonstrate *Lotus 1-2* in a week, let alone ten minutes, and there isn't much to see anyway unless you can relate it to your own application.

However, even a brief run through of some of the capabilities and functions of a product, and a chat with one of the company representatives is highly informative, and adds greatly and necessarily to your knowledge gained from a magazine review.

I believe it is important to keep up with business software releases and machine technology, and computer shows could provide those genuinely interested with a way to do this. Having said

this, the business hall is not the place for the 'game-crazed hooligan' type, who does exist (and isn't always confined to the under-18 bracket). Charging a small entrance fee and some discreet security can ensure the peace is kept.

Now, I wonder how many of us have received nasty looks when we even think about touching a computer on display? There's never any sign which says 'Please don't touch' and the screen usually says something like 'Press Return to continue', but we're still expected to keep well away.

I'm a strong advocate of 'touching'. You understand far more about a computer or software if you press the keys rather than the demonstrators, even if you can see what they are doing. It's surprising how much you can pick up from using 'serious' software without realising it - screen layouts, help functions, how the user is prompted, etc. Small, themselves insignificant, pieces of information that one day may help you design or program your answer to *dBase*, or become a computer professional.

These two faults of computer shows and exhibitions seem to exist for the same reason: selling. The ultimate aim of the exhibitors is to sell you their product. I know it's obvious, but if you think about it, from the non-buying

public's viewpoint, a sales oriented show is not in their best interest. The exhibitors will only take any notice of you if they think that they can sell you something.

If you want anything more than a quick look and a bit of sales talk you'll have to wave the cash around. Under-18s generally don't have either the need or the means to actually buy the product, so the companies just want them out of the way.

People touching computers and making the most of their physical presence can also spoil sales possibilities. The exhibitors see them as merely 'playing' and promptly remove them. Besides, some schoolkids probably know enough about the machines to make any potential customer think twice about buying.

I don't know whether the type of show I'm looking for will ever appear, but really all that is needed is a change of attitude, in particular to under-18s, who are, after all, the next generation of computer users in the workplace. The present 'untouchable' view of computers is not doing anyone any good, and until changes are made computer shows no more than glorified market places will become more and more the thing to expect.

Graham Ambler

NEXT WEEK

Starting from next week's edition, *Popular Computing Weekly* will go on general sale on Fridays, rather than Thursdays.

The next issue will therefore be dated 6-12 March. London readers should still be able to buy their copy a day earlier, ie, Thursdays, starting from next week.

SPECIAL SUPPLEMENT PC compatibles

We look at both the range of games available and which PCs you can buy without breaking the bank. Plus a review of Psion's PC4, the latest version of *Abacus*, *Archive*, *Easel* and *Quill*.

Software

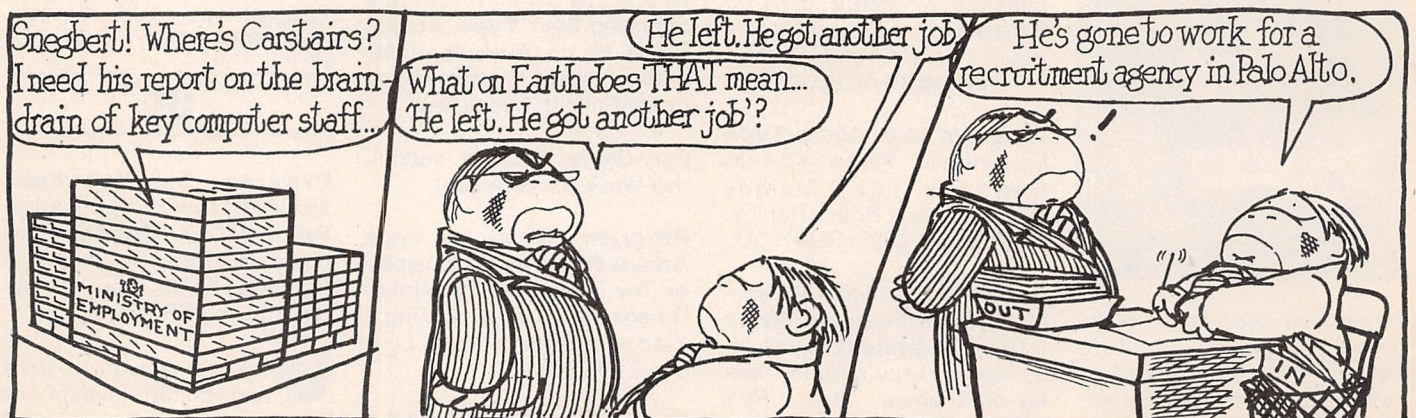
GFA Basic, for the Atari STs, runs even faster than Computer Concepts' *Fast Basic*.

Plus we'll have a special offer on CRL's *Image System* graphics package for the Commodore 64.

Nemesis

Held over from this week's issue, we'll be looking at Konami's micro version of the popular coin-op game.

Hackers



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The job is based at our central London offices. Salary will be based on previous experience. In addition a royalty is paid on sales of games. Applicants should be at least 19 years of age.

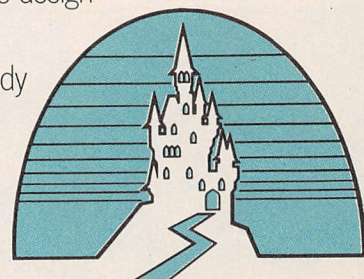
Phone Pete Stone on 01-278 0751.

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You will probably be working within the business with involvement in games already published by other companies and now want to further establish your name and reputation. You will need to have the experience to see projects through from initial idea to finished programme.

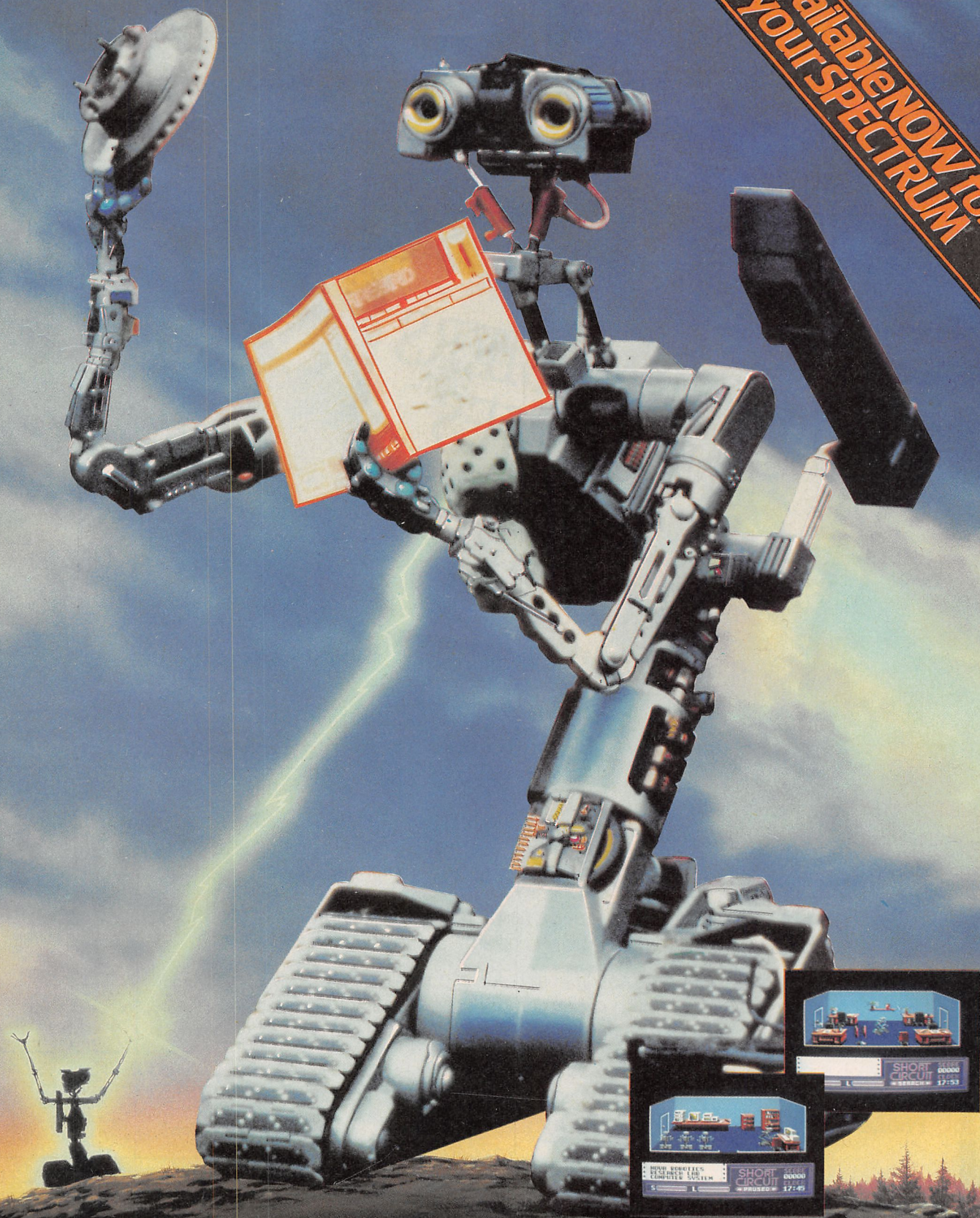
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SHORT CIRCUIT

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